

附 属 資 料

伊藤短期調査員報告書

中村短期調査員報告書

Health Workforce Development Plan (1996 - 2005)

National Policies and Strategies for Human Resources for Health(1999 - 2003)

1. 短期調査員の派遣

1 - 1 調査の背景と目的

カンボディア王国(以下、カンボディア)は、長きにわたる内戦およびそれに伴う経済の停滞により、人々の健康状態が芳しくなく、特に妊産婦死亡率・乳児死亡率が高い。母子保健状況改善のため、カンボディア政府は国家母子保健計画を策定し、同計画強化のため、実施機関である国立母子保健センターの機能強化を中心とするプロジェクト方式技術協力と、同センターの新築にかかる無償資金協力をわが国に要請した。右要請を受け、「母子保健プロジェクト」を1995年4月1日から5年間の予定で開始した。あわせて、無償資金協力により新母子保健センターが1997年3月に完成し、同年4月から新センターでの業務を行っている。

1999年8月に派遣された終了時評価調査団によれば、母子保健プロジェクトは当初の期待以上の成果をあげており、特に診療費徴収制度(user fee system)の導入や看護部の設立など新しい取り組みも行い、おおむねプロジェクト目標は達成可能とされた。しかし、課題として取り組むべき点も同時に指摘された。カンボディア政府は、国立母子保健センターのさらなる強化と、地方リフェラル病院の母子保健体制の強化を主眼とした第2期プロジェクト(フェーズ2)を要請してきた。

右要請を受けて1月に派遣される実施協議調査団に先立ち、プロジェクトサイクルマネジメント(PCM)ワークショップの開催による協力内容の素案づくりとフェーズ2協力にあたっての確認事項を調査するため、今般短期調査員を派遣することとした。

1 - 2 調査員の構成

- (1)伊藤 賢一(協力計画) 国際協力事業団医療協力部医療協力第一課職員
- (2)中村 千亜紀(参加型計画手法) グローバルリンクマネジメント株式会社研究員

1-3 調査日程

12月5日(日)	中村調査員移動 成田→バンコク(JL717)
12月6日(月)	移動 バンコク→プノンペン(TG696) JICA事務所表敬、プロジェクトチームとの打合せ
12月7日(火)	PCMワークショップ(PCM手法説明、参加者分析)
12月8日(水)	PCMワークショップ(問題分析)
12月9日(木)	PCMワークショップ(問題分析)
12月10日(金)	資料整理
12月11日(土)	資料整理 伊藤調査員移動 成田→バンコク(JL707)
12月12日(日)	移動 バンコク→プノンペン(TG696)、打合せ
12月13日(月)	日本大使館・JICA事務所表敬、PCMワークショップ(目的分析、代替分析)
12月14日(火)	プロジェクトデザインマトリックス(PDM)作成(プロジェクトの要約、外部条件)
12月15日(水)	PDM作成(指標、データ入手手段)
12月16日(木)	PDM完成(投入)、保健省との協議
12月17日(金)	JICA事務所報告 移動 プノンペン→バンコク(TG699)、バンコク→(JL718)
12月18日(土)	→成田

1-4 主要面談者

(1) カンボディア側関係者

保健省

Dr. Eng Huot	Director General, Ministry of Health
Dr. Koum Kanal	Director of National Maternal and Child Health Center (NMCHC)
Dr. San Chan Soeung	Vice Director & Chief of Delivery
Dr. Tan Vuoch Chheng	Vice Director & Chief of OPD
Mr. Huot Khom	Director of Administration
Mr. So Sokphy	Vice Director of Accounting Bureau
Dr. Tiv Say	Director of Technical Bureau
Dr. Prak Somaly	Vice Director of Technical Bureau
Ms. Ching Chan Tach	Director of Nursing Division

Mr. Chea Kimlong	Ministry of Health
Dr. Chun Long	National Program, NMCHC
Dr. Or Sivarin	TOT, NMCHC
Ms. Chum Nay Im	Chief of Pharmacy, NMCHC
Dr. Ouk Sakhan	Chief of Maternity, Municipality Hospital
Ms. Kim Bopha	Midwife, Municipality Hospital
Dr. Ouk Unbun	Doctor, Prey Veng Provincial Hospital

(2) 日本側関係者

在カンボディア日本国大使館	明瀬 一行	二等書記官
JICA カンボディア事務所	松田 教男	所長
	寺本 匡俊	次長
	齋藤 克義	所員
母子保健プロジェクト	明石 秀親	チーフアドバイザー
	鈴木 ケイ	調整員
	藤田 則子	専門家(産婦人科)
	清水 正一	専門家(機材維持管理)
	森兼 真理	専門家(母性看護)

2. プロジェクト実施計画概要

本プロジェクトの目的は、フェーズ1で達成された点および課題とされた点を踏まえつつ、引き続き図られる国立母子保健センターの強化をもとに、その成果を研修・監督を通じ地方リフェラル病院へ広げ、あわせて関連病院(プノンペン地域の公立医療機関含む)との連携を行うことにより、国全体の母子保健サービスの改善を主眼とするものである。

本プロジェクトでの活動内容は、おおむね以下のとおりである。フェーズ2における新機軸としては、研修や監督を通じた地方への展開を行う。また、国立母子保健センターは母子保健分野の国のトップリフェラル病院としての機能と、プノンペン地域のリフェラル病院的役割も現実的にあるので、地域医療的な取り組みを徐々に行っていくことが重要である。したがって、周辺機関との定期協議や症例検討会を通じた連携も視野に入れる必要があり、先方からも右趣旨について同様の発言があった。

- (1) 国立母子保健センターそのものの継続的な強化。すなわち、財務・人事管理を中心とした病院管理、機材維持管理、薬剤・物品管理等の病院運営管理能力および研修機能向上のための活動と、新たな臨床検査の導入や院内教育等の臨床機能強化のための活動を通じて、国立母子保

健センターが母子保健分野における国のトップリフェラル病院として、また同分野の研修施設として機能し得る体制を構築する。

- (2) 母子保健分野における地方リフェラル病院やヘルスセンター¹の強化。フィールドにいる医師・助産婦に対する母子保健関連の研修の実施と、健康教育のための教材開発、フィールドスタッフを通じた住民に対する母子保健教育などを実施する。
- (3) 国立母子保健センターと公立病院との母子保健分野における連携の強化。監督活動の適切な実施と、監督者に対する研修を行うほか、地域医療への取り組みの一環としての定期協議・症例検討会の実施、医療機器の維持・修理に関する他病院との協力等を通じて、連携の強化を図る。

3. 相手国機関のプロジェクト実施体制

3 - 1 実施機関の組織および実施体制

フェーズ1のときと同様、国立母子保健センターが実施機関となる予定である。実施責任についても、引き続き保健省総局長(Director General)が全体責任を負うプロジェクト・ディレクターに、国立母子保健センター所長が実務責任を負うプロジェクト・マネージャーとなること確認された。

実施機関となる国立母子保健センターは、保健省の組織図上は保健省総局長の直轄の下にあり、母子保健の国立トップ機関としての役割と母子保健行政の中核としての役割を担う。このほか、プノンペン地域の母子保健分野でのトップリフェラル病院として実質的に機能している旨先方から発言があった。(保健省および国立母子保健センターの組織図は別添のとおり)

フェーズ2では引き続き国立母子保健センターを中心に活動をしつつも、地方への展開により母子保健分野の人材育成を進めていくため、合同調整委員会に病院部門および人材育成部門を担当する保健省の局を入れることが先方から提案された。その他、保健省予防医学部門を入れることも提案があった。これに関連して、国立母子保健センターの組織内にあるNational Programもフェーズ2で取り上げてほしい旨先方から要望があり、聞きおくにとどめたが、National Programには拡大予防接種計画(Expanded Program on Immunization ; EPI)などのセクションがありプロジェクトの範囲が膨大になること、またすでに他ドナーが入っていることから、フェーズ2でNational Programまで含めて活動を行うことは困難であると考えられる。

1 カンボディアにおいては、現在保健医療システム改編が進行中であり、右計画によれば、現存のProvinceよりも小さい単位であるDistrictを統合し、両者の中間的な位置づけとしてOperational Districtを保健分野で設定している。Operational Districtにおける中核病院をReferral Hospitalと呼んでいる。

	< 以前の保健医療システム >	< 改編後の保健医療システム >
国レベル	国立病院 (National Hospital)	国立病院 (National Hospital)
州レベル	州病院 (Provincial Hospital)	リフェラル病院 (Referral Hospital)
オペレーショナル・ディストリクト	郡病院 (District Hospital)	
郡レベル	ヘルスセンター (Health Center)	ヘルスセンター (Health Center)
それ以下のレベル		

＜フェーズ1とフェーズ2の実施体制比較表＞

	フェーズ1	フェーズ2
Project Director	Director General of Health, MOH	Director General of Health, MOH
Project Manager	Director, NMCHC	Director, NMCHC
Joint Coordinating Committee	(Chairperson : Undersecretary of State for Health) Director General of Health Director of Department of Finance Director of International Relations Director of NMCHC Representative of CDC Representative of MOFA	(Chairperson : Secretary of State for Health) Director General of Health Director of Department of Finance Director of International Relations Director of Department of Hospitals Director of Department of Human Resources Director of Department of Preventive Medicine Director of NMCHC Representative of CDC Representative of MOFA

- * MOH : Ministry of Health
- NMCHC : National Maternal and Child Health Center
- CDC : Council for Development of Cambodia
- MOFA : Ministry of Foreign Affairs

KINGDOM OF CAMBODIA
NATION RELIGION KING



MINISTRY OF HEALTH

No. 316 H/BIR

Phnom Penh, 13 March 12 1998

Mr. TERAMOTO Masatoshi
Assistant Resident Representative
JICA Cambodia Office
No. 36, Street No.184, Phnom Penh

Dear Sir,

Re: Questions on Organization Chart of the Ministry of Health

With reference to your letter dated March 6, 1998 on the above subject, I would like to inform you that all technical matters concerning Health, come under the Director General of Health. As indicated on the Organization Chart, the Directorate General of Health has six departments under it. It also coordinates the activities of the National Programs, the National Institutes and Centres.

The JICA related projects will be coordinated by the following departments.

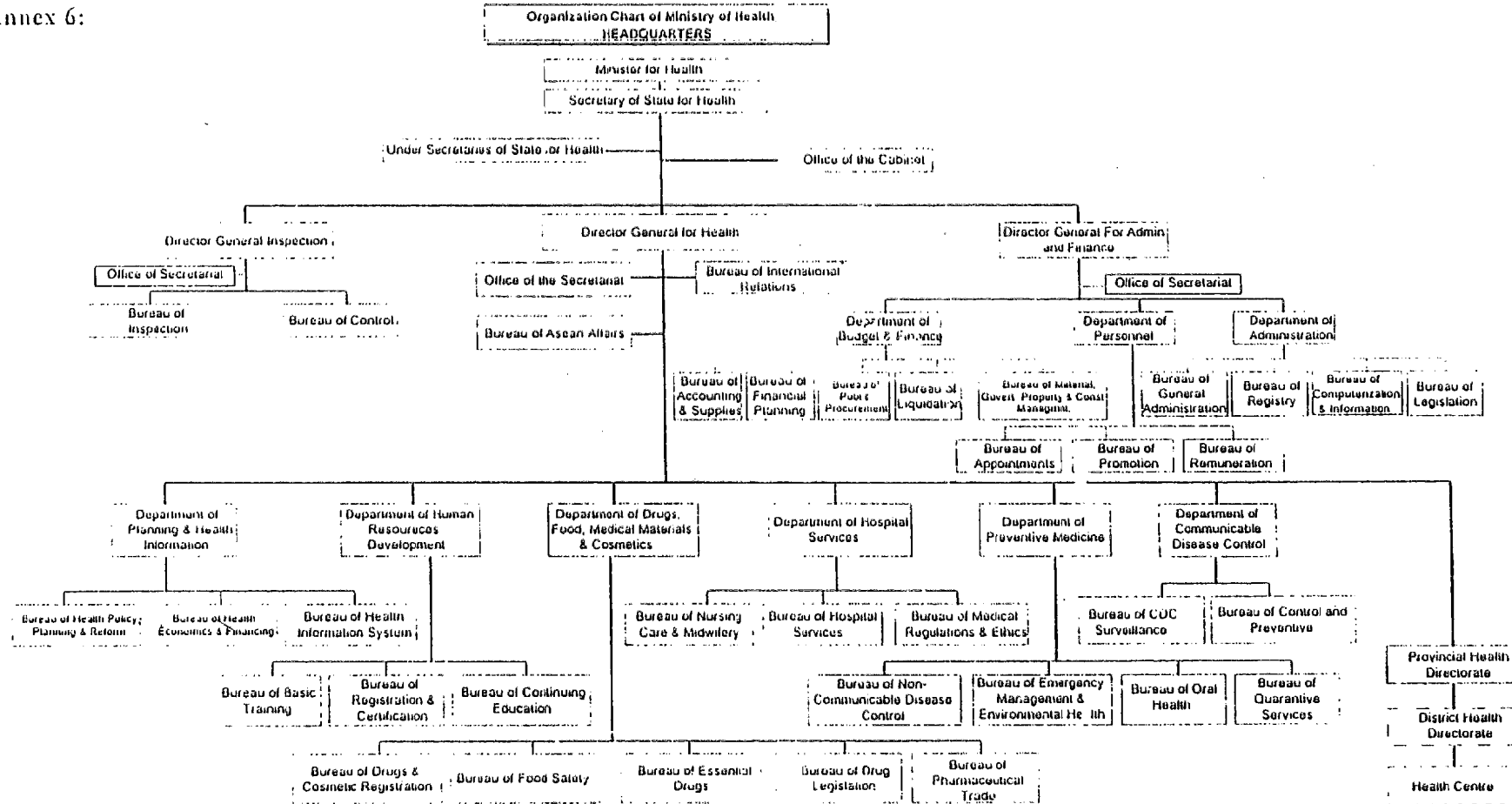
- ① The Department of Communicable Disease Control is responsible for coordinating the National Malaria Centre, the HIV/AIDS/STD and Dermatology Centre, and CENAT- the National Tuberculosis and Leprosy Centre.
- ② The Department of Preventive Care is responsible for coordinating the National MCH Centre, which is in turn responsible for the Reproductive Health Program, the EPI and Polio eradication program, Nutrition, ARI, CDD and Cholera.
- ③ The Department of Medical Services is responsible for Gynecology and Obstetric Care.

I take this opportunity to thank you for your support and good cooperation. We look forward to working closely with you as in the past.

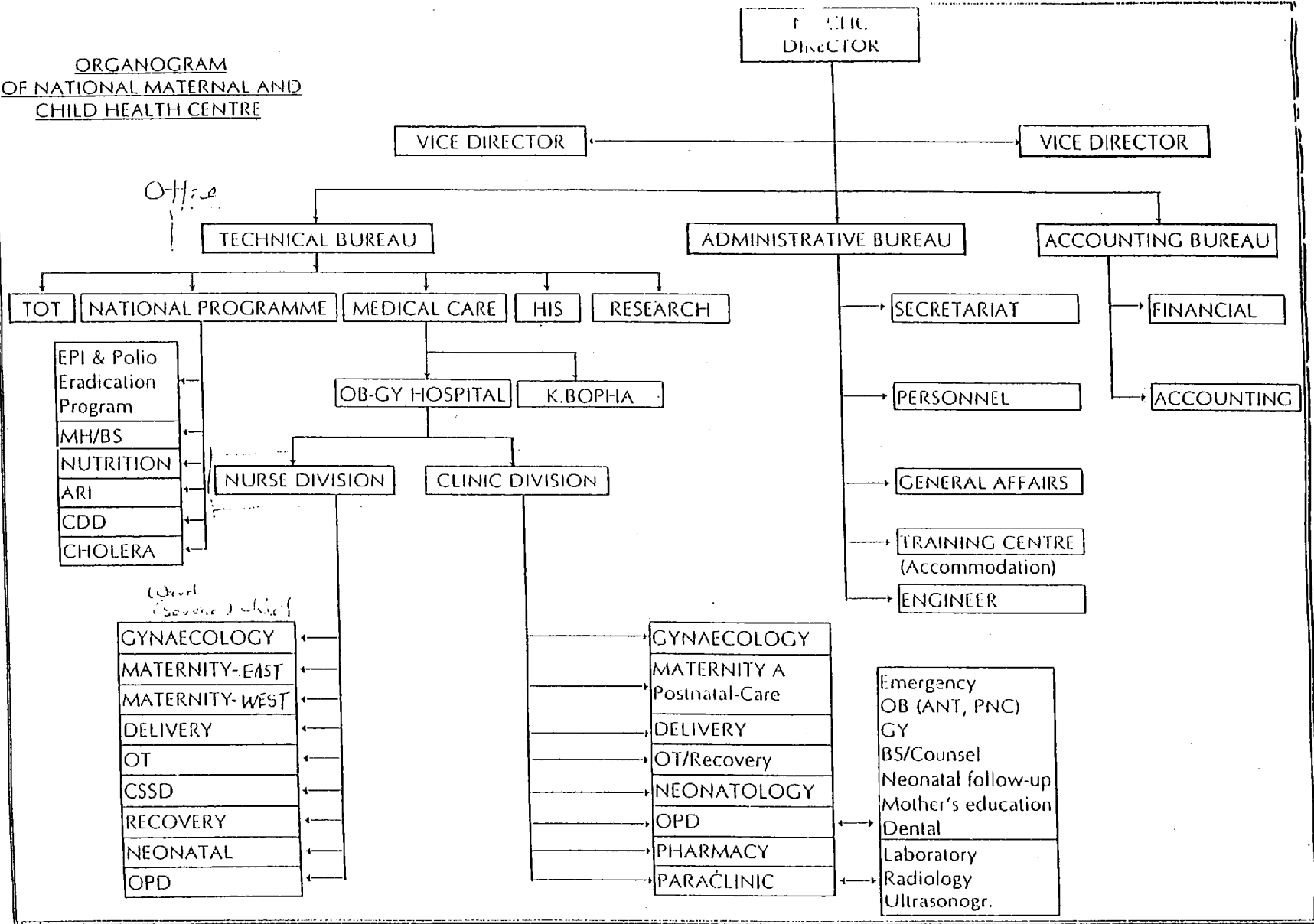
Yours Sincerely,

Dr. Eng Huot
Director General of Health

Annex 6:



ORGANOGRAM
OF NATIONAL MATERNAL AND
CHILD HEALTH CENTRE

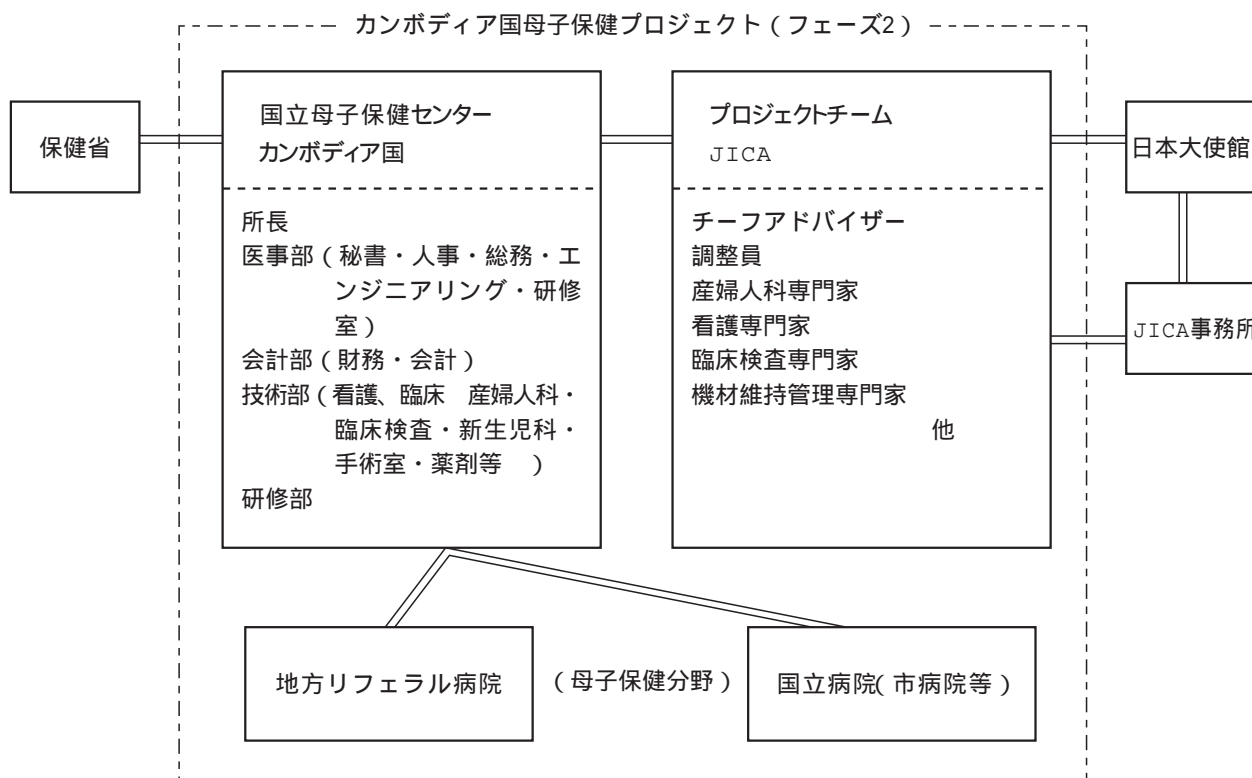


Office

(West Service) Chief

3 - 2 プロジェクトの組織および関係機関との組織関連

本プロジェクトの関係機関を図示すると以下のとおりである。



3 - 3 プロジェクトの予算措置

すでにフェーズ1での実績もあることから、プロジェクト実施にあたって相手国負担となっている予算措置についてはおおむね理解が得られているが、現実的に支出できていないところを含めて協議を行った。フェーズ1では、パリ和平協定以降、初のプロジェクト方式技術協力でもあり、カンボディアが紛争から復興する初期段階にあってきわめて財政負担能力に乏しい状況(DAC 開発分類でLLDCに分類されている)を踏まえて、ローカルコスト負担について相当の配慮を行った経緯がある。現在もカンボディアは紛争から立ち直ったとは言いがたく、プロジェクト期間中も1997年に武力衝突により治安が悪化した結果、先進国資本の撤退があったり、1998年には総選挙に加えアジア経済危機も追い打ちして、カンボディア経済は復興どころではなく停滞の一途をたどっている。しかし、フェーズ2の5年間で自立発展に向けた取り組みを行うことはフェーズ1にも増して必要であり、財政負担が厳しいなかでも何とかカンボディア側が自ら運営していけるよう予算措置を求めていくことが重要である。特にフェーズ1で配慮した部分について、フェーズ2では相手側から支出していくよう機会をとらえて申し入れ、それにあわせて日本側投入を検討していくこととなる。

まず、国立母子保健センターそのものに対する予算措置については、来年度50%増となる見

込みである旨発言があり、総額 120 万リエル(約 4 万ドル)とのことであった。ただし、予算計画と予算執行で乖離があることはフェーズ 1 で経験済みであり、適切な執行が望まれる。

以下、懸案となると思われる項目ごとに記述する。

(1) 研修費

フェーズ 1 では、研修実施に必要な費用(研修生の日当・宿泊、教材費等)はカンボディア側から支出することが困難なため、全額日本側からの支出として 5 年間活動を行ってきた。現在の見込みでは、料金徴収制度(user fee system)の収入から研修費を捻出することが収支バランスからみて不可能な状況であることから、保健省側からの何らかの予算措置が必要である(現状では予算措置がない)。今後必要となる地方医師・助産婦の研修費用は総額約 400 万円程度であるが、自立発展を促す意味で中堅技術者養成対策事業費の説明を行った。すなわち、当初は日本側が大部分の割合を支出しながらも、年々負担割合を減らしていき、その分をカンボディア側が負担していくスキームである。カンボディア側は趣旨について理解を示しつつ、自らの財政負担が厳しいことから世界銀行の借款からの支出を示唆し、借款が認められれば可能であろう旨発言があった("Priority Activity Project" という名であるとの由)。また、借款が難しい場合には他ドナーの援助(贈与による)を示唆したが、その際日本側の支出が少なくなり、その分他ドナーが口をはさむこととなり、日本のプレゼンスが低くなるという点は支障ないか、先方から質問があった。とりあえずは聞きおいたが、微妙な問題であり検討を要する。

(2) 監督費用

国立母子保健センターの職員が、地方へ指導・監督のためにかかる経費(日当・宿泊等)については、カンボディア側から支出することが困難であり、LLDC であるため、フェーズ 1 では全額日本側が支出していた。しかしフェーズ 2 では、原則としてカンボディア側から支出すべき点を強調しつつ支援していくことが必要である。この点につき先方に説明したところ、中堅技術者養成対策事業費のように、最初は日本側が大部分を支出し、徐々にカンボディア側の負担を増やしていくようなスキームがないか質問があった。聞きおくにとどめたが、現行ではそのようなスキームはない。しかし、カンボディア側が自ら経費を負担する姿勢をみせたことの意義は大きく、積極的に支援していけるよう、中堅技術者養成対策事業費に近い形でコストシェアリングをしていくことを検討したい。

(3) 国立母子保健センターの電気・ガス・水道費

本費用についてはカンボディア側が従来から支出している。しかし、保健本省から支払いが滞り、料金徴収制度(user fee system)で一時的に仮払いすることがままあったことが

ら、保健省に質したところ、同省から支出する旨の発言を得た。

(4) 教材製作費

健康教育に必要なパンフレット等の印刷物製作費については、日本側の経費負担が可能である旨伝えたが、終了時をにらんで何らかの予算措置を促す必要があると思われる。

(5) 料金徴収制度 (user fee system) の問題について

現在、国立母子保健センターで行っている料金徴収制度について保健省との関連があるものとして、料金免除となった患者分の診療費の補填を保健省に求めているが、一向に補填されないという問題がある。この点について保健省に質したところ、財務省 (Ministry of Finance) に予算要求中であり、予算がつけば可能とのことであった。従来からこの姿勢は変わっておらず、カンボディア政府の財政状況を考えると困難と思われることから、何らかの別の措置を検討する必要もあろう。

(6) 薬剤 / 物品等消耗品の供給について

本件についてはフェーズ1から原則的にカンボディア側負担とし、供給が途絶えている場合や緊急時にはわが方から支出していたが、先方から供給される薬剤 / 物品のタイミングおよび量が不適切なことがあり²、これにつき質したところ、改善する旨の発言を得た。

(7) 機材のスペアパーツについて

機材のスペアパーツの交換等は原則としてカンボディア側負担となっており、先方もそれを十分に理解してはいるが、本邦調達機材のスペアパーツについて入手が著しく困難 / 入手経路が不明との申し立てがあった。わが方としてもなるべく本邦企業へのコンタクト先を知らせる、今後供与する機材は現地調達を念頭に置くといった措置が必要と思われる。

² カンボディアの保健省管轄機関に対する薬剤や物品供給は、一元的に保健省管轄下の Central Medical Store (CMS) が受け持っており、各機関からの請求に応じて CMS が直接配布することになっている。

4. プロジェクトの基本計画

4-1 専門家派遣計画

	1年次	2年次	3年次	4年次	5年次
長期専門家	—				
チーフアドバイザー	●				●
調整員	●				●
産婦人科	●				●
機材維持管理	●				●
臨床検査	●			●	
助産婦	●	●	●		●
看護管理		●	●		
短期専門家					
看護管理	●●	●●		●●	●●
新生児科	●●	●●	●●	●●	●●
麻酔科	●●	●●	●●	●●	●●
放射線科	●●	●●	●●	●●	●●
放射線技術	●●	●●	●●	●●	●●
病院財務	●●	●●	●●	●●	●●
手術室/新生児看護		●●	●●	●●	
病院管理		●●	●●		●●
病院施設維持	●●				
薬剤管理	●●		●●		●●
IEC/研修	●●	●●		●●	
病院情報	●●		●●		
HIV/AIDS カンセリング	●●				
臨床検査				●●	●●

分野	業務内容
チーフアドバイザー	プロジェクト全体の技術指導・管理を行う。活動を総括し、実施運営の責任者となる。
調整員	リーダーを補佐し、プロジェクトの業務調整を行う。会計管理・事務調整を行う。
産婦人科	産婦人科医師への臨床指導を行うほか、他科医師との連携、学生や研修生に対する教育・指導を行う。

機材維持管理	医療機材の維持および管理に対する指導と、その体制づくりを行い、病院全体として機材の稼働率が維持されるようにする。あわせて、他の病院に対する機材維持の指導も行う。
臨床検査	血液検査等の臨床検査部門の指導と、院内血液銀行設立の指導、検査の質管理（Quality Control）の技術移転を行う。
助産婦	看護部門の主に周産期看護に関する実務指導を行うほか、地方病院・ヘルスセンターの助産婦研修での教育・指導を行う。
看護管理	看護部門の婦長クラスに対して、病棟管理・患者管理・スタッフ管理を中心とする看護業務の管理法を指導する。
新生児科	新生児科の医師に対して臨床指導や、教育指導体制の助言を行うことにより、マネジメント体制づくりの強化を行う。
麻酔科	麻酔科の医師に対して、適切な麻酔と ICU ケアについて指導を行うとともに、手術室管理について基本的事項を教授し、また他の診療科との連携体制を構築する。
放射線科	放射線科医師に対して、基礎的な胸部・腹部レントゲン写真から特殊なレントゲン写真までの読影法を指導し、他科・他病院スタッフに対する教育を行う。
放射線技術	放射線科技師に対して、レントゲンの基本的な撮影方法等の技術移転を行い、また、他病院スタッフに対する教育を行う。
病院財務	財務諸表の基本を指導し、適切な病院財務計画の策定とそのフィードバックの方法について助言する。
手術室/新生児看護	手術室の術後管理にかかる看護業務あるいは新生児室の看護方法について指導を行う。
病院管理	病院の医事業務について指導を行い、国立母子保健センターの事務部門に対して総合的な助言を行う。
病院施設維持	施設・設備の日常メンテナンスの方法を技術移転し、あわせてトラブルシューティングのための体制強化を行う。
薬剤管理	薬剤・物品の実際の使用量に基づく計画をはじめとした、薬剤管理について指導を行う。
IEC/研修	研修講師や学生指導者に対し、教育法・指導法を伝授するとともに、スタッフ間・スタッフ-患者間のコミュニケーションについて助言する。
病院情報	カルテ管理および病院情報の統合管理を主たる内容として、病院全体の情報管理について指導を行う。
HIV/AIDS カウンセリング	増加する HIV/AIDS に対応して、医療従事者に対し接し方・カウンセリング法について指導する。

4-2 研修員受入れ計画

	1年次	2年次	3年次	4年次	5年次
産婦人科	●—●	●—●—●	●—●		
臨床検査	●—●	●—●—●			●—●
病院管理/財務	●—●				
麻酔科		●—●—●			
放射線技術			●—●—●		
病院管理			●—●		
ICU 看護				●—●	
手術室看護				●—●	
病院会計				●—●	
超音波診断					●—●
外来看護					●—●

産婦人科	チーム医療、他科との連携の習得や、病理細胞診の手法と診療のなかでの位置づけ、救急外来との関連の習得を目的として研修を実施する。
臨床検査	一般血液検査、尿検査、生化学検査等基本的な検査技術、スクリーニング技術、医療部門との連携の習得を目的とする。
病院管理・財務	病院財務を中心として、組織管理・人事管理・事務管理・備品管理等のさまざまな管理手法を学ぶ。
麻酔科	麻酔の基本技術や ICU における医療技術を学び、臨床技能および麻酔管理手法を習得する。
放射線技術	レントゲンの撮影法等の基本手技を体得し、医療部門との連携体制について習得する。
病院管理	ヒト・モノ・カネ・情報の管理の基本を学び、マネージメント・サイクルを中心として病院経営・運営の適切な方法について習得する。
ICU 看護	集中治療室における患者の全身管理・経過観察等を含めた看護の技術について学び、チーム医療を正確に行う方法を習得する。
手術室看護	術前・術中・術後の患者の看護法、麻酔の管理方法について学び、医師との連携について習得する。
病院会計	診療費徴収による収入の管理、およびさまざまな経費の支出の執行について、適正に行う技術、会計記録の方法論について学ぶ。
超音波診断	超音波検査の方法、診断への活用法、臨床場面での応用の方法について習得し、妊産婦検診に役立てる技術を学ぶ。
外来看護	救急外来の対応法や、一般外来における患者への接遇法について、看護職としての技術を習得する。

4-3 資機材供与計画

年次ごとのおおよその資機材供与計画は以下のとおりである。特に4年次以降は、詳細が現時点では決まっていない。

年次	主要機材
1年次	<ul style="list-style-type: none"> ・助産婦用機材（伝統的産婆キット、研修受講済助産婦用キット等） ・臨床検査用機材（分光光度計、遠心分離器等） ・産婦人科部門用機材（手術セット、乳腺プローブ等） ・放射線科部門用機材（自動現像機、X線テレビ等） ・健康教育用機材（視聴覚教材）
2年次	<ul style="list-style-type: none"> ・助産婦用機材（伝統的産婆キット、研修受講済助産婦用キット等） ・リフェラル病院産婦人科用機材（手術セット、足踏み吸引器等）
3年次	<ul style="list-style-type: none"> ・助産婦用機材（伝統的産婆キット、研修受講済助産婦用キット等） ・リフェラル病院産婦人科用機材（鉗子分娩、処置セット、手術セット）
4年次	<ul style="list-style-type: none"> ・健康教育用機材（視聴覚教材） ・国立母子保健センター・リフェラル病院用機材（詳細未定）
5年次	<ul style="list-style-type: none"> ・健康教育用機材（視聴覚教材） ・国立母子保健センター・リフェラル病院用機材（詳細未定）

4-4 ローカルコスト負担計画

カンボディア側で手当てできず、自立発展に配慮しつつ日本側で負担を検討すべき現地業務費は（費目別に）以下のとおりである。

(1) 一般現地業務費

恒常的に発生する主に専門家にかかる経費のうち、カンボディア側が負担できない費用。たとえば、専門家の出張経費（日当・宿泊）、通信連絡費、会議費等。年間400万円前後と思われる。

(2) LLDC等特別現地業務費

本来カンボディア側が負担しなければならないが、特別に日本側が負担する経費で、主に燃料費・機材運搬費・人材養成費・雑工事費等。年間300万円前後。

(3) 中堅技術者養成対策事業費

人材育成を行うための研修費で、研修生の日当・宿泊費、講師の謝金、教材費等の支出を、カンボディア側と日本側で負担しあうもの。初年度は日本側が大部分を負担するが、年々日本側の負担を漸減させていき、その分をカンボディア側が負担して、最終的にはカンボディア側が全額支出するよう支援する費目。年間400万円前後であり、年々減らしていくとき、現任専門家の見積もりでは50%までならカンボディア側が負担できそうであるが、それ以上は困難との由。借款等による手当でもカンボディア側が賄っていくことが必要と考えられる。

(フェーズ1では研修を小規模ながら実施していたが、啓蒙普及活動費として日本側全額負担で支出していた)

(4) 啓蒙普及活動費

プロジェクトで得た成果を普及するのに必要な経費のうち、主に日本人専門家にかかる経費。たとえば日当・宿泊費、印刷製本費、調査研究謝金費など。実際は、カウンターパートが監督・指導活動(supervision)に出向く際に同行して、フィールドで監督活動の助言などを行う際に支出する。ただし、フェーズ1ではLLDCのためカウンターパートの旅費も支出していたので、それをフェーズ2でどこまで出すか検討が必要。年間100万円程度。

② 中村短期調査員報告書

カンボディア国母子保健プロジェクト（フェーズ2）短期調査

PCM ワークショップ概要

本短期調査では、関係者が2度にわたり PCM ワークショップ*1 を開催した。その概要は下表に示すとおりである。

PCM ワークショップ概要

	第1回ワークショップ（現状分析）	第2回ワークショップ（立案）
日時 （期間）	1999年12月7日（火）、8（水）、9（木）、 13日（月）（14:00～17:00）	1999年12月14日（火）、15（水） （14:00～17:00） 1999年12月16（木）（10:00～12:00）
目的	カンボディア側・日本側がプロジェクト立案のために母子保健の現状分析を実施する。	カンボディア側・日本側がプロジェクトの計画案（目標、成果、活動、指標、外部条件、投入）および活動・投入計画案（活動計画表）を共同で策定する。
参加者 （計22名）	カンボディア側 ・ NMCHC 医院長ほか（12名） ・ Municipality Hospital（2名） ・ Provincial Hospital（1名）	日本側 ・ 日本人専門家（5名） ・ 日本側短期調査員（伊藤 JICA 職員） ・ モデレータ（中村調査員）
主な 作業内容	1) プロジェクトの利害関係者およびターゲットグループの確認（参加者分析） 2) 案件要請の背景となる問題点の整理（問題分析） 3) 問題が解決された状態とその達成手段の検討（目的分析） 4) 技術協力範囲の確認（プロジェクトの選択）	1) プロジェクトの計画案（目標、成果、活動、指標、指標データソース、外部条件、前提条件、投入）の策定（PDM の作成） 2) プロジェクトの活動・投入計画案の策定（TSI の作成）
主な 作業結果	1) 参加者分析 ターゲットグループ：母子 2) 問題分析 中心問題：母子保健サービスの質が十分でない その主な原因： ①NMCHC が十分機能していない ②オペレーショナル・ディストリクト（リフェラル病院やヘルスセンター）の能力が十分でない ③NMCHC と他の国立病院やオペレーショナル・ディストリクト（リフェラル病院やヘルスセンター）との連携が十分でない	1) プロジェクトの目標および成果 上位目標：カンボディア国の母子保健状態が改善される プロジェクト目標：カンボディア国の母子保健サービスの質が向上する 成果： ①NMCHC がさらに強化される ②オペレーショナル・ディストリクト（リフェラル病院やヘルスセンター）の能力が向上する ③NMCHC と他の国立病院やオペレーショナル・ディストリクト（リフェラル病院やヘルスセンター）との連携が強化される

*1 プロジェクト・サイクル・マネジメント（Project Cycle Management: PCM）は、プロジェクトの目標や活動、指標、投入等の論理的な設定とモニタリング・評価を通してプロジェクトを効果的・効率的に運営管理するための手法である。そのなかの参加型計画（Participatory Planning: PP）手法では、プロジェクト関係者が共同で現状分析・立案作業を行うワークショップを開催する。

<p>3) 目的分析 問題解決のための中心的な目的：母子保健サービスの質が改善される そのために必要な手段（アプローチ）： ①NMCHCがさらに強化される ②オペレーショナル・ディストリクト（リフェラル病院やヘルスセンター）の能力が向上する ③NMCHC と他の国立病院やオペレーショナル・ディストリクト（リフェラル病院やヘルスセンター）との連携が強化される</p> <p>4) プロジェクトの選択 目的分析の結果より、3つのアプローチ（NMCHC の強化、オペレーショナル・ディストリクトの能力向上、NMCHC および他の国立病院/オペレーショナル・ディストリクト他病院との連携強化）それぞれについて技術協力範囲を選択した</p>	<p>2) 主な活動内容</p> <p>成果 1（NMCHC の強化）：勤務規定の確立、薬剤・物品消費に関するシステムの確立、病院維持管理システムの確立、患者ケアの規範の確立、イン・サービス・トレーニングの強化ほか</p> <p>成果 2（オペレーショナル・ディストリクトの能力向上）：フィールド・スタッフに対するトレーニング、スーパービジョンの実施、医療従事者へのヘルス・プロモーションに関するトレーニング</p> <p>成果 3（他病院との連携強化）：スーパーバイザーへのトレーニング、他病院との定例ミーティング/症例会等の開催</p> <p>3) 主な投入（日本側）</p> <p>専門家：産婦人科医、看護管理、医療機材、臨床検査ほか</p> <p>研修員受入れ：産婦人科医、看護管理、医療機材、臨床検査、医事管理ほか</p>
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1. イントロダクション

1.1 ワークショップの目的

PCMは、開発プロジェクトをより効率的、かつ効果的に計画・実施・評価するためのプロジェクト管理手法である。本プロジェクトのフェーズ2の計画策定にあたり、PCMワークショップが以下の目的のもとで開催された。

- 1) 現状分析：プロジェクト立案のためにカンボディア国の母子保健の現状を分析する。
- 2) PDM策定：プロジェクトの計画案（目標、成果、活動、指標、外部条件、投入）を策定する。
- 3) 暫定実施計画（TSI）の策定：プロジェクトの実施計画案を策定する。

1.2 ワークショップの日程

開催場所：国立母子保健センター（NMCHC）

開催日程：1999年12月7（火）～9日（木）、13（月）～16（木）

12月7日(火) 14:00～17:00	-開会式 ・ オープニング・セッション ・ イントロダクション (PCM手法の概要、ルール、参加型計画手法の説明) -参加者分析
12月8日(水) 14:00～17:00	-問題分析
12月9日(木) 14:00～17:00	-問題分析（つづき）
12月13日(月) 14:00～17:00	-目的分析 -プロジェクトの選択
12月14日(火) 14:00～17:00	-PDMの策定(プロジェクトの要約、外部条件)
12月15日(水) 14:00～17:00	-PDMの策定(指標、指標データ入手手段)
12月16日(木) 10:00～12:00	-PDM完成（投入）、保健省との協議 -閉会式

1.3 ワークショップの参加者

本ワークショップの目的は、カンボディアの母子保健の現状について広く分析を行い、プロジェクトの計画立案を行うことである。そのため、NMCHC の関係者のほか、地方の医師および助産婦等を一同に集めて本ワークショップを開催した（合計 22 名が参加）。以下に参加者リストを示す。

カンボディア側参加者：

（NMCHC の運営委員会メンバー）

Dr. Koum Kanal	Director of NMCHC
Dr. San Chan Soeung	Vice Director & Chief of Delivery
Dr. Tan Vuoch Chheng	Vice Director & Chief of OPD
Mr. Huot Khom	Director of Administration
Mr. So Sokphy	Vice Director of Accounting Bureau
Dr. Tiv Say	Director of Technical Bureau
Dr. Prak Somaly	Vice Director of Technical Bureau
Ms. Ching Chan Tach	Director of Nursing Division

（その他関係者）

Mr. Chea Kimlong	Ministry of Health
Dr. Chun Long	National Program, NMCHC
Dr. Or Sivarin	TOT, NMCHC
Ms. Chum Nay Im	Chief of Pharmacy, NMCHC
Dr. Ouk Sakhan	Chief of Maternity, Municipality Hospital
Ms. Kim Bopha	Midwife, Municipality Hospital
Dr. Ouk Unbuny	Doctor, Prey Veng Provincial Hospital

日本側参加者：

（母子保健プロジェクト専門家）

明石 秀親	チーフアドバイザー
鈴木 ケイ	調整員
藤田 則子	産婦人科医
清水 正一	機材維持管理
森兼 真理	母性看護

（その他）

伊藤 賢一(協力計画) 国際協力事業団医療協力部医療協力第一課職員
中村 千亜紀(参加型計画) グローバルリンクマネジメント(株)研究員
(ワークショップ・モデレータ)

2. ワークショップの成果

PCM 手法の第一の特徴は、状況を視覚的に分析する参加型計画手法にある。本ワークショップ参加者のほとんどは、何らかの形で PCM 手法またはその土台となるロジカル・フレームワークに接した経験があったものの、こうした手法を初めて経験する参加者も含まれていた。そのため、PCM 手法の特徴を参加者全員に理解してもらうことを目的に、分析作業に入る前に手法の概要について簡単な説明を行った。

PCM ワークショップにおける作業は以下の 6 段階を経て実施された。また、各ステップの初めには、作業手順および各ステップ間の関連性に関する説明を行い、必要に応じて OHP や説明カードを使用して具体例を示した。

- 1) 参加者分析
- 2) 問題分析
- 3) 目的分析
- 4) プロジェクトの選択
- 5) PDM 案の策定
- 6) TSI 案の策定

なお、ワークショップの議論は日本語およびクメール語で、また意見の視覚化は英語で行った。この作業を助けるため、通訳およびアシスタントとしてプロジェクト側から 3 名のローカル・スタッフが出席した。

2.1 参加者分析

参加者分析は、プロジェクトの直接あるいは間接の影響を受けることが予想される個人やグループの特徴や問題を分析し、プロジェクトの主たる直接受益者となるターゲット・グループを選定する過程である。PCM 手法では、プロジェクト目標はターゲット・グループへの直接的な便益として表される。

2.1.1 「関係者」の列挙と類別

本ワークショップでは、まず母子保健プロジェクトに関係する個人、機関、グループなど

のそれぞれの役割、関係性についての確認を行った。その結果、NMCHC は JICA および保健省からの支援を受けながら、住民に対して医療サービスおよび啓蒙活動を実施していること、他のリフェラル病院に対しては監督指導活動(スーパービジョン)および研修を実施していること、プノンペン大学医学部に対しては臨床研修の場を提供するとともに学生への教育を行っていること、さらにその他の国立病院ならびにプノンペン市病院とは協力関係にあること等が確認された。すなわち、参加者分析により、NMCHC は母子保健分野における国のトップリフェラル病院であるとともに、地域のリフェラル病院的役割も果たしていることがワークショップの参加者間で明確化されたといえる(別添英文報告書の FIG.1 を参照)。

次に、それらの関係者(機関)をカードに書き出してもらい、それらをプロジェクトとのかかわり方に応じて、「受益者」、「サービス提供者」、「その他の協力機関」、「潜在的反対者」の4つのカテゴリーに分類した。プロジェクトの「受益者」としては、住民(特に母子)、母子保健にかかわる医療機関等が列挙された。「サービス提供者」としては、住民に対する医療サービスを提供する機関として NMCHC およびその他の医療機関があげられた。「その他の協力機関」については、JICA、保健省ならびに民間セクターがあげられたが、そのうち、民間セクターは「潜在的反対者」としても位置づけられた。参加者の類別の結果は別添英文報告書の FIG.2 のとおりである。なお、分析作業の結果、「受益者」のなかから「母子」をプロジェクトのターゲット・グループとして設定することで参加者の合意が得られた。

2.2 問題分析

問題分析とは対象地域・分野に現存する問題を原因 結果の因果関係で整理し、視覚的に系図を作成する作業である。問題分析は、通常、ターゲット・グループが抱える問題のなかから分析の出発点となる「中心問題」を選ぶ作業から始める。

本ワークショップでは、中心問題を設定する際、本年8月に実施されたフェーズ1の終了時評価調査の結果についてのレビューをまず行い、その分析結果から現在プロジェクトが抱えている中心的な問題を明らかにする作業を行った。終了時評価報告書によれば、母子保健プロジェクトは当初の期待以上の成果をあげており、プロジェクト目標である「NMCHC の機能強化」の達成度はおおむね高いと判断された。現行フェーズ1プロジェクトにおける中心問題は「NMCHC の機能が十分でない」ということであったが、それらについての取り組みはすでに実施中である。そのため、次期フェーズ2プロジェクトにおいては中心問題をさらに広い観点から設定することとなった。討議の結果、問題領域を広くカバーする問題として、「母子保健サービスの質が十分でない」というカードを選択することで参加者の合意を得た。中心問題と直接原因、直接

結果の関係は FIG.3 のとおりである。

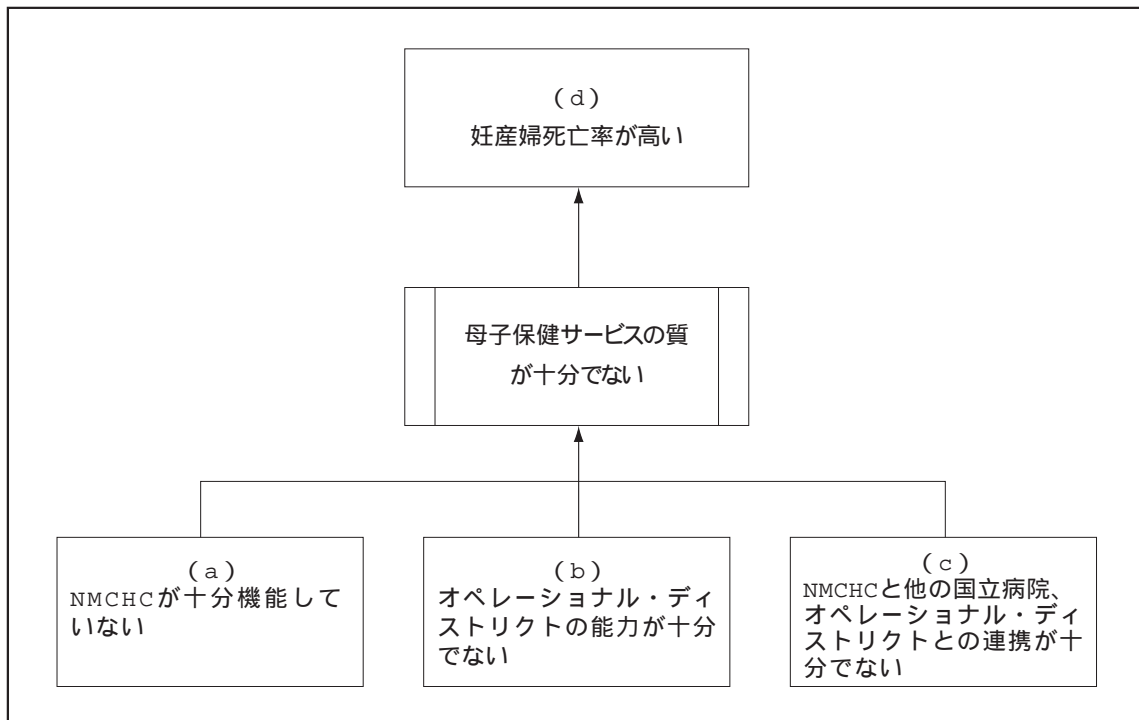


FIG.3 問題系図の中心部

中心問題である「母子保健サービスの質が十分でない」ことの直接原因としては、(a)「NMCHCが十分機能していない」、(b)「オペレーショナル・ディストリクト(リフェラル病院やヘルスセンター)の能力が十分でない」、(c)「NMCHCと他の国立病院やオペレーショナル・ディストリクトとの連携が十分でない」の3枚のカードがあげられた。一方、中心問題の直接結果としては、(d)「妊産婦死亡率が高い」のカードがあげられた。上記の因果関係を中心に据え、さらに問題を分析した結果が別添英文報告書の FIG.4 である。

なお、中心問題である「母子保健サービスの質が十分でない」ことの直接原因としては、上記にあげた3つの原因のほかにカンボディア国内におけるインフラの未整備などさまざまな要因が考えられるが、インフラの未整備等の問題に関しては本プロジェクトでは解決することが困難であるため、本ワークショップではそれらの問題に関する詳細な分析はあえて行わないこととした。

2.3 目的分析

目的分析とは、問題分析で明らかにされた問題群が解決された時の望ましい状態(目的)とそ

それを達成するための手段の関係を視覚的に整理する作業である。目的分析の作業は、問題カードを肯定的な表現に書き直し、問題系図に存在する「原因 結果」の関係を「手段 目的」の関係に変化させることから開始する。

本ワークショップにおいては、中心問題である「母子保健サービスの質が十分でない」というカードは、「母子保健サービスの質が改善される」という中心目的に書き換えられた。また、「手段 目的」の関係が現実性に乏しい場合、あるいは将来の望ましい状態を示していない場合には、カードの表現を書き変えたり、カードを追加または削除などの作業が行われた。目的系図の中心部分はFIG.5 に示すとおりである。

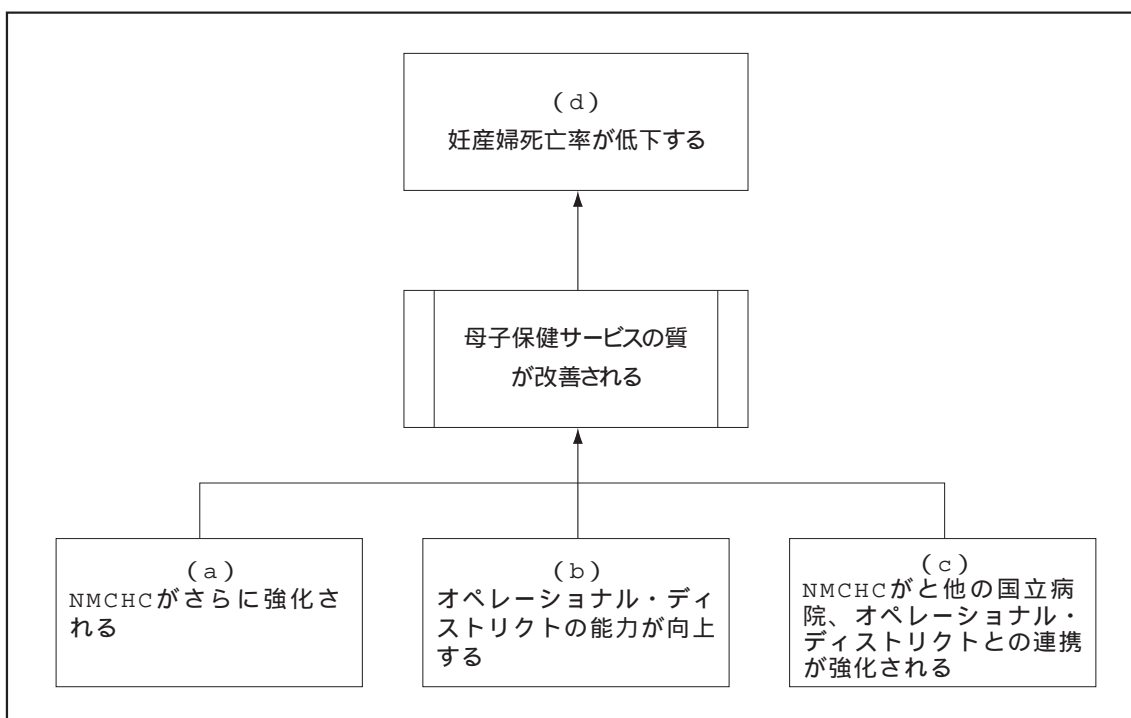


FIG. 5 目的系図の中心部

中心目的である「母子保健サービスの質が改善される」ために必要な直接手段としては、(a)「NMCHC がさらに強化される」、(b)「オペレーショナル・ディストリクト(リフェラル病院やヘルスセンター)の能力が向上する」、(c)「NMCHC と他の国立病院やオペレーショナル・ディストリクトとの連携が強化される」の3枚のカードが問題系図を参考にしてあげられた。一方、中心目的の直接目的としては、(d)「妊産婦死亡率が低下する」のカードがあげられた。上記の因果関係を中心に据え、さらに分析を続けた結果が別添英文報告書 FIG.6 の目的系図である。

2.4 プロジェクトの選択

参加型計画手法における4つの分析過程の最後がプロジェクトの選択である。この過程は、目的系図で明らかにされた手段・目的群が形成するアプローチのなかから、ターゲット・グループのニーズ、優先順位、予算、技術レベル、社会配慮などの基準に照らし合わせて各アプローチを比較検討し、プロジェクトとして実行可能なアプローチを選択する作業である。

本ワークショップでは、目的系図のコンポーネント(内容)を検討した結果、以下の3つのアプローチが確認され、各アプローチの範囲が線で囲まれた(検討結果は、別添英文報告書 FIG.6 を参照)。

1. NMCHC の強化アプローチ

運営管理全般、人事管理、財務管理、薬剤物品管理、医療機材 / 施設管理、病院情報管理、患者管理、患者サービス、新技術・システム導入、臨床研究、それぞれの向上をめざす。

2. オペレーショナル・ディストリクトの能力向上アプローチ

フィールド・スタッフ研修、医学生 / 看護学生教育、健康に関する啓蒙等により、オペレーショナル・ディストリクト(リフェラル病院やヘルスセンター)の能力の向上をめざす。

3. 他病院との連携強化アプローチ

監督・指導、コミュニケーションの改善により、NMCHC と他の国立病院やオペレーショナル・ディストリクト(リフェラル病院やヘルスセンター)との連携強化をめざす。

なお、プロジェクトの実施主体が NMCHC であることから、NMCHC 以外の機関が主体となっているものについては各アプローチの範囲には含めないこととした。しかし、上記3つのアプローチのうち、特に研修、教育、啓蒙、監督・指導の実施については、保健省からの支援等が不可欠であることが指摘されたため、それらについては投入を設定する際に再度検討することとした。また、「他病院との連携強化アプローチ」のなかの「コミュニケーション改善」に関する一部のコンポーネントについては、アプローチとして選択するためには他機関の意思を確認することが必要であるとされたため、実線ではなく破線でアプローチの範囲が囲まれた。

次に、本プロジェクトを選択するうえで特に重要な項目として、「カンボディア国のニーズ」、「日本側の援助政策の優先度」、「新技術開発の必要性」、「投入の実行可能性」、「達成可能性」の

5つが選択基準として選択され、それらに照らし合わせて、3つのアプローチが比較検討された。

まず、「日本側の援助政策の優先度」に関して、伊藤短期調査員から参加者に説明がなされた。それらの説明を受け、ワークショップの参加者は3つのアプローチのすべてについて、日本側の優先度は「高い」との判断を下した。「カンボディア国のニーズ」および「新技術開発の必要性」に関しても、3つのアプローチすべてについて「ニーズが高い」との判断が下された。なお、「投入の実行可能性」および「達成可能性」については、現段階ではカンボディア側ならびに日本側の投入が具体的に定まっていないために、比較検討は難しいとの判断がなされた。上記アプローチの比較検討作業の結果、ワークショップの参加者は、3つのアプローチを統合してプロジェクトを形成するという結論に至った。

2.5 プロジェクト・デザイン・マトリックス (PDM)

2.5.1 PDM の定義

PDM は、プロジェクトの概要を表すフォーマットである。PDM に記入される項目の定義は Table 1 のとおりである。

Table 1 PDM の概要

上位目標	達成されたプロジェクト目標が貢献することが期待される長期的開発目標
プロジェクト目標	プロジェクトの終了時までには達成されることが期待される中期的な目標であり、「ターゲット・グループ」への具体的な便益やインパクト
成果	プロジェクト目標を達成するためにプロジェクトが実現しなければならない短期的かつ直接的な目標
活動	成果目標を達成するために、投入を効果的に用いて行う具体的な行為
指標	プロジェクトの成果、目標および上位目標の達成度を測るもので、客観的に検証できる基準
指標データ入手手段	指標を検証するためのデータ・ソース
外部条件	各レベルの目標を達成するために必要な条件であるが、プロジェクトではコントロールできない条件
前提条件	プロジェクトを開始するために必要な条件
投入	プロジェクトの活動を行うのに必要な人員・機材・資金など

2.5.2 PDM の作成

本ワークショップでの現状分析を踏まえ、以下のようなプロジェクトの概要が提案された（詳細は、別添英文報告書 Table 2 を参照）。

1) プロジェクトの目標、成果の設定 (PDM のプロジェクトの要約)

上位目標： カンボディア国の母子保健状態が改善される

プロジェクト目標： カンボディア国の母子保健サービスの質が改善される

成果： NMCHC がさらに強化される

オペレーショナル・ディストリクト（リフェラル病院やヘルスセンター）の能力が向上する

NMCHC と他の国立病院やオペレーショナル・ディストリクト（リフェラル病院やヘルスセンター）との連携が強化される

2) プロジェクト期間

2000年4月1日から5年間

3) ターゲット・グループ

妊婦および授乳中の女性と子供

4) プロジェクトの実施機関

保健省およびNMCHC

5) 活動、外部条件、指標、投入について

目的分析やプロジェクトの選択の結果、プロジェクトの成果を達成するための「活動」にはさまざまなものがあげられたが、PDM のなかでは主な活動のみを書き出すこととした。

「外部条件」については、さまざまなものがあげられたが、PDM のなかでは、そのなかから特にプロジェクトの成功のために重要なもののみを選び取り、書き出した。プロジェクト目標達成のための外部条件のひとつとして「教育や識字率が現在より悪化しないこと」があげられたが、プロジェクト期間である5年間ではあまり変化がないと推測されたため、外部条件からは削除した。なお、現段階において、プロジェクトの開始前に満たされるべき条件は特に見当たらないとして、「前提条件」は設定されなかった。

プロジェクトの「指標」について特記すべき事項は次の2点である。

上位目標の指標「妊産婦死亡率 (MMR)」

妊産婦死亡率に関する情報は National Health Statistics Report において入手できる。しかし、カンボディアでは全国的な人口調査はいまだ実施されておらず、妊産婦死

亡率もシスターフッド・メソッド(Sisterhood Method)で得られた数値であるため、あくまでも推定にすぎず信憑性は乏しい。しかしながら、上位目標の達成度を測るためのそれらに代わるデータおよびデータ・ソースが見当たらないため、現段階ではMMRを指標として設定するに至った。

プロジェクト目標の指標

プロジェクト目標の指標として、「全国の出産時における医療従事者の介助率」および「全国の妊産婦検診受診率」があげられたが、これらについてはデータ・ソースの入手が困難であることが指摘された。

本ワークショップでは、カンボディア側および日本側参加者ともにプロジェクトの財政負担者の代表が含まれていなかったため、「投入」の詳細な決定は実施協議調査団で行うこととした。そのため、PDMにおいては、日本側の投入に関する提示案を書き出すこととした。なお、カウンターパートからは、日本側およびカンボディア側投入について以下のような要請がなされたが、日本側に対する要請については、専門性などの問題により応えることが難しいものもあることを了承してもらった。また、カンボディア保健省に対する要請については、実施体制等にかかる協議の席上、保健省の代表に提示し、協議を行った。

1) 日本側投入(カウンターパートからの要請)

専門家派遣計画

長期専門家：チーフアドバイザー、調整員、看護管理、助産婦、産婦人科、機材維持管理、臨床検査、麻酔科、病院情報管理、ICU看護/手術室看護、薬剤

短期専門家：産婦人科、新生児科、コンピュータ・ネットワーク、病院施設管理、放射線科、放射線技師、病院財務

研修員受入れ計画

病院会計、病院管理/財務、病院管理、医療機材維持管理、超音波診断、放射線科、放射線技師、臨床検査技師、臨床検査技師(細胞学)、ICU看護、手術室看護、外来看護、産婦人科、麻酔科、QC

2) カンボディア側投入(カウンターパートからの要請)

人員配置計画

機材維持管理のための人員配置が必要である。

建物および施設供与計画

患者カルテ用倉庫、薬剤・物品倉庫、検査室

運営コスト負担計画

監督指導活動費、研修費、コンピュータ・プリンター・コピー機のための消耗品費、燃料費、薬剤購入費、スペアパーツ費、診療費収入の配分に関する検討（運営費を削減し、スタッフに対するインセンティブを拡大することが必要である）

2.6 暫定実施計画（TSI）

TSI は、プロジェクトの活動に対応する投入計画および実施スケジュールをプロジェクトの開始時に暫定的に設定したものである。この計画は、プロジェクトの実施中においてもモニタリング・評価資料として活用されることとなる（詳細は、別添英文報告書 Table 3 を参照）。

なお、TSI については、日本側がカンボディア側に案を提示し、大きな支障となる部分のみを確認するにとどめ、詳細の決定は実施協議調査団で行うこととした。

3. PCM ワークショップの評価

本 PCM ワークショップは参加者の積極的な参加により良好に終了し、協力内容の素案づくりとフェーズ 2 協力にあたっての確認事項の調査という当初の目的は果たせられたと考えられる。なお、本調査の結果は日本国内において検討され、修正のうえ、R/D 案として実施協議調査団がカンボディア側に提示する予定である。

本ワークショップでは一連の作業を通じてプロジェクトの計画案である PDM を作成したが、PDM を用いることにより、プロジェクトの運営・管理やモニタリング・評価をよりの確に効率的に実施することが可能となる。そのため、プロジェクト開始後も、計画段階で作成した PDM を活用しながら、モニタリングによりプロジェクトの進捗状況や、プロジェクトを取り巻く環境の変化を把握するなどの活動が継続されることを期待したい。

Table 2 Project Design Matrix (PDM): The Maternal and Child Health Project in the Kingdom of Cambodia (Phase II)*

Target group : Expecting and nursing mothers and children
Duration : April 1, 2000 to March 31, 2005

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal The status of maternal and child health in the kingdom of Cambodia is improved	<ul style="list-style-type: none"> - Maternal Mortality Rate 	<ul style="list-style-type: none"> - National Health Statistics Report 	
Project Purpose Quality of service for maternal and child health in the Kingdom of Cambodia is improved.	<ul style="list-style-type: none"> - Percentage of births attended by trained health personnel in Cambodia - Ante-natal check-up rate in Cambodia - Return rate of Ante-natal Care - Return rate of for complicated postpartum cases - Neonatal death 	<ul style="list-style-type: none"> - National Health Statistics Report 	<ul style="list-style-type: none"> - Continuous policy support from Ministry of Health - Natural disasters will not occur in Cambodia - Accessibility will not be worth furthermore
Outputs 1 The National Maternal and Child Health Center as the national top referral hospital is further strengthened 2 Capabilities of operational districts (referral hospitals and health centers) are improved 3 Collaboration between NMCHC and National hospitals/Operational districts (referral hospitals and health centers) in MCH is strengthened	1-1 Number of clients using NMCHC services 1-2 Number of deaths for perenatal illnesses 1-3 Drug and material consumption per patient in ordinary wards (except ICU/NCU) 1-4 Medical equipment/facility utilizing rate 1-5 Post operative infection rate 1-6 Number of paraclinic tests 2-1 Number of deliveries of referral hospitals 2-2 Number of deliveries attended by health center midwife trainee in NMCHC 2-3 Number of referral cases to referral hospitals 3-1 Number of referred complicated cases to NMCHC 3-2 Number of meetings and conferences with other hospitals (especially in Phnom Pen area)	1-1/ Technical Bureau Report and 1-2 Report of MOH 1-3 D/M Monthly Report and Technical Bureau Report 1-4 Engineering Section Report 1-5 Gynecology Maternity Report 1-6 Paraclinic Report 2-1 National Health Statistics Report 2-2 National Health Statistics Report and Supervision 2-3 National Health Statistics Report 3-1 Technical Bureau Report 3-2 Technical Bureau Report	<ul style="list-style-type: none"> - Ministry of Health provides Drug /Materials properly

* It is tentative title

Narrative Summary	Inputs		Important Assumptions
Activities	Japanese side		Cambodian side
1 (Activities for strengthening of NMCHC)	1 Dispatch of experts		1 Assignment of counterparts
1-1 Use management cycle sufficiently	(a)Long-term		2 Arrangement of buildings and facilities
1-2 Establish job description	Chief advisor, Coordinator,		3 Sharing of expenses for project implementation
1-3 Train staff for accounting skills / knowledge	Obstetrics and gynecology, Midwife,		
1-4 Establish system to know drug and material consumption in ward and in total	Maintenance expert of medical equipment, Clinical laboratory technologist,		
1-5 Establish hospital maintenance system	(a)Short-term		
1-6 Carry out training for communication	Neonatologist, Anesthesiologist,		
1-7 Provide Health education for patinas/families	Radiologist, Radiology technician,		
1-8 Standardize patient care	Hospital accounting expert, OT/NEO Nursing,		
1-9 Strengthen in-service training	Nursing management expert,		
1-10 Introduce new paraclinic tests	Hospital management expert,		
2 (Activities for improvement of capabilities of referral hospitals and health centers)	Maintenance expert of hospital facility,		
2-1 Make a plan for training including evaluation	Pharmacist, Health education/training expert,		
2-2 Provide training for field staff	Hospital information expert,		
2-3 Perform supervision	HIV/AIDS counselor		
2-4 Strengthen coordination for student training	2 Counterpart training		
2-5 Train health personnel for health promotion	Obstetrics and gynecology, Clinical laboratory technician, Hospital management and finance, Anesthesiologist,		
3 (Activities for collaboration)	Radiologist/Technician, Hospital management, ICU nurse, OT nurse,		
3-1 Give feedback information to the field after supervision	Hospital accounting, Echographist,		
3-2 Revise check lists for supervision	OPD nurse		
3-3 Train supervisors	3 Provision of machinery and equipment		
3-4 Establish regular meetings/conferences among hospitals	4 Cost sharing for local		
3-5 Cooperation with other hospitals for medical equipment maintenance and repair			
			Pre-conditions

Table 2 プロジェクト・デザイン・マトリックス (PDM): カンボディア国母子保健プロジェクト(フェーズII)

ターゲット・グループ: 妊婦/授乳中の女性及び子ども

期間: 2000年4月1日～2005年3月31日

プロジェクトの要約	指標	指標データ入手手段	外部条件
上位目標 カンボディア国の母子保健状態が改善される	<ul style="list-style-type: none"> - 妊産婦死亡率 	<ul style="list-style-type: none"> - National Health Statistics Report 	
プロジェクト目標 カンボディア国の母子保健サービスの質が改善される	<ul style="list-style-type: none"> - カンボディア国の出産時の医療従事者の介助率 - カンボディア国の妊産婦検診受診率 - 妊産婦検診再診率 - 分娩後合併症患者の再診率 - 新生児死亡率 	<ul style="list-style-type: none"> - National Health Statistics Report 	<ul style="list-style-type: none"> - 保健省から引き続き政策的支援が得られる - カンボディア国に自然災害が起こらない - アクセシビリティがこれ以上悪化しない
成果 1 国立母子保健センター (NMCHC) が更に強化される	1-1 NMCHCの外来・入院患者数 1-2 周産期死亡率 1-3 一般病棟 (ICU/新生児集中治療室を除く) における患者一人当たりの薬剤・物品消費量 1-4 医療器材の稼働率/施設利用率 1-5 術後感染率 1-6 臨床検査件数	1-1/ Technical Bureau Report/ 1-2 National Health Statistics Report 1-3 薬剤/物品月報報告書/ Technical Bureau Report 1-4 Engineering Section Report 1-5 Gynecology Maternity Report 1-6 Paraclinic Report	<ul style="list-style-type: none"> - 保健省が医療機関に薬剤・物品を適切に提供する
2 オペレーショナル・ディストリクト (リフェラル病院やヘルスセンター) の能力が向上する	2-1 リフェラル病院での分娩件数 2-2 NMCHCで研修を受けたヘルスセンターの助産婦によって介助された分娩件数 2-3 リフェラル病院へ搬送された患者数	2-1 National Health Statistics Report 2-2 National Health Statistics Report/ 調査・指導 2-3 National Health Statistics Report	
3 NMCHCと他の国立病院やオペレーショナル・ディストリクト (リフェラル病院やヘルスセンター) の連携が強化される	3-1 NMCHCへ搬送された合併症患者数 3-2 他病院とのミーティング及びカンファレンス数 (特にプノンペン地域)	3-1 Technical Bureau Report 3-2 Technical Bureau Report	

プロジェクトの要約	投入	外部条件
<p>活動</p> <p>1 (NMCHCの強化のための活動)</p> <p>1-1 運営管理サイクルを十分に活用する</p> <p>1-2 職務分掌を作成する</p> <p>1-3 会計・経理知識向上のための研修を実施する</p> <p>1-4 病院等における薬剤・物品消費量を把握するためのシステムを構築する</p> <p>1-5 病院施設/医療器材の維持管理システムを構築する</p> <p>1-6 コミュニケーション改善のための研修を実施する</p> <p>1-7 患者及び家族に対して健康教育を行なう</p> <p>1-8 患者ケアの基準を確立する</p> <p>1-9 院内教育研修の強化を行なう</p> <p>1-10 新規の臨床検査テストを導入する</p> <p>2 (オペレーショナル・ディストリクトの能力向上のための活動)</p> <p>2-1 研修計画(評価を含む)を作成する</p> <p>2-2 フィールド・スタッフに対する研修を実施する</p> <p>2-3 監督指導活動を実施する</p> <p>2-4 医学生研修のための連携を強化する</p> <p>2-5 医療従事者に対して健康教育に関する研修を実施する</p> <p>3 (連携強化のための活動)</p> <p>3-1 監督指導活動後にフィールドに対してフィードバックを行なう</p> <p>3-2 監督指導活動のためのチェック・リストを改訂する</p> <p>3-3 監督指導員に対して研修を実施する</p> <p>3-4 病院間の定期的なミーティングやカンファレンスを確立する</p> <p>3-5 医療器材の維持管理及び修理に関する他病院との協力関係を構築する</p>	<p>日本側</p> <p>1 専門家派遣</p> <p>(a)長期専門家 チーフアドバイザー、調整員、産婦人科、助産婦、医療器材、臨床検査</p> <p>(b)短期専門家 新生児科、麻酔科、放射線科、放射線技師、病院会計、手術室/新生児看護、看護管理、病院管理、病院施設管理、薬剤師、健康教育/研修、病院情報、HIV/AIDS</p> <p>2 研修員受け入れ 産婦人科、臨床検査技師、病院管理/財務、麻酔科、放射線科/放射線技師、病院管理、ICU看護、手術室看護、病院会計、超音波診断、外来看護</p> <p>3 機材供与</p> <p>4 ローカルコスト負担</p> <p>カンボディア側</p> <p>1 人員配置</p> <p>2 建物及び施設供与</p> <p>3 運営コスト負担</p>	<p>日本で研修を受けたNMCHCの主要スタッフがNMCHCで引き続き勤務する</p> <hr/> <p>前提条件</p>

暫定実施計画 (TSI) -1

1. 活動	1年目 2000.4 - 2001.3	2年目 2001.4 - 2002.3	3年目 2002.4 - 2003.3	4年目 2003.4 - 2004.3	5年目 2004.4 - 2005.5
1. NMCHCが国のトップ・リフェラル病院として更に強化される					
1-1 運営管理サイクルを十分に活用する					
1-2 職務分掌を作成する					
1-3 会計・経理知識向上のための研修を実施する	—	—	—	—	—
1-4 病棟等における薬剤・物品消費量を把握するためのシステムを構築する					
1-5 病院施設/医療器材の維持管理システムを構築する					
1-6 コミュニケーション改善のための研修を実施する	—	—		—	
1-7 患者及び家族に対して健康教育を行なう					
1-8 患者ケアの基準を確立する					
1-9 院内教育研修の強化を行なう					
1-10 新規の臨床検査テストを導入する					
2. オペレーショナル・ディストリクトの能力が向上する					
2-1 研修計画(詳細も含む)が作成される					
2-2 フィールド・スタッフに対する研修を実施する					
2-3 監督指導活動を実施する					
2-4 医学生研修のための連携を強化する					
2-5 医療従事者に対して健康教育に関する研修を実施する	—	—		—	
3. NMCHCと他病院との連携が強化される					
3-1 監督指導活動後にフィールドに対してフィードバックを行なう					
3-2 監督指導活動のためのチェック・リストを改訂する					
3-3 監督指導員に対して研修を実施する	—	—		—	
3-4 病院間の定期的なミーティングやカンファレンスを確立する					
3-5 医療器材の維持管理及び修理に関する他病院との協力関係を構築する					

暫定実施計画 (TSI) -2

I. 投入	1年目 2000.4 - 2001.3	2年目 2001.4 - 2002.3	3年目 2002.4 - 2003.3	4年目 2003.4 - 2004.3	5年目 2004.4 - 2005.5
1. 専門家派遣					
(1) チーフアドバイザー					
(2) 調整員					
(3) 産婦人科					
(4) 医療機材					
(5) 臨床検査					
(6) 助産婦					
(7) 薬師管理					
(8) 新生児科					
(9) 麻酔科					
(10) 放射線科					
(11) 放射線技師					
(12) 病院会計					
(13) 手術室/NEO看護					
(14) 病院管理					
(15) 病院施設管理					
(16) 薬剤師					
(17) IEC/研修					
(18) 病院情報					
(19) HIV/AIDSカウンセリング					
2. 研修員受入れ					
(1) 産婦人科					
(2) 臨床検査					
(3) 病院管理/財務					
(4) 麻酔科					
(5) 放射線技師					
(6) 病院管理					
(7) ICU看護					
(8) 手術室看護					
(9) 病院会計					
(10) 超音波診断					
(11) 外産看護					
3. 機材供与					
4. JICA調査団派遣		運営管理調査団	巡回指導調査団		終了時評価調査団

III. カンボディア側投入	1年目 2000.4 - 2001.3	2年目 2001.4 - 2002.3	3年目 2002.4 - 2003.3	4年目 2003.4 - 2004.3	5年目 2004.4 - 2005.5
1. 人員配置					
(1) 保健官					
(2) NMCHCのスタッフ					
(3) リフェラル病院及びヘルスセンターのスタッフ					
2. 日本人専門家のための事務室					
(1) 保健官					
(2) NMCHC					
3. 年次活動報告書の提出					

SUPPLEMENTARY STUDY TEAM
ON THE PHASE II
OF THE MATERNAL AND CHILD HEALTH PROJECT
IN THE KINGDOM OF CAMBODIA

PROJECT CYCLE MANAGEMENT
WORKSHOP REPORT

6 - 17 DECEMBER 1999

CHIAKI NAKAMURA
JICA SHORT TERM EXPERT (PCM METHOD)

1. INTRODUCTION

1.1 Workshop Objectives

PCM is a procedure to manage planning, implementation and evaluation of a development project more efficiently and more effectively. The PCM workshop was organised with the following three objectives.

- a) **Situation Analysis:** To analyse the present situation of maternal and child health in Cambodia as a basis of project planning.
- b) **Formulation of the Project Design Matrix (PDM) :** To set the basic framework of the project (i.e. goal, purpose, outputs, activities, indicators, assumptions, inputs)
- c) **Formulation of the Tentative Schedule of Implementation (TSI):** To set the detailed inputs and time schedule according to the activities for the project.

1.2 Workshop Schedule

The PCM workshop was held at NMCHC from 7 to 9 and from 13 to 16 December 1999 with the following schedule.

December 7 (Tue) 14:00-17:00	-Plenary Session • Opening Session • Introduction to PCM Workshop (Objectives, Rules, Method) -Participation Analysis
December 8 (Wed) 14:00-17:00	-Problem Analysis
December 9 (Thu) 14:00-17:00	-Problem Analysis (Continue)
December 13 (Mon) 14:00-17:00	-Objectives Analysis -Alternatives Analysis
December 14 (Tue) 14:00-17:00	-PDM Formulation (Narrative summary and Important assumption)
December 15 (Wed) 14:00-17:00	-PDM Formulation (Indicators, Data sources and Inputs)
December 16 (Thu) 10:00-12:00	-TSI Formulation -Closing Session

1.3 Workshop Participants

A total number of 22 participants had attended the workshop as shown below.

Members of the Steering Committee of NMCHC :

Dr. Koum Kanal	Director of NMCHC
Dr. San Chan Soeung	Vice director & Chief of Delivery
Dr. Tan Vuoch Chheng	Vice director & Chief of OPD
Mr. Huot Khom	Director of Administration
Mr. So Sokphy	Vice director of Accounting Bureau
Dr. Tiv Say	Director of Technical Bureau
Dr. Prak Somaly	Vice director of Technical Bureau
Ms. Ching Chan Tach	Director of Nursing Division

Others (Cambodian Side):

Mr. Chea Kimlong	Ministry of Health
Dr. Chun Long	National Program, NMCHC
Dr. Or Sivarin	TOT, NMCHC
Ms Chum Nay Im	Chief of Pharmacy, NMCHC
Dr. Ouk Sakhan	Chief of Maternity, Municipality Hospital
Ms Kim Bopha	Midwife, Municipality Hospital
Dr. Ouk Unbuny	Doctor, Prey Veng Provincial Hospital

Japanese Side:

Dr. Hidechika Akashi	Chief Advisor, JICA MCH Project
Ms Kay Suzuki	Coordinator, JICA MCH Project
Dr. Noriko Fujita	Expert (OBGY), JICA MCH Project
Ms Mari Morikane	Expert (Nurse/MW), JICA MCH Project
Mr. Shoichi Shimizu	Expert (Maintenance of Medical Equipment), JICA MCH Project
Mr. Kenichi Ito	Staff member of Medical Cooperation Dept., JICA
Ms Chiaki Nakamura	Moderator of PCM Workshop, Global Link Management

2. WORKSHOP RESULTS

One of the characteristics of the PCM method lies in its participatory planning method, which visually analyse the problematic situation and formulate a project with a participatory approach.

The PCM workshop was conducted in following six steps:

- 1) Participation Analysis,
- 2) Problem Analysis,
- 3) Objectives Analysis,
- 4) Alternatives Analysis,
- 5) PDM formulation, and
- 6) TSI formulation.

2.1 Participation Analysis

The purpose of Participation Analysis is to grasp an overview of all parties directly and indirectly connected with the project in order to identify intended beneficiaries with the most serious problems.

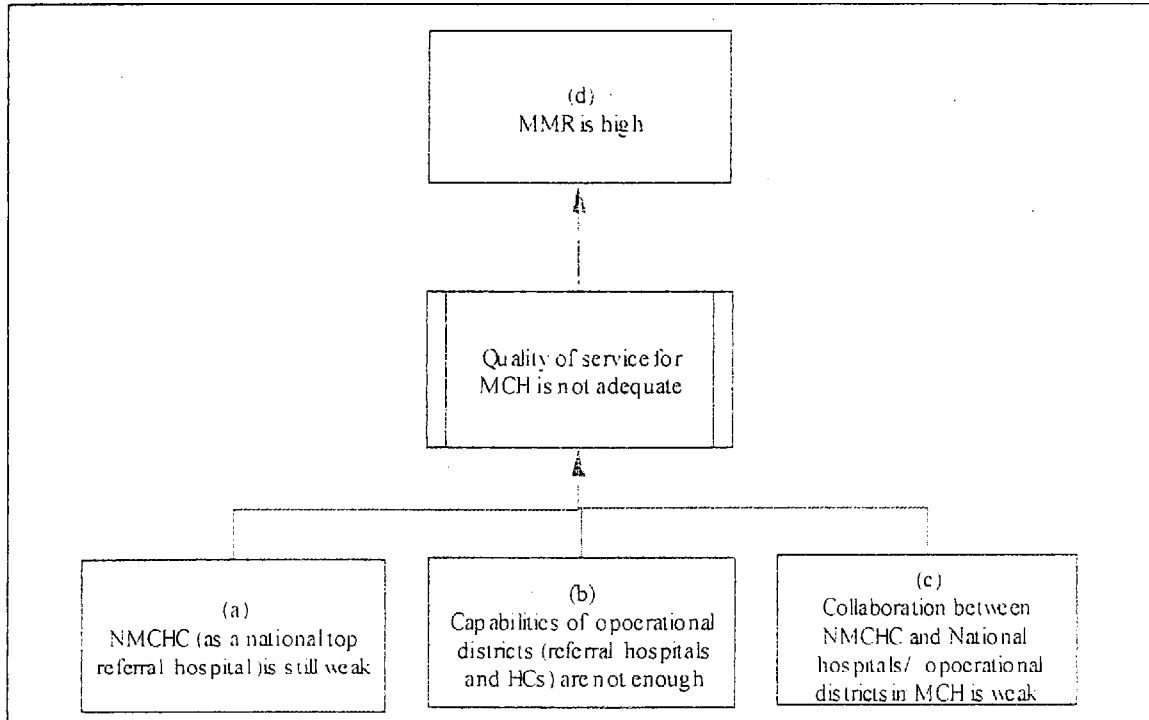
This analysis begins with listing related individuals, groups, organisations and institutions connected with the project. (FIG.1). and categorised them by certain characteristics such as “Beneficiaries”, “Service Provider”, “Other Cooperating Agencies” and “Potential Opponents” (FIG.2). The participants then discussed who is the target group and selected “Mothers and Children” accordingly.

2.2 Problem Analysis

The “Problem Analysis” visually represents the cause and effects of existing problems pertaining to the project area or sector in the form of a problem tree. This analysis begins with selecting a “Core Problem” which is a starting point (problem) for analysis. This core problem is usually selected among many problems faced by the target group.

In this workshop, the problem of the mothers and children, selected above as a target group, were mainly analysed. Among several potential core problem cards, “Quality of service for Maternal and Child Health (MCH) is not adequate” was finally chosen as a core problem. The problem analysis continued to find direct causes and effects of the core problem, and the result is shown in the Figure 3 below.

FIG.3 Problem Tree: the centre part



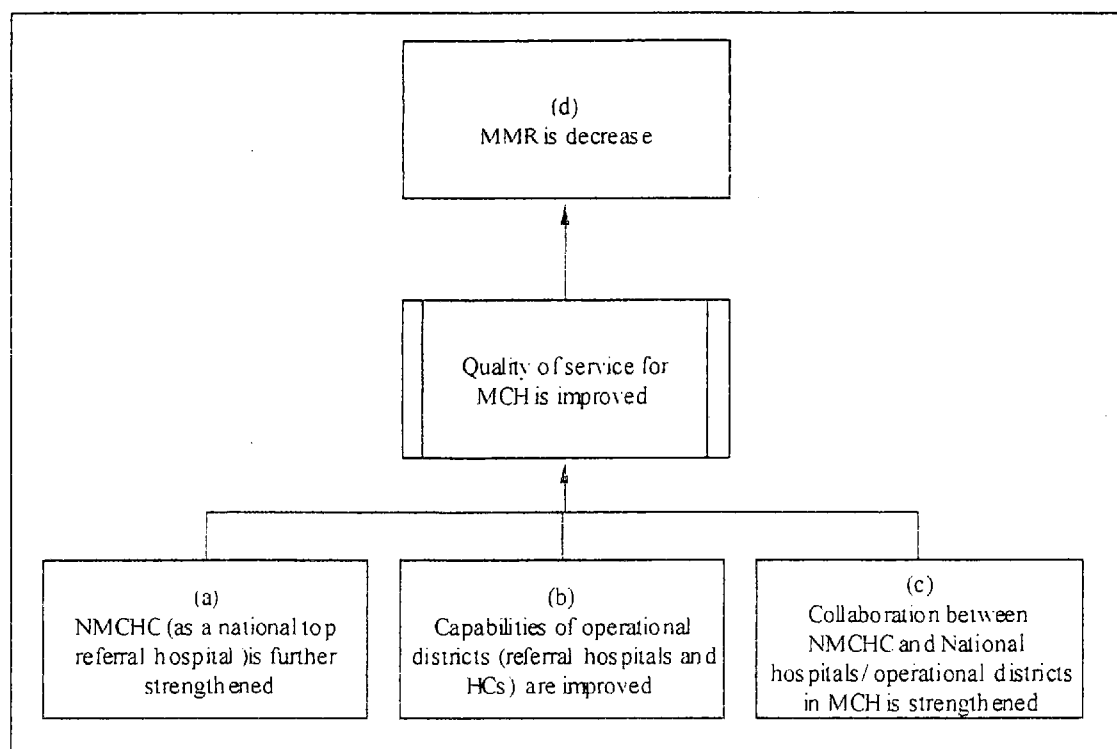
The Figure 3 reads as (a) “NMCHC (as a top national referral hospital) is still weak”, (b) “Capabilities of operational districts (referral hospitals and health centers) are not enough” and (c) “Collaboration between NMCHC and National hospitals/ operational districts (referral hospitals and health centers) in MCH is weak” lead to “Quality of service for MCH is not adequate”. Likewise, because of “Quality of service for MCH is not adequate”, (d) “Maternal Mortality Rate (MMR) is high”. Having determined direct causes and effects, the workshop participants developed a problem tree presented in Figure 4.

2.3 Objectives Analysis

Objectives Analysis is a process for identifying the desirable situation that would be attained once problems have been solved, and clarifying the means-ends relationships required for attaining such conditions. This exercise begins by replacing cause-effects relationship with positive means-ends ones.

By doing so, the workshop participants were requested to consider the feasibility of each card, and the objective card starting “Quality of service for MCH is improved” replaced the core problem. During the process, some problems that were difficult to convert were discarded and some necessary “means” were added. The centre part of the objectives tree is shown in the Figure 5 below:

FIG.5 The centre part of objectives tree



The logic shown in the Figure 5 is to improve the quality of service for MCH. the workshop participants need three means (conditions) namely, (a) “NMCHC (as a national top referral hospital) is further strengthened”, (b) “Capabilities of operational districts (referral hospitals and health centers) are improved” and (c) “Collaboration between NMCHC and National hospitals/ operational districts (referral hospitals and health centers) in MCH is strengthened”. Then, the improvement of the quality of service for MCH will become means for (d) “decreasing MMR”. Having determined the centre part of the objectives tree, the workshop participants developed the tree as shown in Figure 6.

2.4 Alternatives Analysis (Project Selection)

The Alternatives Analysis is also called as Project Selection process to identify project components and feasibility, and to select specific project strategies based on the information obtained in the Objectives Analysis.

In this analysis, the workshop participants were requested to identify the area of responsibility of the project according to examination criteria such as “Needs”, “Priority of Cambodia and Japanese sides”, “Technical aspects”, “Inputs” and “Probability of achieving goals”. At the end of the Alternatives

Analysis, the workshop participants selected the following three approaches to be included into the project (The results shown in the Figure 6).

1. Approaches for Strengthening of NMCHC

- 1) General Management Improvement Approach
- 2) Personnel Management Improvement Approach
- 3) Financial Management Improvement Approach
- 4) Drug/Material Management Improvement Approach
- 5) Equipment/Facility Management Improvement Approach
- 6) Information Management Improvement Approach
- 7) Patients Management Improvement Approach
- 8) Present Service Improvement Approach
- 9) New Technique and System Introduction Approach
- 10) Clinical Research Improvement Approach

2. Approaches for Improvement of Capabilities of Operational Districts (Referral hospitals and Health Centers)

- 1) Field Staff Training Approach
- 2) Medical/Nursing Education Approach
- 3) Health Promotion Approach

3. Approaches for Strengthening of Collaboration between NMCHC and National Hospitals/ Operational Districts (Referral hospitals and Health Centers)

- 1) Supervision Approach
- 2) Communication Improvement Approach

2.5 Project Design Matrix formulation

2.5.1. Project Design Matrix-Definition

PDM is a summary table of the project that incorporates key elements such as Overall Goal, Project Purpose, Outputs, Activities, Inputs, Indicators, Means of Verifications, Important Assumptions and Preconditions. A brief definition of each box is described in Table 1 below.

Table 1. Definition of PDM

Overall Goal	A long-term development effect expected as a result of the achievement of the Project Purpose.
Project Purpose	A medium-term objective that is expected to achieve by the time the project is completed. The Project Purpose should be selected among direct benefit or impact given to the target group.
Outputs	Immediate and short-term objectives to be realised by the project in order to achieve the Project Purpose.
Activities	Specific actions conducted during the project implementation to produce the Outputs by effective use of Inputs.
Objectively Verifiable Indicators	Indicators which enable to measure degrees of progress and achievements of Outputs, Project Purpose and Overall Goal.
Means of Verifications	A data source to verify indicators such as statistics, reports or surveys results.
Important Assumptions	Conditions required achieving objectives but that exist outside the control of the project.
Preconditions	Requirements needed to initiate a project.
Inputs	Necessary personnel, equipment, fund for project activities.

2.5.2 Project Design Matrix-Formulation

The workshop participants discussed and selected a Project Purpose that will give benefit to the target group. and then formulated each column of PDM according to the result of workshop above. The PDM is shown in Table 2.

1) Objectives and Outputs of the Project as follows:

- Overall Goal: The status of maternal and child health in the Kingdom of Cambodia is improved.
- Project Purpose: Quality of service of maternal and child health in the Kingdom of Cambodia is improved.
- Outputs:
- 1) NMCHC as a top referral hospital is further strengthened.
 - 2) Capabilities of operational districts (referral hospitals and health centers) are improved
 - 3) Collaboration between NMCHC and National hospitals, operational districts (referral hospitals and health centers) in MCH is strengthened

2) Duration of Technical Cooperation

Five (5) years from April 1, 2000 to March 31, 2005

3) Target Group

Expecting and Nursing Mothers and Children

4) Implementing Agencies

The Ministry of Health (MOH) and the National Maternal and Child Health Center (NMCHC)

2.6 Tentative Schedule of Implementation formulation

Tentative Schedule of Implementation (TSI) is described the inputs and time schedule according to the activities for the project that are made at the beginning of the project and used throughout the implementation period. The TSI made during the workshop are shown in Table 3.

FIG.1 Participation Analysis

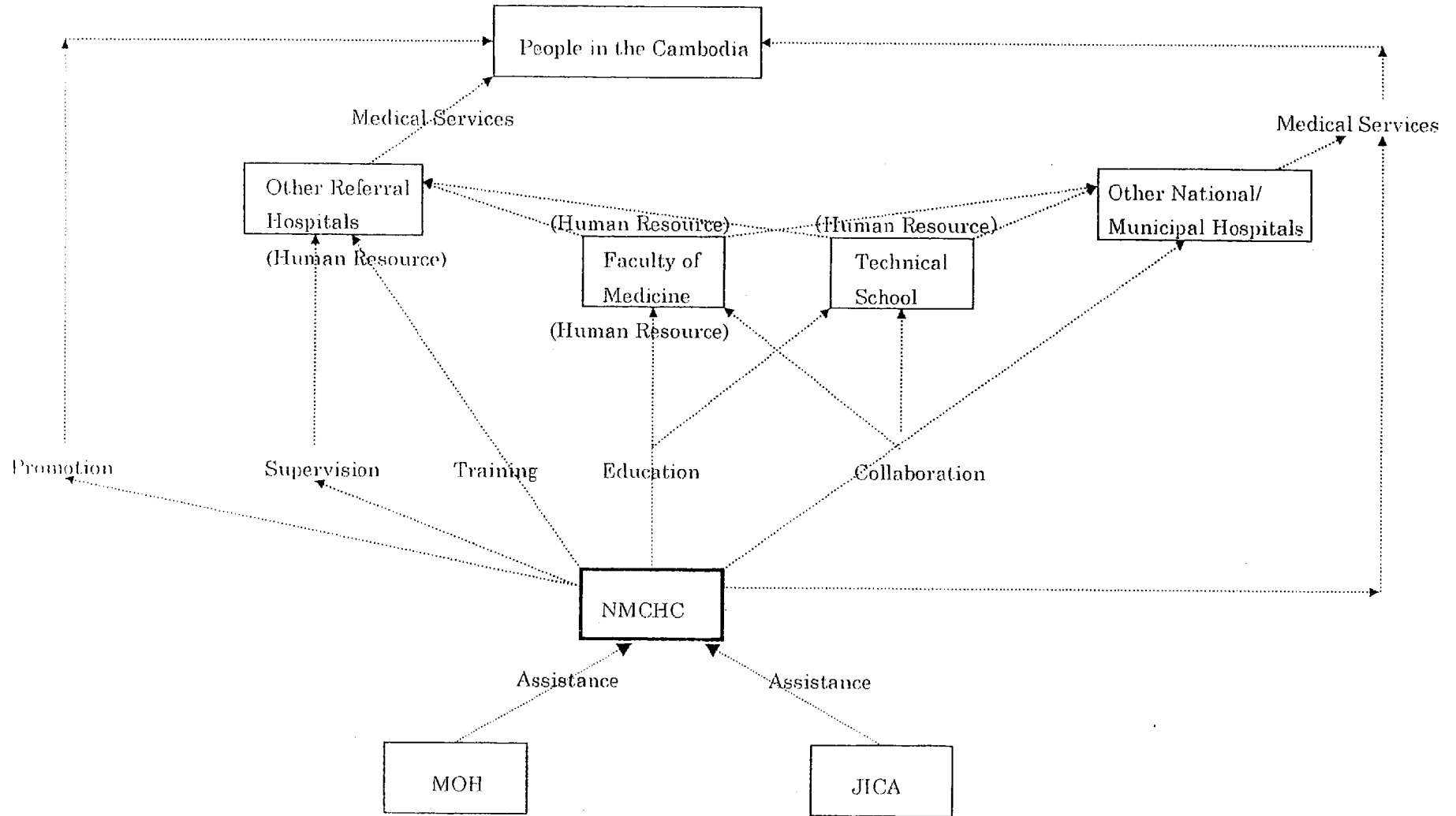


FIG.2 Participation Analysis (Group Categorization)

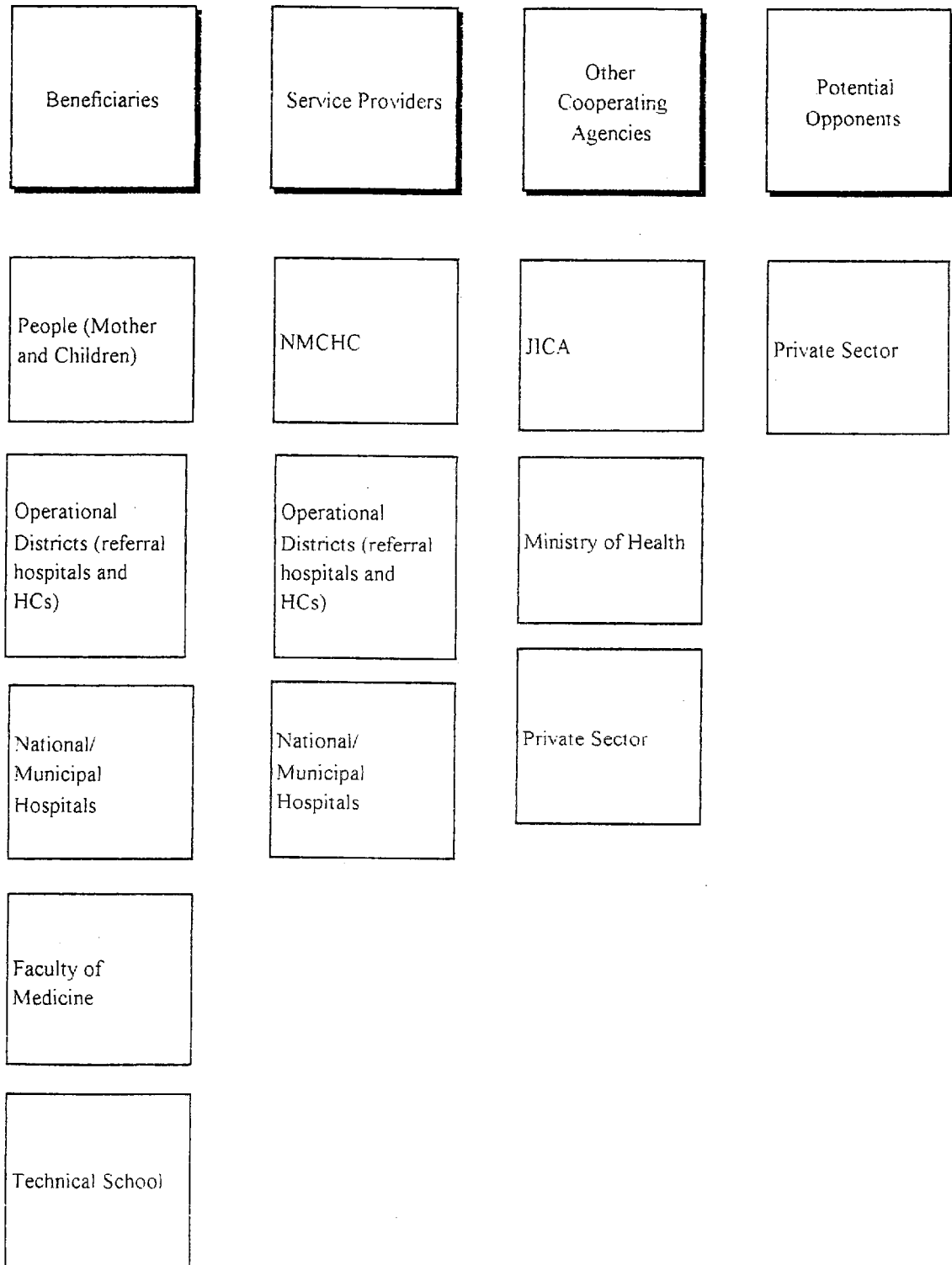


FIG.4 Problem Analysis
-Central Part

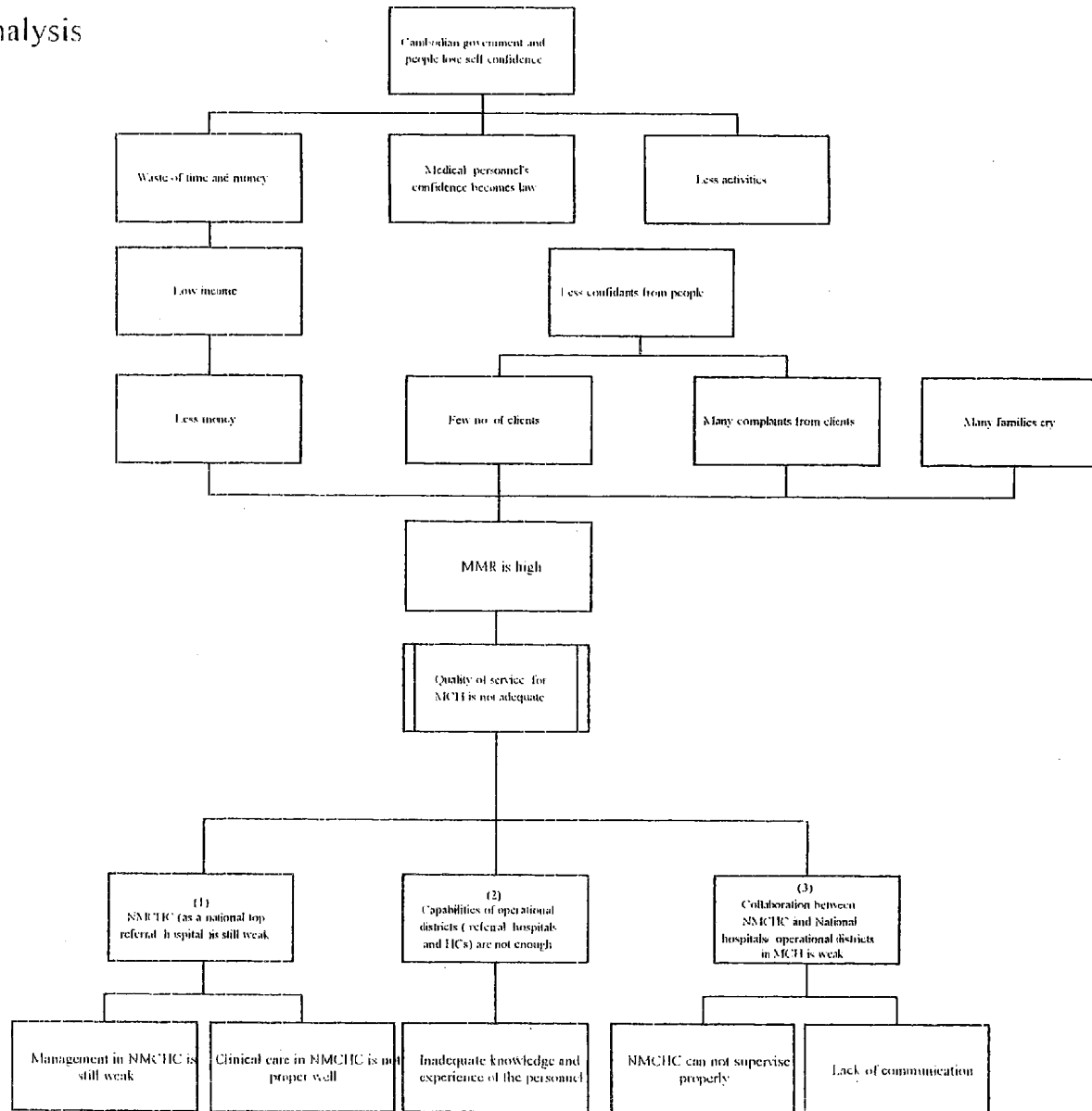


FIG.4 Problem Analysis
 (Lower Part I
 -NMCHC Management
 -Management I)

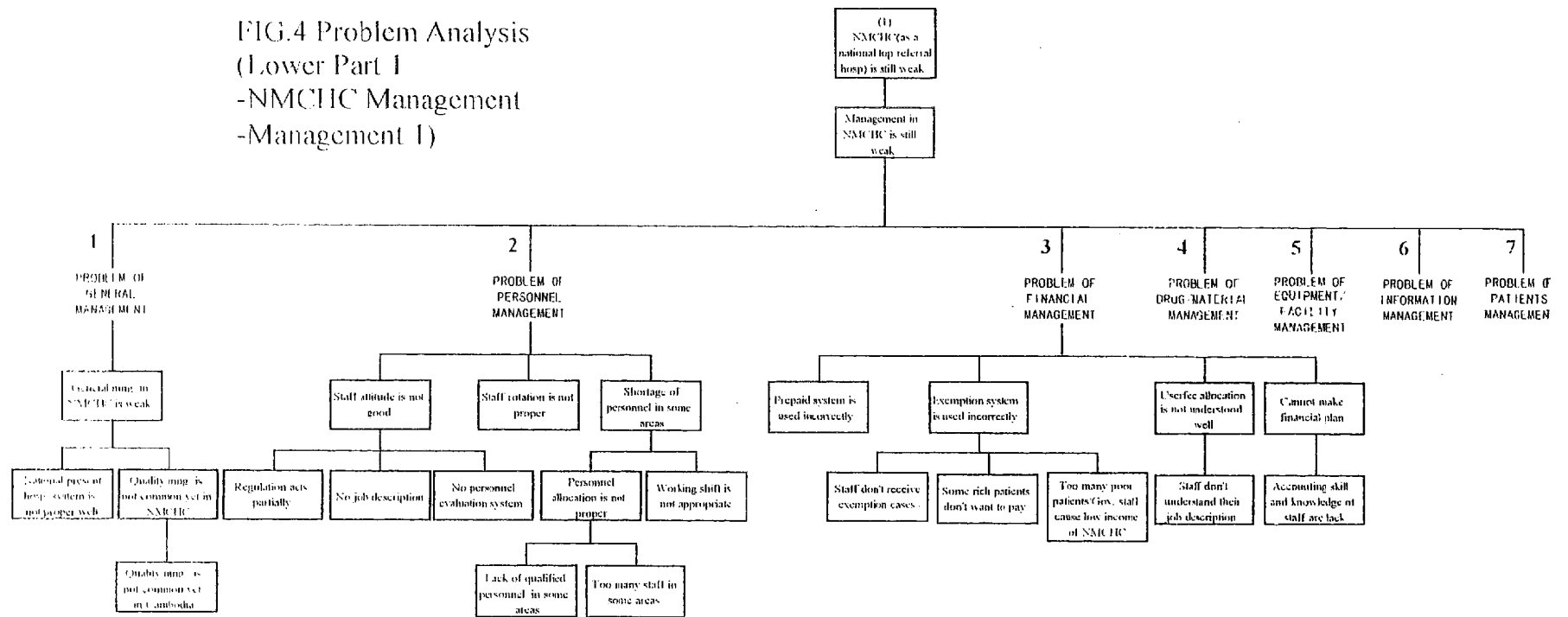


FIG.4 Problem Analysis
 (Lower Part 2
 -NMCHC Management
 -Management 2)

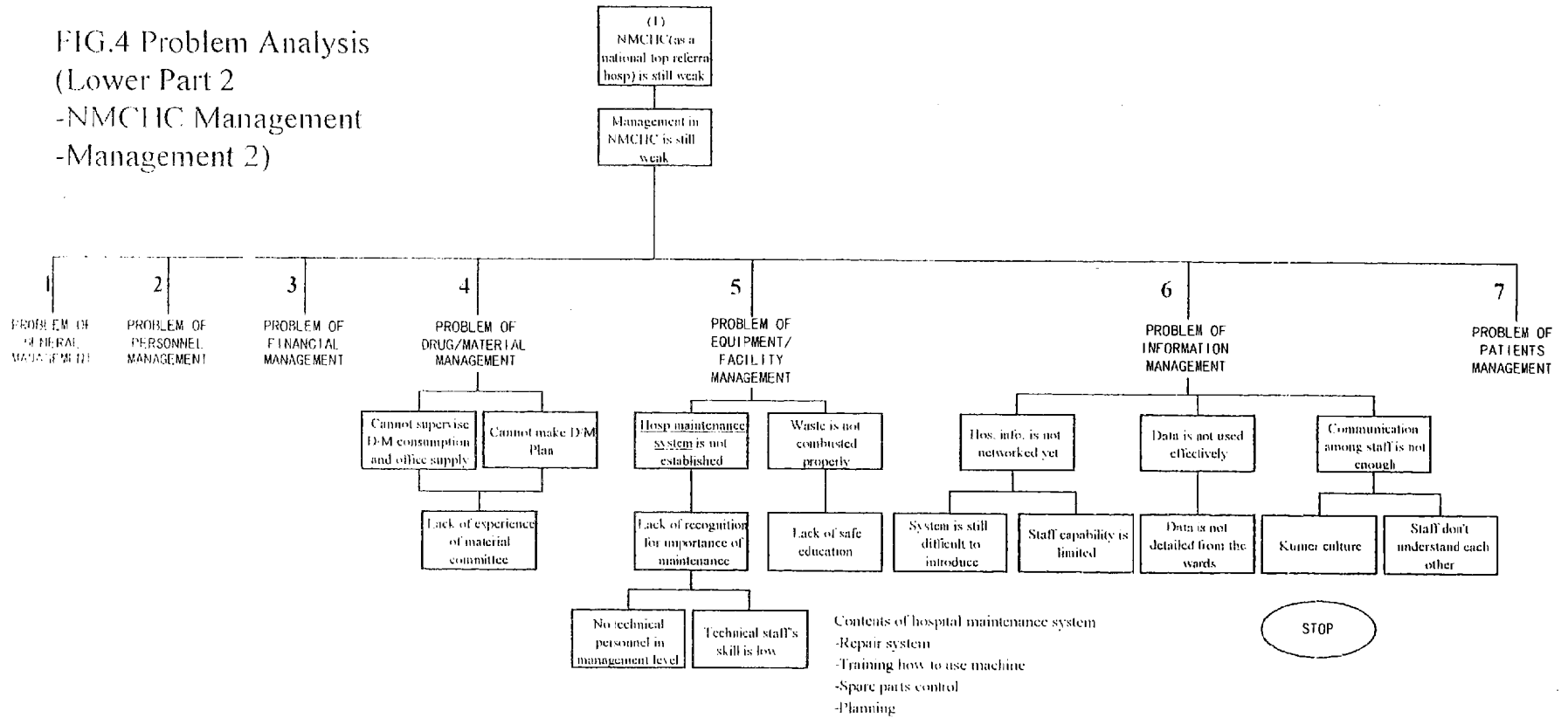


FIG.4 Problem Analysis
 (Lower Part 3
 -NMCHC Management
 -Management 3)

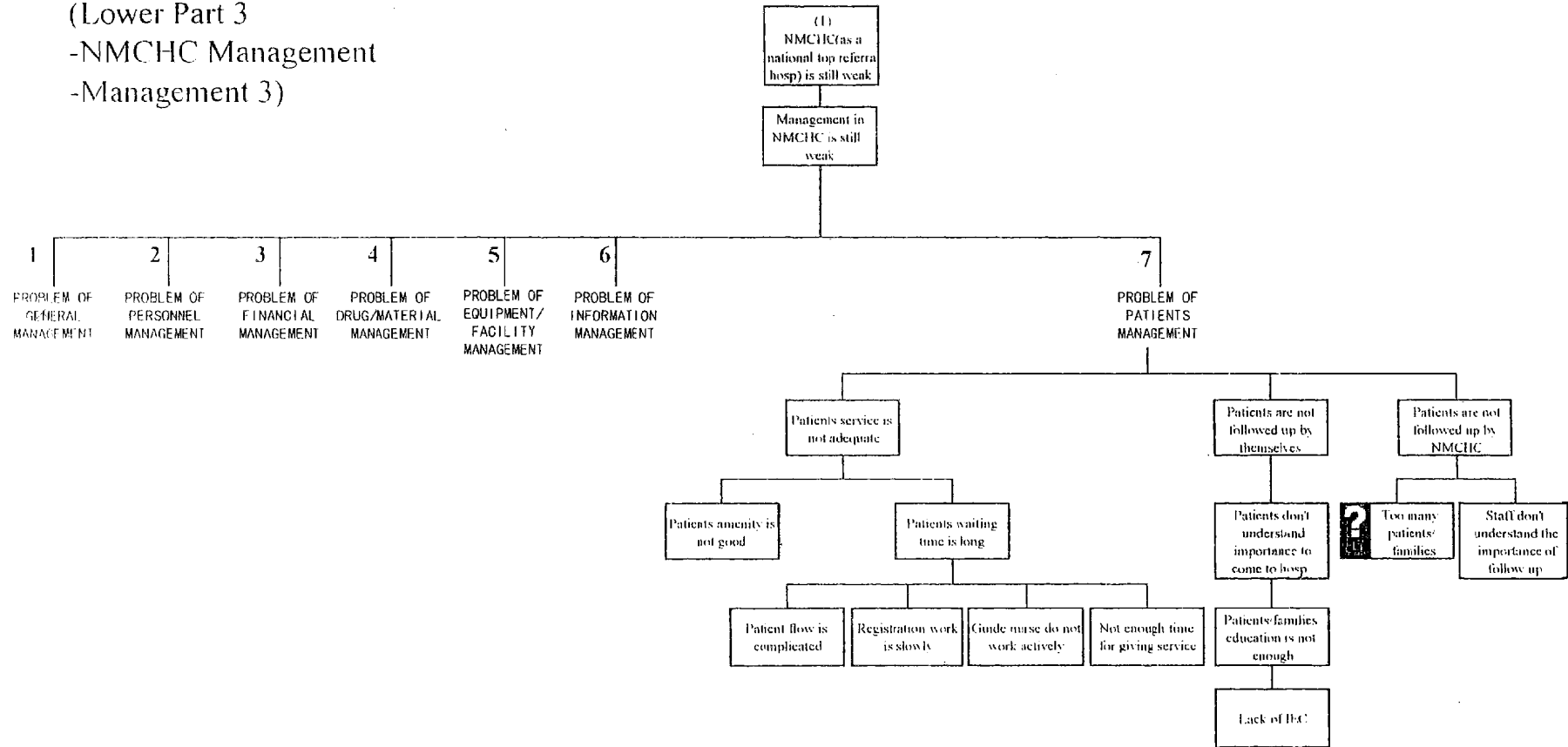


FIG.4 Problem Analysis
 (Lower Part 4
 -NMCHC Management
 -Clinical Care)

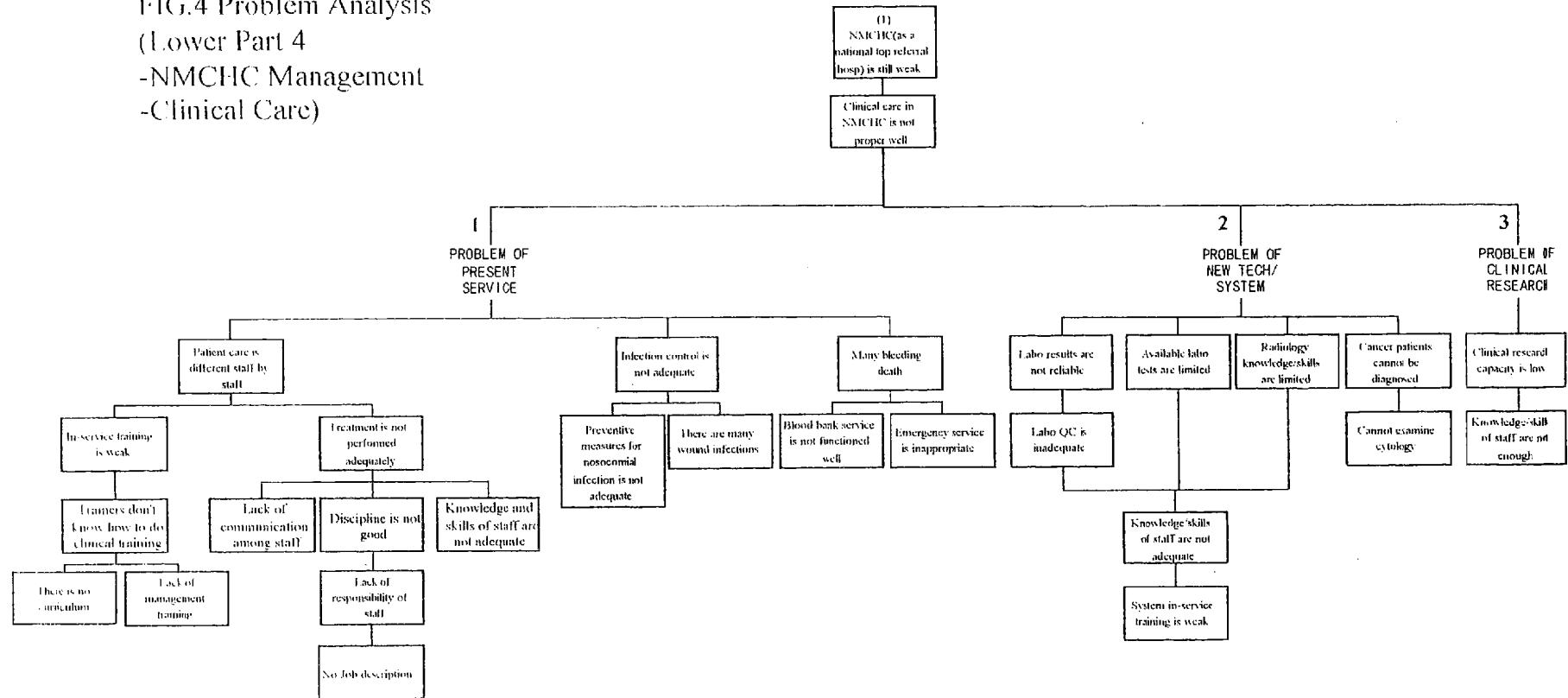


FIG.4 Problem Analysis
 (Lower Part 5-
 Capabilities of Referral Hospitals 1)

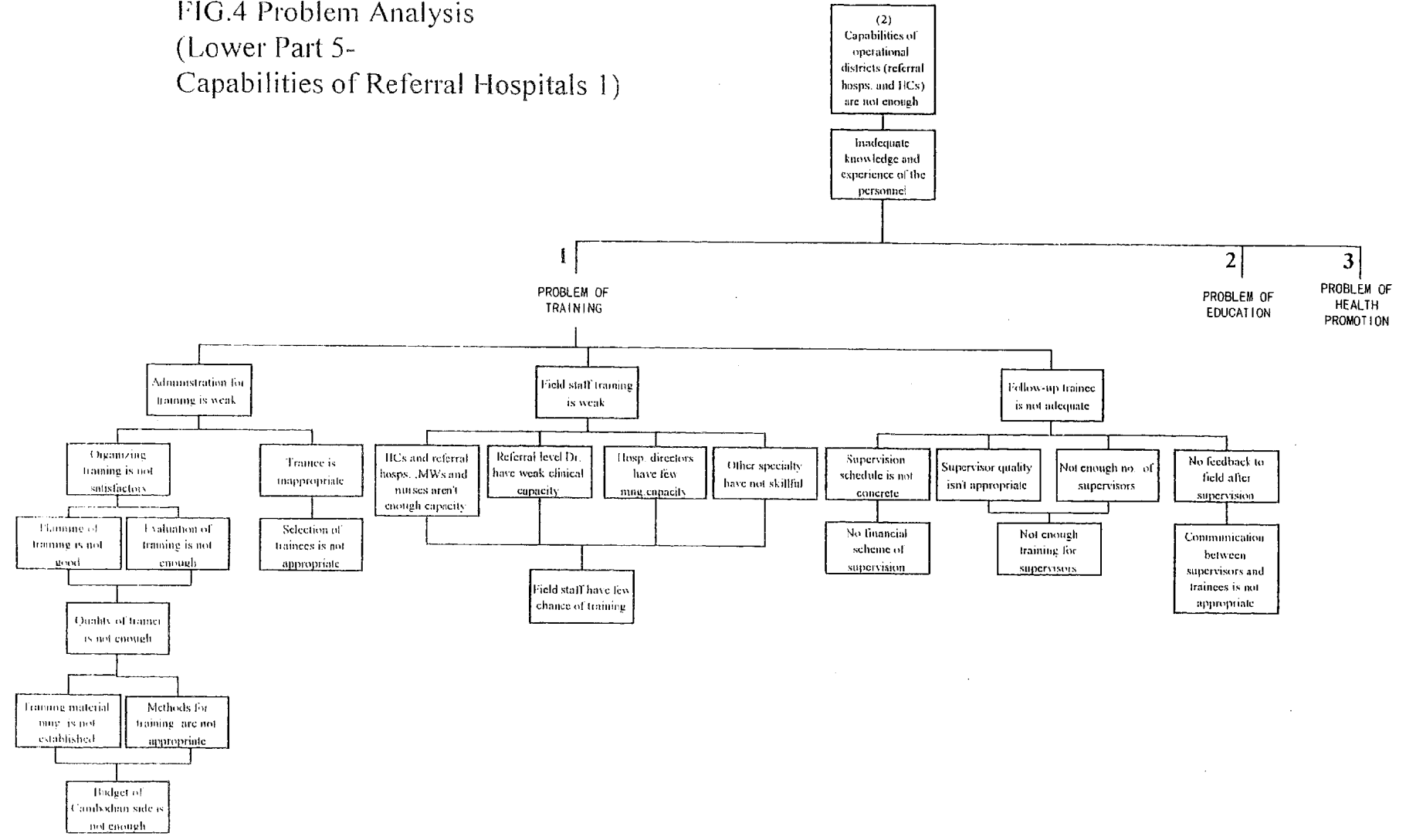


FIG.4 Problem Analysis
 (Lower Part 6-
 Capabilities of Referral Hospitals 2)

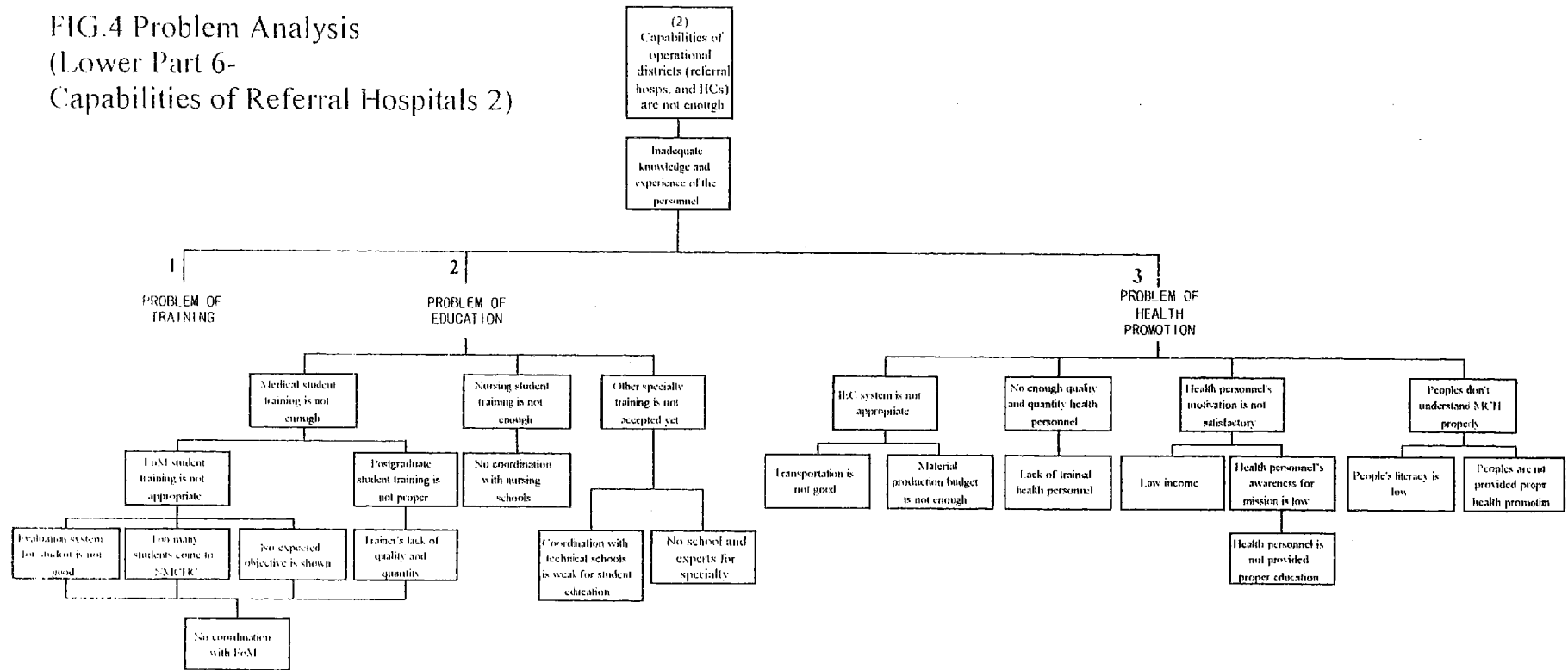


FIG.4 Problem Analysis
(Lower Part 7-
Collaboration)

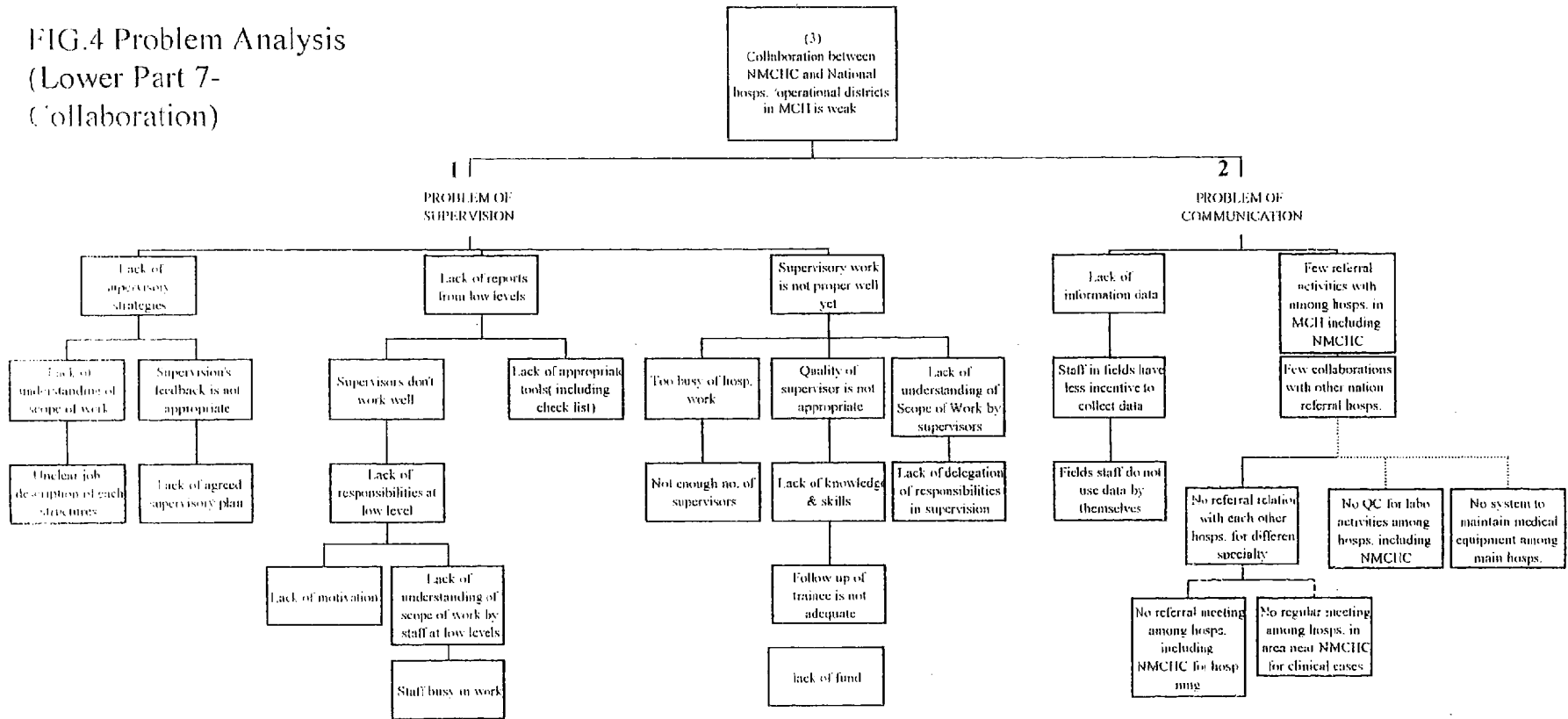


FIG.6 Objectives Analysis/
Project Selection
-Central Part

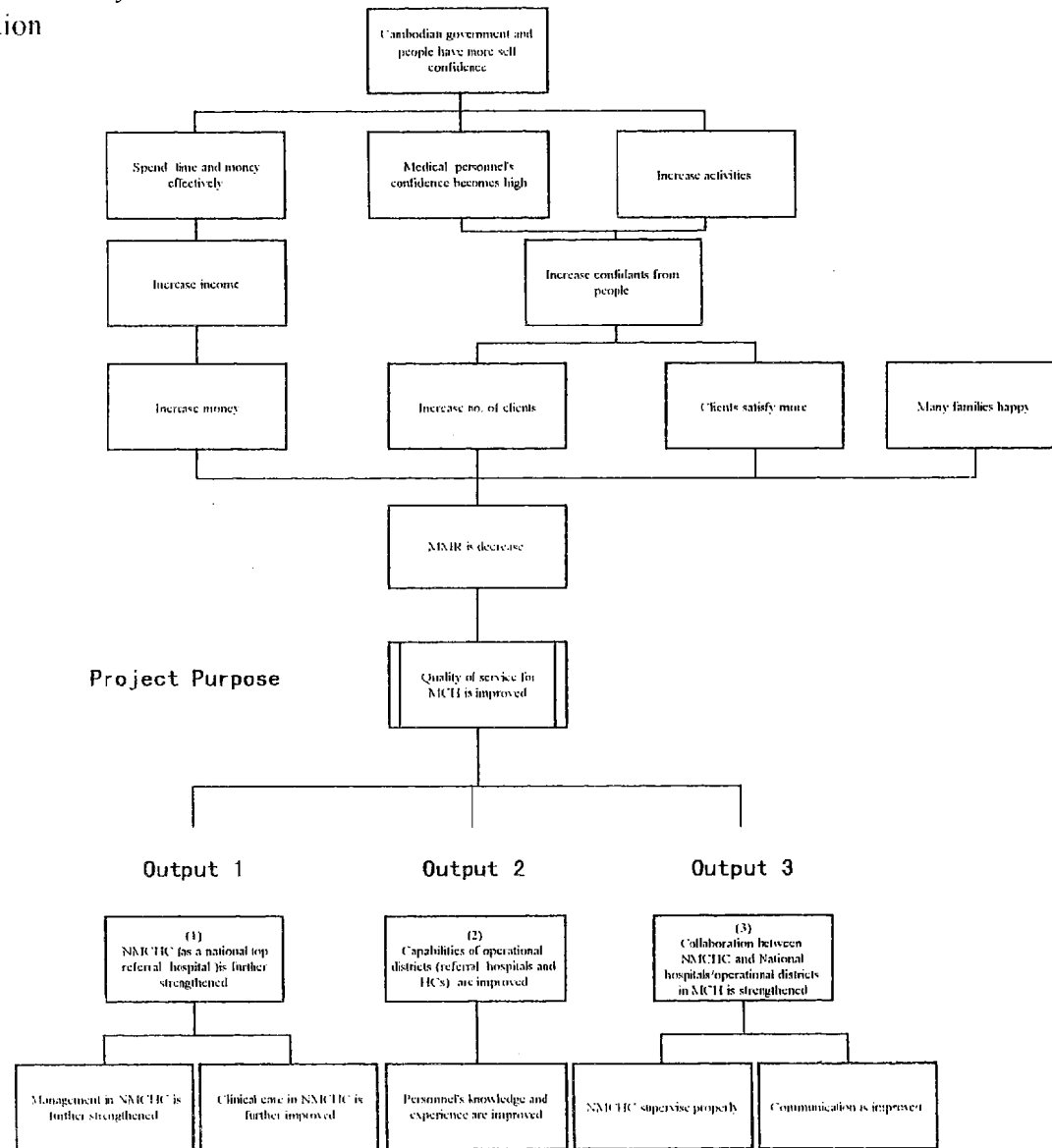


FIG.6 Objectives Analysis
 (Lower Part I
 -NMCHC Management
 -Management I)

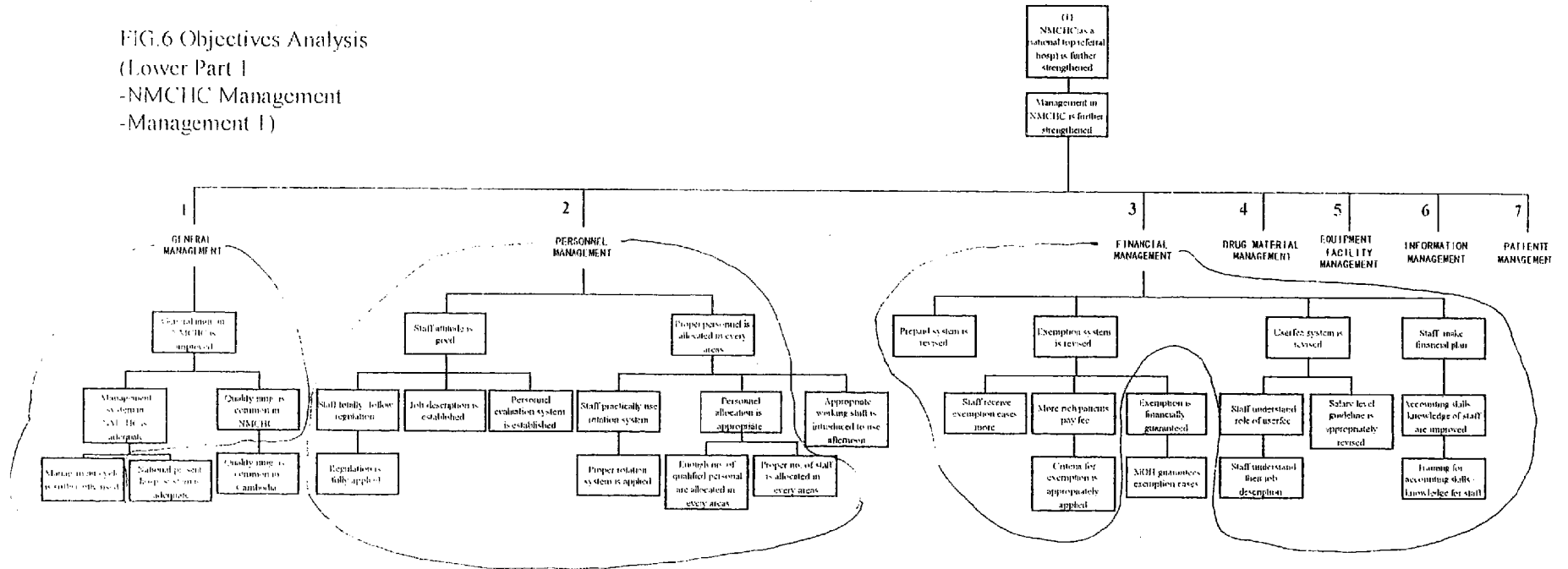


FIG.6 Objectives Analysis
 (Lower Part 2
 -NMCHC Management
 -Management 2)

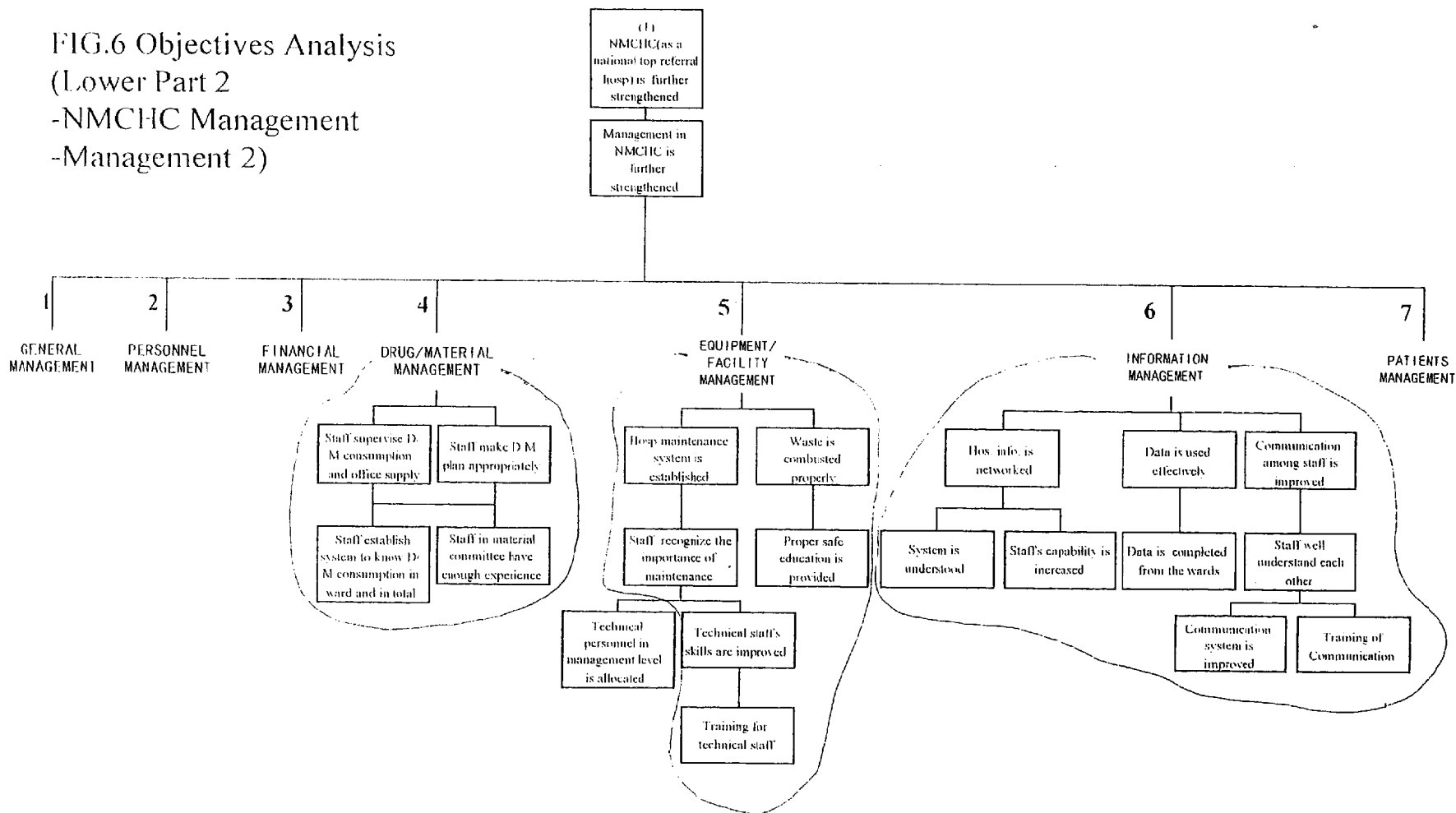


FIG.6 Objectives Analysis
 (Lower Part 3
 -NMCHC Management
 -Management 3)

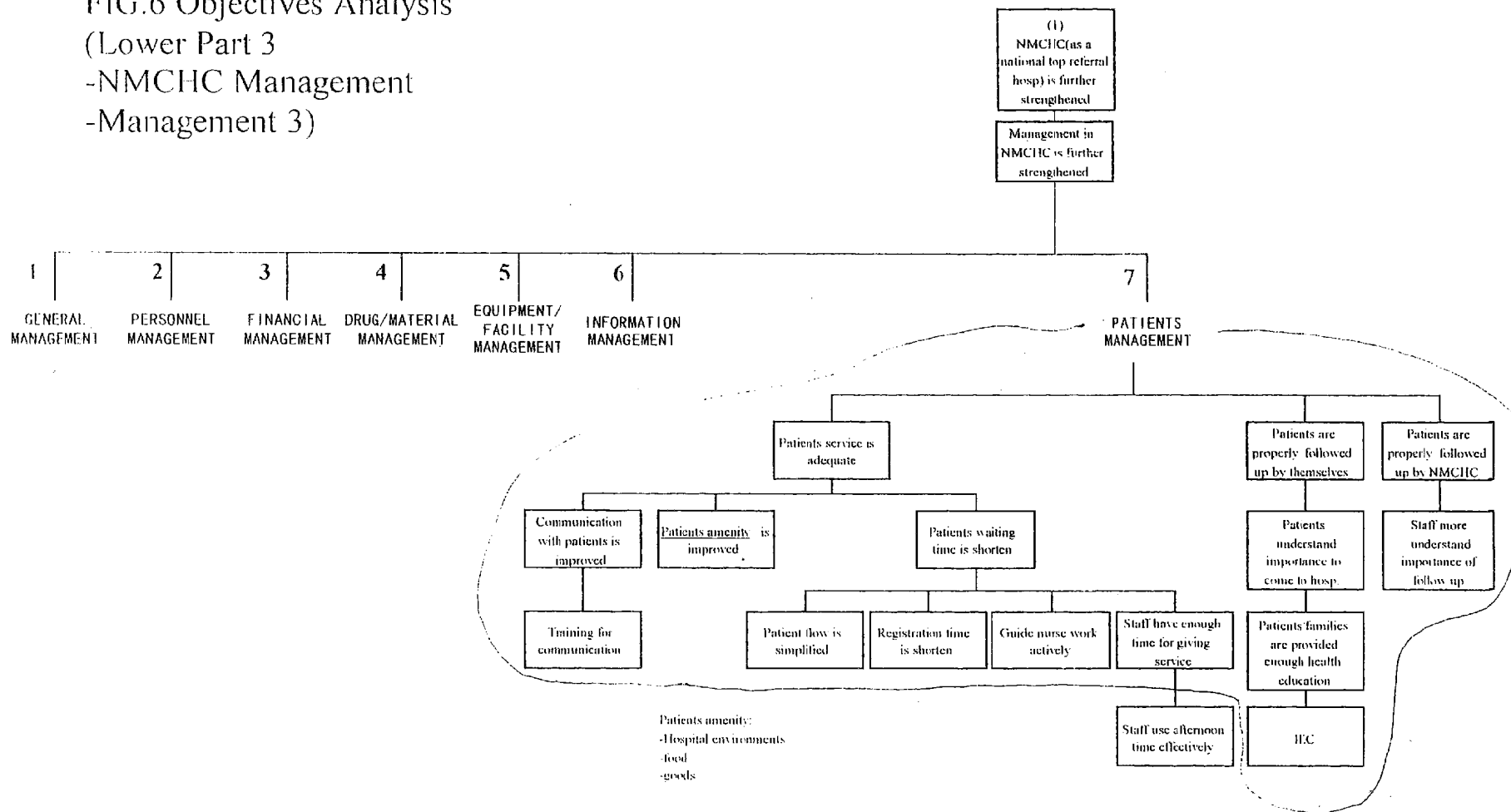


FIG.6 Objectives Analysis
 (Lower Part 4-
 NMCHC Management-
 Clinical Care)

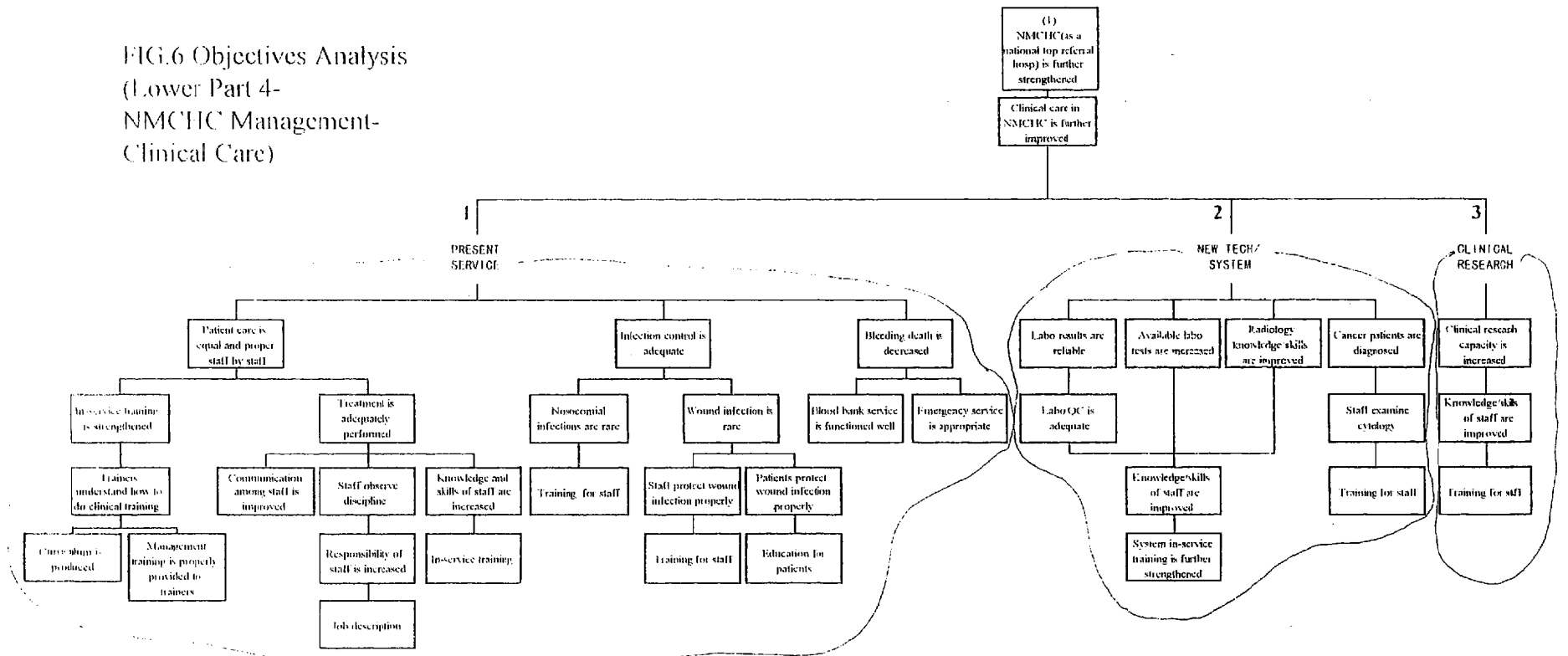


FIG.6 Objectives Analysis
 (Lower Part 5-
 Capabilities of Referral Hospitals 1)

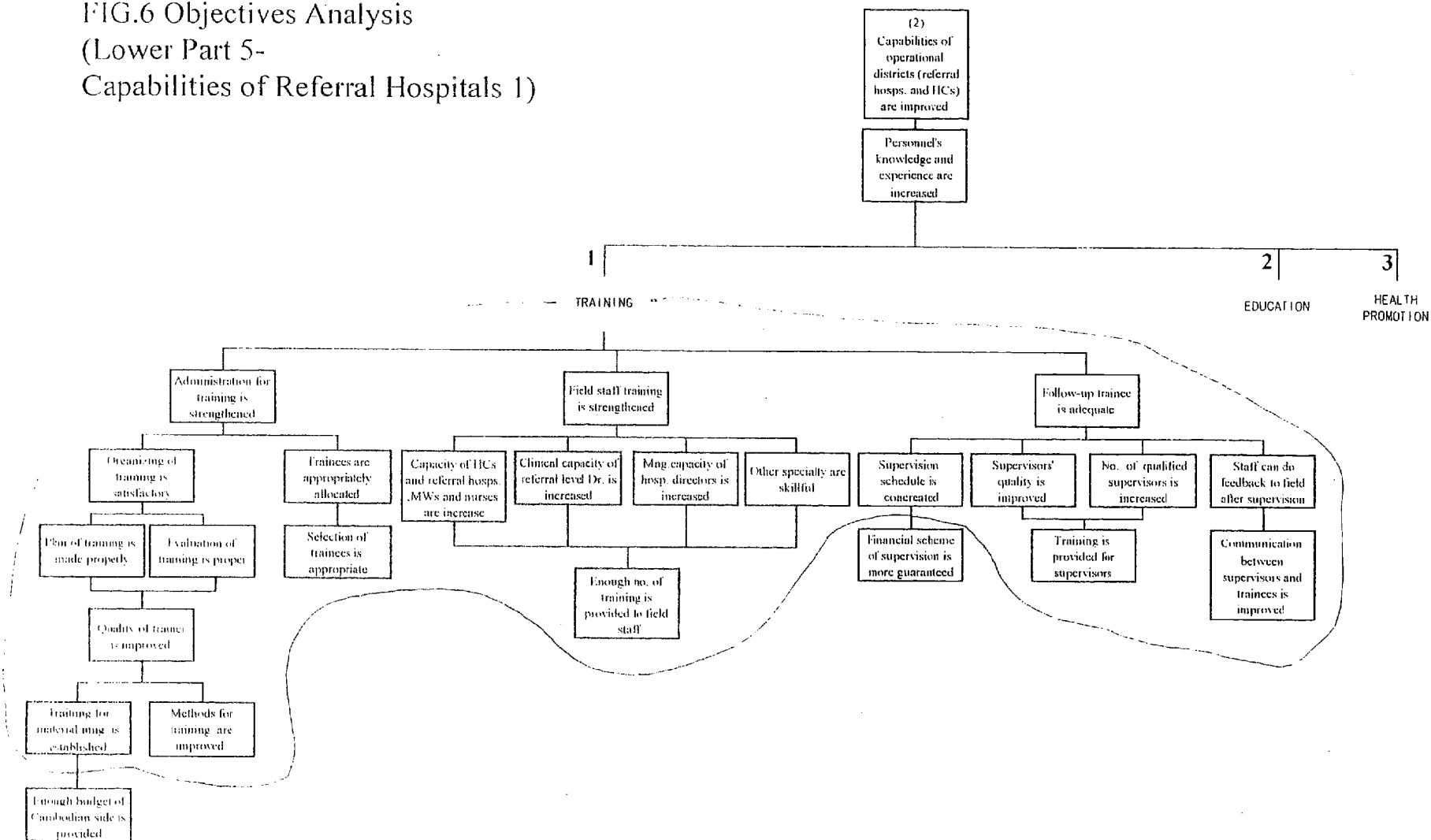


FIG.6 Objectives Analysis
 (Lower Part 6-
 Capabilities of Referral Hospitals 2)

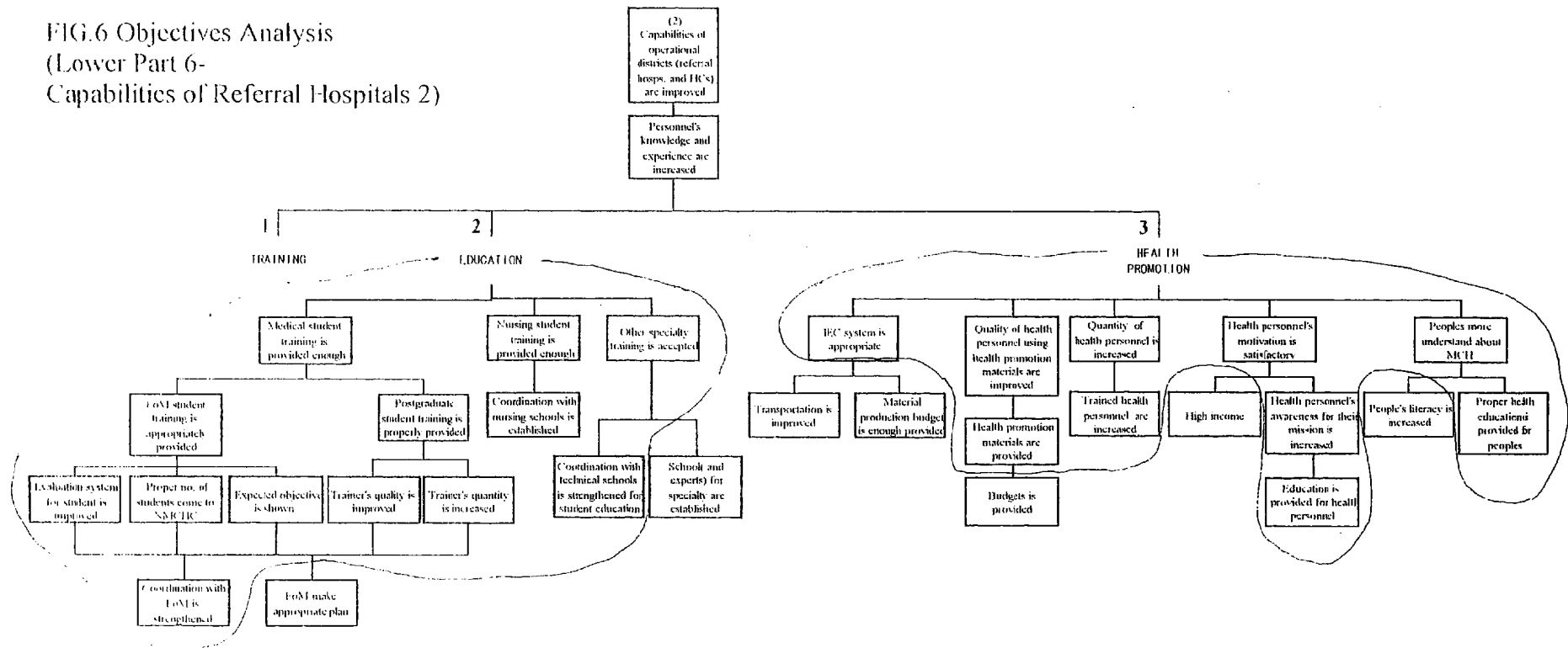


FIG.6 Objectives Analysis
(Lower Part 7-Collaboration)

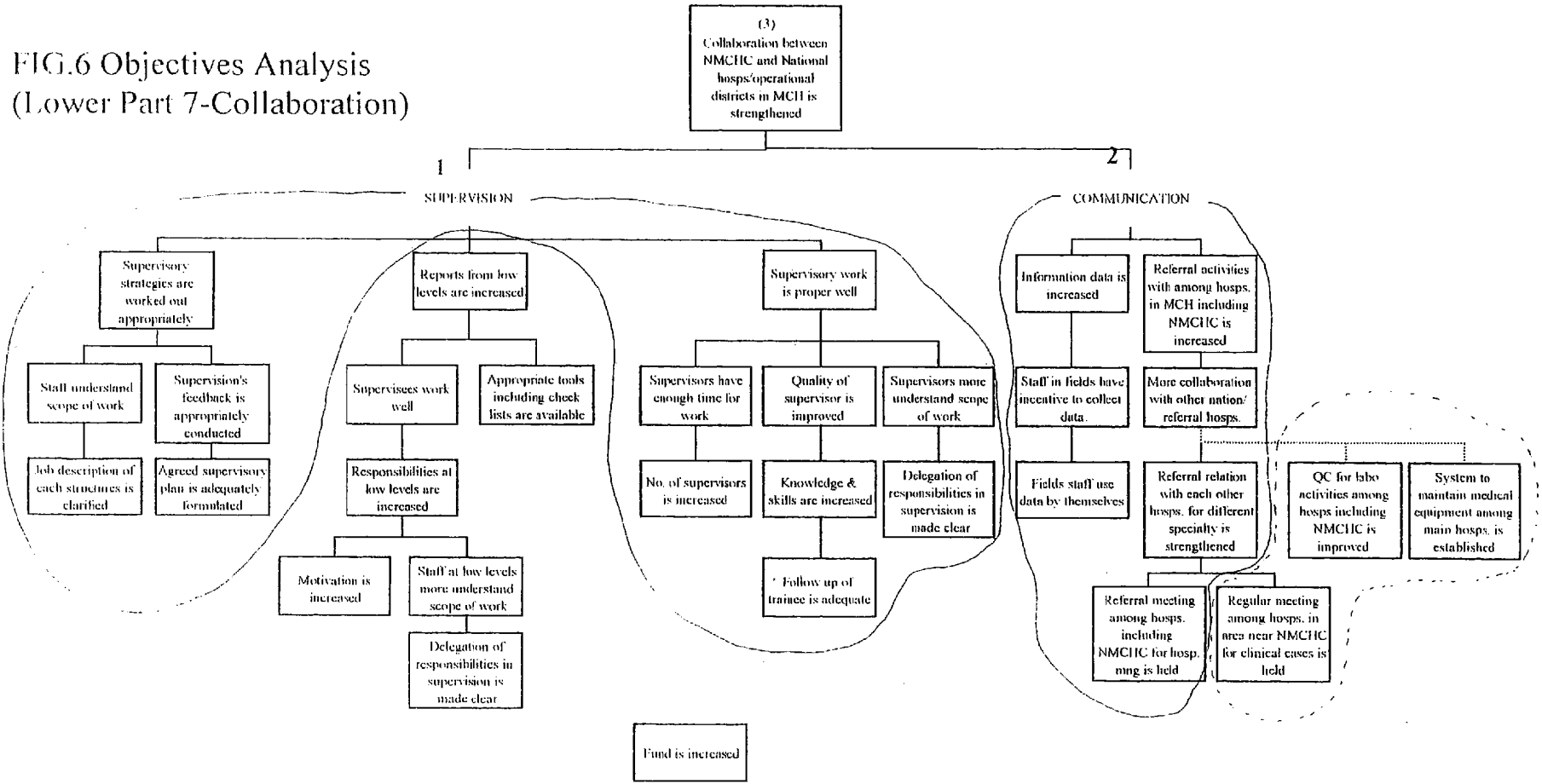


Table 2 Project Design Matrix (PDM): The Maternal and Child Health Project in the Kingdom of Cambodia (Phase II)*

Target group : Expecting and nursing mothers and children

Duration : April 1, 2000 to March 31, 2005

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal The status of maternal and child health in the kingdom of Cambodia is improved	Maternal Mortality Rate	- National Health Statistics Report	
Project Purpose Quality of service for maternal and child health in the Kingdom of Cambodia is improved.	- Percentage of births attended by trained health personnel in Cambodia - Ante-natal check-up rate in Cambodia - Return rate of Ante-natal Care - Return rate of for complicated postpartum cases - Neonatal death	- National Health Statistics Report	- Continuous policy support from Ministry of Health - Natural disasters will not occur in Cambodia - Accessibility will not be worth furthermore
Outputs			
1 The National Maternal and Child Health Center as the national top referral hospital is further strengthened	1-1 Number of clients using NMCHC services 1-2 Number of deaths for perenatal illnesses 1-3 Drug and material consumption per patient in ordinary wards (except ICU/NCU) 1-4 Medical equipment/facility utilizing rate 1-5 Post operative infection rate 1-6 Number of paraclinic tests	1-1/ Technical Bureau Report and 1-2 Report of MOH 1-3 D/M Monthly Report and Technical Bureau Report 1-4 Engineering Section Report 1-5 Gynecology Maternity Report 1-6 Paraclinic Report	- Ministry of Health provides Drug /Materials properly
2 Capabilities of operational districts (referral hospitals and health centers) are improved	2-1 Number of deliveries of referral hospitals 2-2 Number of deliveries attended by health center midwife trainee in NMCHC 2-3 Number of referral cases to referral hospitals	2-1 National Health Statistics Report 2-2 National Health Statistics Report and Supervision 2-3 National Health Statistics Report	
3 Collaboration between NMCHC and National hospitals/Operational districts (referral hospitals and health centers) in MCH is strengthened	3-1 Number of referred complicated cases to NMCHC 3-2 Number of meetings and conferences with other hospitals (especially in Phnom Pen area)	3-1 Technical Bureau Report 3-2 Technical Bureau Report	

It is tentative title

Narrative Summary	Inputs		Important Assumptions
Activities	Japanese side	Cambodian side	
1 (Activities for strengthening of NMCHC)	1 Dispatch of experts	1 Assignment of counterparts	- NMCHC main staff who have received training remain in NMCHC
1-1 Use management cycle sufficiently	(a)Long-term		
1-2 Establish job description	Chief advisor, Coordinator,	2 Arrangement of buildings and facilities	
1-3 Train staff for accounting skills / knowledge	Obstetrics and gynecology, Midwife,		
1-4 Establish system to know drug and material consumption in ward and in total	Maintenance expert of medical equipment,	3 Sharing of expenses for project implementation	
1-5 Establish hospital maintenance system	Clinical laboratory technologist,		
1-6 Carry out training for communication	(a)Short-term		
1-7 Provide Health education for patinas/families	Neonatologist, Anesthesiologist,		
1-8 Standardize patient care	Radiologist, Radiology technician,		
1-9 Strengthen in-service training	Hospital accounting expert, OT/NEO Nursing,		
1-10 Introduce new paraclinic tests	Nursing management expert,		
2 (Activities for improvement of capabilities of referral hospitals and health centers)	Hospital management expert,		Pre-conditions
2-1 Make a plan for training including evaluation	Maintenance expert of hospital facility,		
2-2 Provide training for field staff	Pharmacist, Health education/training expert,		
2-3 Perform supervision	Hospital information expert,		
2-4 Strengthen coordination for student training	HIV/AIDS counselor		
2-5 Train health personnel for health promotion	2 Counterpart training		
3 (Activities for collaboration)	Obstetrics and gynecology, Clinical		
3-1 Give feedback information to the field after supervision	laboratory technician, Hospital management		
3-2 Revise check lists for supervision	and finance, Anesthesiologist,		
3-3 Train supervisors	Radiologist/Technician, Hospital		
3-4 Establish regular meetings/conferences among hospitals	management, ICU nurse, OT nurse,		
3-5 Cooperation with other hospitals for medical equipment maintenance and repair	Hospital accounting, Echographist,		
	OPD nurse		
	3 Provision of machinery and equipment		
	4 Cost sharing for local		

TENTATIVE SCHEDULE OF IMPLEMENTATION-2

I. INPUTS	YEAR 1 Apr.00 - Mar.01	YEAR 2 Apr.01 - Mar.02	YEAR 3 Apr.02 - Mar.03	YEAR 4 Apr.03 - Mar.04	YEAR 5 Apr.04 - Mar.05
1 Dispatch of Japanese experts (1) Chief Advisor (2) Coordinator (3) Obstetrics and Gynecology (4) Maintenance of Medical Equipment (5) Clinical Laboratory (6) Midwifery (7) Nursing Management (8) Neonatology (9) Anesthesiology (10) Pathology (11) Radiological Technology (12) Hospital Accounting (13) OT/NEO Nursing (14) Hospital Management (15) Maintenance of Hospital Facility (16) Pharmacy (17) ICT Training (18) Hospital Information (19) HIV/AIDS Counseling					
2 Counterpart Training in Japan (1) Obstetrics and Gynecology (2) Clinical Laboratory (3) Hospital Management/Finance (4) Anesthesiology (5) Radiological Technology (6) Hospital Management (7) IC Nursing (8) OT Nursing (9) Hospital Accounting (10) Echography (11) OPD Nurse					
3 Provision of Equipment					
4 JICA study team		Management Consultati	Advisory Team		Evaluation
III. INPUT BY CAMBODIAN SIDE	YEAR 1 Apr.00 - Mar.01	YEAR 2 Apr.01 - Mar.02	YEAR 3 Apr.02 - Mar.03	YEAR 4 Apr.03 - Mar.04	YEAR 5 Apr.04 - Mar.05
1 Assignment of Personnel (1) Ministry of Health (2) Staff of NMCHC (3) Staff of Referral Hospitals and Health Centers					
2 Office space for Japanese experts (1) Ministry of Health (2) NMCHC					
3 Publish of annual activity reports					

Note: This schedule is formulated tentatively on the assumption that the necessary budget will be acquired by both sides and is subject to change within the framework of Record of Discussions when the necessity arises in the course of implementation

TENTATIVE SCHEDULE OF IMPLEMENTATION-1

I. ACTIVITIES	YEAR 1 Apr.00 - Mar.01	YEAR 2 Apr.01 - Mar.02	YEAR 3 Apr.02 - Mar.03	YEAR 4 Apr.03 - Mar.04	YEAR 5 Apr.04 - Mar.05
1. NMCHC as a national top referral hospital is further strengthened. 1-1 Use management cycle sufficiently 1-2 Establish job description 1-3 Train staff for accounting skills/knowledge 1-4 Establish system to know drug/material consumption in ward and in total 1-5 Establish hospital maintenance system 1-6 Carry out training for communication 1-7 Provide health education to patients/families 1-8 Standardize patient care 1-9 Strengthen in-service training 1-10 Introduce new para-clinic tests					
2. Capabilities of referral hospitals and health centers are improved in MCH 2-1 Make a plan of training including evaluation 2-2 Provide training for field staff 2-3 Perform supervision 2-4 Strengthen coordination for student training 2-5 Train health personnel for health promotion					
3. Collaborations between NMCHC and other hospitals in MCH is improved. 3-1 Give feedback information to the field staff after supervision 3-2 Revise check lists for supervision 3-3 Train supervisors 3-4 Establish regular meetings/conferences among hospitals 3-5 Cooperate with other hospitals for medical equipment maintenance and repair					

Note: This schedule is formulated tentatively on the assumption that the necessary budget will be acquired by both sides and is subject to change within the framework of Record of Discussions when the necessity arises in the course of implementation.

Kingdom of Cambodia
Nation Religion King
Ministry of Health

**First Biennial Review
of the**

**Health Workforce
Development Plan
1996 – 2005**

**May 1999
Human Resource Department**

KINGDOM OF CAMBODIA
MINISTRY OF HEALTH

First Biennial Review
of the
Health Workforce Development Plan 1996-2005

Working Group for the First Biennial Review of the
Health Workforce Development Plan 1996-2005

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Phnom Penh
May 1999

FOREWORD

The first Health Workforce Development Plan 1996-2005 was a major achievement for the Ministry of Health in the process of health care system reform.

It was the first document that provided a comprehensive picture of the health workforce situation in Cambodia, including size and composition, training, employment and deployment at the time of its development, as well as workforce needs projections during the planning timeframe. The Plan provided the Ministry with a rational basis on which to implement training and other programs, highlighted staffing deficits in particular categories, and through projections helped identify areas of growing need.

Due to changes in the health sector as well as in the wider socio-economic sector the Plan cannot remain static over the planning period. It has to be regularly updated so as to become a rolling plan. This Biennial Review of Health Workforce Development Plan 1996-2005 was conducted in May 1999. The Ministry of Health has taken this opportunity to reflect on changes in the health workforce from 1996 to 1998, to consider the extent to which the recommendations of the Plan have been implemented and their relevance in the current situation, to identify trend or issues of concern.

This review was undertaken by the Departments of Human Resources Development and Planning and Health Information, with collaboration and support from Central Ministry of Health, Departments/Programs, Training Institutions, and Provincial Departments.

I hope that this document will be of great benefit for the process of human resources development for health in the Kingdom of Cambodia.

Phnom Penh, , 1999

Senior Minister and Minister for Health



Dr. HONG SUN HUOT

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- Annex A – Government Health Sector Staffing
- Annex B – Health Personnel Training Programs, Cambodia
- Annex C – Training Statistics
- Annex D – Preliminary List of Post Titles and Required Minimum Qualifications
- Annex E – A Note on Provincial Hospital Staffing

1. Introduction

Cambodia's first comprehensive national health workforce development plan - *The Health Workforce Development Plan 1996-2005* - was approved by His Excellency the Minister of Health in April 1996.

The *Plan* stressed the necessity to systematically monitor the health workforce situation and periodically review the *Plan*. Periodic review might identify the need for changes in health workforce policy, modification of the arrangements for workforce planning and management, and adjustment of staffing and training targets.

This report is the first of the biennial reviews to be conducted throughout the life of the *1996-2005 Plan*.

2. Health workforce policy and planning, 1996-1998 - organisational and policy changes

Since 1996 a number of changes affecting the formulation and implementation of health workforce policy and health workforce planning have occurred:

2.1 Organisational changes within the Ministry of Health

In 1998 changes in the composition and distribution of responsibilities within the top level of the MoH were under consideration. This resulted in the promulgation of the *Prakas on the Terms of Reference for the Leadership of the Ministry of Health* with effect from 5 January 1999. The *Prakas* established the top-level leadership as comprising the Minister of Health, two Secretaries of State for Health and six Under-Secretaries of State for Health.

Regarding responsibilities for human resource development, one of the two Secretaries of State has, *inter alia*, overall responsibility for human resource development. One Under-Secretary has particular responsibility for pre-service and postgraduate education, and another for in-service training.

2.2 Changes in health service structure

- With the creation of the municipality of Pailin the number of provinces has increased from 22 to 23. For health service administrative purposes this means that Pailin has its own provincial health office, provincial hospital, district health services structure et cetera, and for the allocation of resources and statistical reporting is regarded as a separate entity as are the other provinces.
- Modification of the national health coverage plan resulted in an increase in the number of operational districts to 73 and the number of health centres to 935. There has also been some increase in the number of health posts (1-2 staff per post) in remote and mountainous areas.

2.3 Changed policy regarding employment of graduates from pre-service training programs

Students in pre-service health personnel training programs are no longer guaranteed automatic entry to MoH employment.

2.4 Progress in health sector reform

Health workforce development planning is occurring with the context of overall health sector reform. The 1996 – 2005 Health Workforce Development Plan was based on the assumption that implementation of the National Health Coverage Plan would proceed as planned. There are, however, a number of areas in which implementation is occurring more slowly than expected. For example, the reclassification of Former District Hospitals and redeployment of staff is incomplete, with large numbers of staff and resources still allocated to these facilities. The progress in opening new Health Centres is also delayed in some areas.

A number of issues that are beyond the influence of the Health Workforce Development Plan have a significant influence on the size and activity of the health workforce. The most important of these issues is government salaries. While salaries remain at a level well below the cost of living, government employees will continue to spend much of their time and energy working in private practice, or finding ways to generate additional income within the public sector (such as charging unofficial fees for service). Another issue of concern is the lack of well-defined career pathways within the Ministry of Health.

3. Review of planning assumptions

In preparing the original Health Workforce Plan 1996-2005 a number of assumptions had to be made. Information now available indicates that some of these assumptions may continue unchanged while others will have to be modified in future revisions of the health workforce plan.

a) Population projections

Population projections were based on an estimated total population of 10.48 million in 1996, increasing at an annual compound rate of 2.6 per cent. A revised enumeration (1998) gave a population of 11.4 million in 1998 and an annual compound growth rate of 2.4 per cent. This revised rate will be used in adjusting population projections for the years 1999-2005, unless further revisions are made by the national statistical authority.

b) Staff exit rate

In the absence of definitive figures, the *1996-2005 Workforce Plan* assumed a 3.5 per cent per year staff exit rate for the purposes of projecting future staff requirements and training intakes.

Determination of the MoH workforce attrition rate is complicated by staff making a temporary but prolonged exit from active employment within MoH on leave without

pay. These staff take leave to pursue further studies, to take up contract employment in the non-government sector (eg with NGOs), or for other reasons - while still remaining nominally on the staff of the Ministry. In 1998 there were over 700 MoH staff on leave without pay, approximately 3.7 per cent of the total MoH workforce.

Other staff leave the employment of the Ministry having reached the age of retirement, being retired on grounds of ill health or invalidity, on taking up employment elsewhere or for other personal reasons. Data now available indicates that in 1997 there were 255 staff retirements and another 175 retired in 1998.

It appears that in 1998 around 600 staff officially left MoH employment, an exit rate of approximately 3.1 per cent. In view of anticipated increases in the number of personnel moving from government service to the private sector on a permanent basis, an assumed exit rate of 3.5 per cent will continue to be used for purposes of projecting future staffing and training requirements.

c) Private sector health personnel

A sample survey conducted for the preparation of the *Health Workforce Development Plan 1996-2005* indicated that the number of health personnel employed full-time in the private sector was very small. Therefore projections of future staffing and training requirements did not take into account possible losses from the MoH workforce and from training program output.

Recent developments in private health service provision has led to loss of experienced MoH staff and high quality graduates from government training programs to private sector employment. The scale of private health sector development has not yet been fully assessed, but it is likely that this private sector activity will increase, particularly in the larger urban centres. This development and its impact on government service utilisation, availability of staff for government employment and government service staffing requirements must be closely monitored and appropriate adjustment made to planned targets for health service staffing and training activities.

d) Population, health facilities and health personnel in former Khmer Rouge areas

In the latter months of 1998 government commenced the extension of MoH services to former Khmer Rouge areas. Detailed information regarding population, health service facilities and non-government health personnel working in these areas, and future staffing and training requirements, was not available at the time of this review.

e) Implementation of the National Health Coverage Plan

Projected staffing requirement projections were made on the assumption that by the year 2000 there would be 43 referral hospitals other than provincial hospitals and 913 health centres in operation - with some "Former District Hospitals".

In fact at the end of October 1998 there were in existence 42 District Referral Hospitals (not including the 23 Provincial Referral Hospitals) in various stages of development, 116 Former District Hospitals, 222 Health Centres and 828 Community Clinics. There was also a number of Health Posts in operation but Health Post staff

numbers are included in those for the Health Centre to which the Health Posts are linked.

Also, from the staffing guidelines set out in the *Guide to developing operational district in Cambodia* it was assumed that there would be an average of 67 staff at referral hospitals (49 health personnel and 18 other staff) and 7 staff (6 health personnel and one other employee) at a Health Centre. Analysis of data supplied by Provincial Health Departments indicates that at the end of October 1998 the average number of staff and pattern of staffing at operational district facilities other than provincial hospitals was somewhat different - as shown in Table 3.1.

Table 3.1 Target staffing for Operational District health facilities and actual average staffing numbers per type of facility

Target staffing per OD health facility based on 1996 staffing guidelines		Actual average staffing per OD health facility, October 1998	
Facility	Target staffing	Facility	Average staffing
District Referral Hospital	49 health and 18 other personnel	District Referral Hospital	37 (1)
			49 (2)
			95 (3)
Health Centre	6 health and 1 other personnel	Health Centre	9 (1)
			29 (2)
			16 (3)
Notes: (1) Category 1 Provinces (Large population) (2) Category 2 Provinces (Medium population) (3) Category 3 Provinces (Small population)		Former District Hospital	20 (1)
			10 (2)
			12 (3)
		Commune Clinic	3 (1)
			2 (2)
			2 (3)

See tables A31-A33 in Annex for further information regarding categorisation of provinces

4. The size, composition and deployment of the health service workforce, 1996 and 1998

The Ministry of Health is by far the largest operator of health services in the country. This section is mainly concerned with the staffing of the MoH health services. A note regarding health personnel employed by other health service agencies is presented in sub-section 4.4 below.

Detailed tabulation of statistics relating to the size, composition and deployment of the MoH workforce are appended as Annex A. The tables presented in this section are derived from the more detailed statistics in Annex A.

4.1 The size of the MoH workforce, 1996, 1997 and 1998, and projected requirements for year 2000

As shown Table 4.1, over the 28 month period mid-June 1996 to October 1998 the total MoH workforce increased in size from 18,233 to 18,876*, an increase of 3.5 per cent (annual compound rate of increase 1.5 per cent). With the population increasing at the estimated rate of 2.4 per cent per year, the size of Cambodia's population would have increased by more than 6 per cent over the review period. In other words, the population is increasing in size at a greater rate than the MoH workforce is.

(* This number may be a slight under-enumeration due to some differences in reporting dates between provinces. However, any discrepancy between this and the actual number will not affect the rate of increase to any significant extent.)

Table 4.1 Cambodia MoH - total workforce 1996, 1997 and 1998, and projected requirements for 1998 and 2000

Year	Health personnel	Other personnel	Total
30 June 1996 (actual)	15,594 (85.5%)	2,639 (14.5%)	18,233 (100.0%)
30 June 1997 (actual)	16,413 (87.2%)	2,412 (12.8%)	18,825 (100.0%)
31 October 1998 (actual)	16,593 (87.9%)	2,283 (12.1%)	18,876 (100%)
31 October 1998 (projected)	16,443 (83.8%)	3,178 (16.2%)	19,621
Mid 2000 (projected)	16,952 (82.2%)	3,660 (17.8%)	20,612

Note: The 31 October 1998 and mid-2000 projected numbers were based on the referral hospital and health centre staffing guidelines as set out in the *Guide to developing operational health district in Cambodia*. (See Table 4.4, *Health Workforce Development Plan, 1996-2005*, page 75.)

The table shows that over the period 1996 to 1998 the number of "other" personnel actually decreased, while the number and proportion of health personnel in the MoH workforce was rising. This may be seen as a desirable trend, provided of course that the additional health personnel are employed in positions where their professional training is fully utilised rather than their being placed in positions which might be more appropriately filled by "non-health" personnel.

The designation of posts by appropriate titles and the specification of establishments within the Ministry's services, institutions and units proposed in section 6.2.3 below should facilitate placing the "right person" in the "right position".

4.2 Composition of the MoH workforce 1996 and 1998

As shown in Table 4.2, health personnel made up 85.5 per cent of the total MoH workforce in 1996 and by the end of the review period this percentage had increased to 87.9 per cent.

Table 4.2 Cambodia MoH - Composition of the MoH workforce by category of personnel, 1996 and 1998

Category of personnel	1996		1998		1996 to 98
	Number	%	Number	%	% increase
Medical Doctor	1,247	6.8%	1,711	9.1%	37.2%
Pharmacist	327	1.8%	415	2.2%	26.9%
Dentist	64	0.4%	68	0.4%	6.3%
Medical Assistant	1,458	8.0%	1,699	9.0%	16.5%
Pharmacist Assistant	169	0.9%	201	1.1%	18.9%
Dentist Assistant	125	0.7%	143	0.8%	14.4%
Secondary Nurse	3,979	21.8%	4,384	23.2%	10.2%
Secondary Midwife	1,706	9.4%	1,830	9.7%	7.3%
Secondary Lab.	334	1.8%	383	2.0%	14.7%
Technician Xray	20	0.1%	22	0.1%	10.0%
Physiotherapist	53	0.3%	58	0.3%	9.4%
Primary Nurse	4,430	24.3%	3,993	21.2%	-9.9%
Primary Midwife	1,515	8.3%	1,482	7.9%	-2.2%
Primary Lab	167	0.9%	204	1.1%	22.2%
<i>Total health personnel</i>	<i>15,594</i>	<i>85.5%</i>	<i>16,593</i>	<i>87.9%</i>	<i>6.4%</i>
<i>Total other personnel</i>	<i>2,639</i>	<i>14.5%</i>	<i>2,283</i>	<i>12.1%</i>	<i>-13.5%</i>
TOTAL MoH STAFF	18,233	100.0%	18,876	100.0%	3.5%

The contributions of particular categories of personnel to changes in the size and composition of the workforce varied widely. The table shows that among the large personnel groups the doctor category experienced the largest growth in numbers (+37.2%), and the secondary nurse category a 10.2% increase. There was also a significant increase in the number of pharmacists.

The decrease (-2.2%) in the number of primary midwives, although small, is in line with the policy of phasing out this category of nursing personnel. For the primary nurse category, also being phased out, the number of primary nurses decreased by 9.9 per cent.

Intake to the training courses for medical assistants, dental assistants and pharmacy assistants ceased in 1994, but there were significant increases in personnel numbers in all of these categories - medical assistants +16.5%, dental assistants +14.4% and pharmacy assistants +18.9%. These increases reflect the entry into MoH employment of the final batches of graduates from these now discontinued courses.

With the increasing numbers of doctors one would expect an increasing demand for laboratory and medical imaging services. The number of secondary level laboratory personnel increased by 14.7% and the number of primary level laboratory personnel increased by 22.2%. The small number of Xray technicians (20) increased to 22.

4.3 Deployment of the MoH workforce 1996 and 1998

4.3.1 The central:provincial (P+D) staff distribution ratio

Table 4.3 shows that in mid-1996 close to 80 per cent of the total MoH workforce were located in the provincial services (including both provincial and district level services), and the other 20 per cent at central level. In October 1998 this distribution remained virtually unchanged.

Table 4.3 Cambodia MoH - Distribution of personnel between the central level and provincial+district level

Date of enumeration	Central level personnel	Provincial + District level personnel	Total
30 June 1996	3,802 (20.9%)	14,431 (79.1%)	18,233 (100.0%)
31 October 1998	3,899 (20.7%)	14,977 (79.3%)	18,876 (100.0%)

Although overall there was no change in the proportions of the total MoH workforce deployed at the central and provincial (P+D) levels, Table 4.4 below shows that there were significant changes in the distribution of some categories of personnel. The table shows that the proportion of the primary laboratory personnel cadre working at the central level increased significantly, and there were smaller increases in the proportion of personnel in the pharmacy assistant, dental assistant and "other personnel" cadres employed at the central level.

Table 4.4 also shows a significant decrease in the proportion of personnel in the pharmacist, dentist and physiotherapist cadres employed at central level, and smaller decreases in the medical assistant, secondary nurse and secondary laboratory personnel cadres.

There was no change in the central:provincial (P+D) staff distribution ratio for doctors, secondary midwives, primary midwives, primary nurses and Xray technicians.

Table 4.4 Changes in the central:provincial (P+D) staff distribution ratio of personnel for major cadres of MoH staff between 1996 and 1998

No change in central:provincial(P+D) ratio	Increased proportion of cadre at central level	Decreased proportion of cadre at central level
Medical doctors	Primary laboratory technicians ++	Pharmacists - -
Secondary midwives	Pharmacy Assistants +	Dentists - -
Primary midwives	Dental Assistants +	Physiotherapists - -
Primary nurses	"Other personnel" +	Medical Assistants -
Xray technicians		Secondary Nurses -
		Secondary Laboratory Technicians -

4.3.2 The provincial:district staff distribution ratio

At 30 June 1996 the overall provincial:district staff distribution ratio was 40:60 (Table 4.5). The ratio for health personnel was also 40:60 and for "other staff" virtually the same at 41:59.

The 1998 figures in the table show a significant increase (+7%) since 1996 in the percentage of health personnel employed at district level as compared with the percentage at provincial level. Also, a 4% decrease in the number of "other" MoH staff employed at district level as compared with the percentage at provincial level occurred in the period 1996 to 1998.

These figures suggest a strengthening of clinical service availability at the operational district level - the principal objective of the national health coverage plan. Of course, these figures do not tell us whether the district level services in 1998 were in fact used to a greater extent or had a greater impact on the health of the rural population than in 1996.

Table 4.5 Cambodia MoH - Comparison of provincial:district staff distribution ratios, 1996 and 1998

Personnel group	Provincial :district SDR 1996	Provincial :district SDR 1998
Health personnel	40:60	33:67
Other personnel	41:59	45:55
Total personnel	40:60	35:65

4.4 Other components of the health workforce

4.4.1 Health workers employed in other Ministries

In 1996 Ministries other than the Ministry of Health employed 4,510 personnel in the operation of health services. Among these Ministries, the Ministry of Defence, with a health workforce of nearly 3,911, was the largest employer of health personnel.

Statistics regarding the size and composition in 1998 of the Ministry of Defence health workforce and Ministry of Agriculture health workforce (103 in 1996) were not available at the time of this review.

For the other Ministries-employing health service personnel, the total workforce in 1996 was 496 and this had increased to 551 (+11.1%) by 31 October 1999.

4.4.2 Health workers employed by International Organisations and NGOs

International organisations and NGO working in the health field employ numbers of well-qualified health personnel, particularly those with English language skills. MoH has not collected detailed information regarding the numbers and categories of these personnel, although they constitute a cadre of significant expertise and experience.

4.4.3 Health personnel in the private practice sector

A sample survey of personnel working full-time in the private practice sector of the health care system in 1996 indicated that the total number at that time was small. Since then the private sector of the health system has expanded, but no statistics regarding health personnel in the sector in 1998 are available. It is proposed that a survey of health personnel working in this sector be made in the year 2000.

5. Training of health service personnel, 1996 to 1998

5.1 Training policy, 1996 and 1998

There have been no major changes in training policy over the period covered in this review, although a Working Group to review human resources for health policy, including training policy, is planned for the second half of 1999.

5.2 Organisation and management of training activities, 1996 and 1998

As noted above, at the end of the review period overall responsibility for training within the MoH was placed in the hands of a triumvirate comprising one Secretary of State and two Under-Secretaries. The Secretary of State was in charge of, *inter alia*, human resource development. One Under-Secretary of State for Health had particular responsibility for undergraduate and postgraduate education. The other Under-Secretary of State for Health was responsible for other training activities.

Within the Ministry of Health, executive responsibility for the formulation of a master plan for training health service personnel, monitoring the training situation, coordinating training activities throughout the Ministry and liaising with other relevant agencies rests with the Human Resources Department.

5.3 Training institutions and agencies, 1998

The six major training institutions operating in 1996 continued to provide pre-service, post-basic or post-graduate training throughout the period covered by this review, although the two principal institutions have been brought under one "umbrella" to constitute the *University of Health Sciences*. A new institution commenced operation in 1998.

What was the *Faculty of Medicine, Pharmacy and Dentistry*, or *Faculte Mixte* in Phnom Penh now functions as part of the *University of Health Sciences*, and continues to provide basic training for medical, dental and pharmacy students. Each of the three faculties retains its separate identity within the university structure. The Faculty of Medicine has begun to participate in the post-graduate training of medical specialists.

What was the *Ecole Centrale des Cadres Sanitaires* or *Central Nursing School* in Phnom Penh has been renamed as the *Technical School for Medical Care* (TSMC) and has become part of the *University of Health Sciences*. It continues to provide basic training for nurses and laboratory technicians, and also post-basic training for nurses in several areas of specialised nursing. The Career Ladder Education program

provides courses of two years duration to up-grade primary nurses and primary midwives to secondary nurse and secondary midwife level, and a one-year course to up-grade primary laboratory technicians to secondary laboratory technician level.

Regional Training Centres continue to operate in Kampong Cham, Kampot, Stung Treng and Battambang provinces. These schools provide basic training for secondary nurses, upgrading courses for primary nurses and primary midwives, and coordinate the delivery of in-service training. TSMC staff provide technical support to the staff at the RTCs.

The provincial training system is currently being developed to cover all provinces. In the past, Provincial Training Centres (PTCs) trained primary nurses and midwives. A comprehensive national continuing education system has been developed to meet the objectives of the new health system. A series of training modules are under development which will standardise the current in-service training offered by MoH national programs in MCH, CDD, TB, malaria, leprosy, STDs, HIV/AIDS etc. These modules will be central to the in-service training associated with the introduction of the Minimum Package of Activities (MPA) for implementation under the Operational District Health System (Health Coverage Plan).

The new *National Institute of Public Health*, located in Phnom Penh, was officially opened in 1997, The institute has laboratory, research and training responsibilities, providing training in public health and health services management.

5.4 Types, duration and location of training programs, Cambodia, 1998

Annex B provides details regarding pre-service, post-basic, post-graduate and major in-service training programs available in Cambodia.

5.5 Health personnel training out-of-country, 1996-1998

With financial assistance from a wide range of international development assistance agencies Cambodian health personnel have been able to engage in training activities out-of-country. In the period covered by this review more than 1,000 MoH personnel left the country to participate in training activities. This out-of-country training has covered a wide spectrum of health and health related subjects, and varied in duration from a few days attendance at overseas seminars and workshops to one or more years of formal professional education.

5.6 Training statistics, 1996-1998

Due to uncertainties as to attrition rates and a number of other factors, the national *Health Workforce Plan 1996-2005* did not include detailed projections of required numbers of student intakes throughout the planning period.

However on the basis of then current statistics as to enrolments, and assumptions as to course non-completion rates, tentative projections of expected graduation numbers were made for the years covered by this review. The actual numbers of graduations in the years 1996, 1997 and 1998 were very similar to those projections.

A summary of training statistics is presented in Annex C.

6. Health workforce issues, 1996 and 1998

6.1 Issues identified in 1996 and action taken

A number of specific problems relating to staffing and training were identified in the national *Health Workforce Development Plan 1996-2005*. In this section the actions taken to address these problems are reported and reviewed.

6.1.1 Inadequate control of student intakes and staff recruitment numbers

Intakes to secondary nurse pre-service training courses were substantially increased in 1997 and 1998, but unfortunately there was no intake to midwifery training. Entry numbers to the medical school have been reduced. Graduates from pre-service training programs are no longer guaranteed employment in the government health services.

6.1.2 Difficulties in posting and transferring personnel

With funds drawn from World Bank and ADB loans there has been renovation and where necessary building of housing accommodation for health centre staff in remote areas. Doctors have been given incentives to move by being offered a post in charge of a health facility.

6.1.3 Limited clinical experience of graduates

Reducing intake of new students to the medical school has improved opportunities for students to gain clinical experience. However, the continued low hospital utilisation rates, and in particular the small numbers of births in hospitals, still limits opportunities for clinical training and experience in patient care.

6.1.4 Low level of staff motivation

This problem persists. Current policy is to provide greater access to further training, for example through the commencement of medical specialist training. Also opportunities for promotion to positions of higher responsibility are being increased, but unfortunately this is not being accompanied by increases in salary.

There has been exploration and expansion of user fees systems, whereby 99 per cent of fees collected remain at the facility providing the service, with 49 per cent going to staff and 50 per cent being used for operational costs. The remaining one per cent goes to central MoH revenue. "Contracting out" of health services to independent operators is also being piloted in a number of districts. The effect of these arrangements on staff motivation and productivity has not yet been assessed.

6.1.5 Incomplete workforce data and database development

The Integrated Human Resource Database (IHRD) is in the process of development. It is expected that the database be fully operational in the year 2000.

Target date for complete registration of all MoH personnel is the end of the year 2000, and registration of personnel working in the private sector is scheduled for the year 2001.

6.1.6 Need for system of health professional registration, licensing etc

As noted above, registration will proceed as part of the process of developing the IHRD. Details regarding licensing of health personnel have yet to be worked out, but consideration is being given to the introduction of a licensing system for private health sector personnel in the year 2002.

6.1.7 Current and projected shortfalls or excesses in staff numbers

In the *Health Workforce Development Plan 1996-2005* attention was drawn to the then current and likely future shortfalls in the number of staff available for posts in certain categories, particularly nursing and midwifery posts. Although intake to secondary nurse training was increased in 1997 and 1998, the effect of these increases will not begin to be seen in health service personnel numbers until the years 2001 and 2002. The effects of the reduction in medical school intakes in 1996, 1997 and 1998 will not be seen until the very last years of the planning period 1996-2005.

6.1.8 Incomplete sets of job descriptions

Job descriptions for senior posts within the central MoH have been developed and officially approved, but job descriptions for staff positions are not yet available. Some job descriptions for Provincial and Operational District offices have also been developed. A number of institutions and National Programs officially approved job description sets.

6.1.9 Absentee staff

The problem of absentee or irregularly attending staff persists.

6.1.10 Absence of planning for non-health personnel staffing and training

The *Health Workforce Development Plan 1996-2005* did not contain any detailed proposals regarding categories, numbers or training of "non-health" personnel employed within the health services. These matters will be addressed in the forthcoming work on designation of post titles, determination of staffing establishment levels and the development of the Health Workforce Master Plan for Training - see below.

6.2 Current and emergent issues, 1998, and proposed action

6.2.1 Unresolved problems from 1996-98 period

Meeting some of the issues listed as unresolved or unaddressed during the year 1996-1998 calls for action which is the concern of overall Government and MoH policy, or of MoH departments other than HRDD. For example, a number of staffing issues are matters for the attention of the Personnel Department. Others are the subject of ongoing consideration and will be addressed by HRDD in the coming years.

A number of additional areas of major concern were identified in the course of this review and these are discussed below - 6.2.2 to 6.2.6.

6.2.2 Need for health workforce planning on province by province basis

The Health Workforce Development Plan 1996-2005 is a national plan. Projections of staffing requirements and trainee intake numbers are aggregates. However considerable differences exist between provinces in terms of present staffing levels, future staffing requirements and in the number of local students entering pre-service and other levels of training.

For example, a recent survey of entrants to pre-service nursing training at the Battambang RTC, 60 per cent of entrants were residents of the Battambang province, while only 40 per cent came from the other four provinces which are served by the Battambang RTC.

Also, there is considerable movement of population within the country. Changes in population density may lead to changes in the level of demand for health services and in the availability of personnel, changes which require some redistribution of health service resources, including personnel.

Much of the data required for the preparation of workforce plans on a province by province basis is already held in the MoH Human Resources Department, the Planning and Health Information Department and/or the Personnel Department. It is proposed that individual provincial health workforce plans covering future staffing requirements and appropriate numbers of entrants to major training programs be prepared through consultation between MoH, relevant senior PHD officers and representatives of the major training institutions.

6.2.3 Designation of posts and determining staffing establishments

The majority of MoH employees who have formal professional qualifications in health care are employed in positions where their training is appropriately utilised. But there is a significant number who are employed in activities which bear little relationship to the work for which they have been formally trained.

In the interest of efficient management of services and optimal utilisation of training resources, it is desirable:

- That each post within MoH be designated appropriately
- That every job description prescribe the minimum relevant qualifications necessary for the effective performance of duties
- That the number of posts in any particular category be related to the volume of work to be performed and the expected productivity of the incumbent.

By these means it will be possible to determine the required establishment (number of approved posts) within a service unit. This will make it possible at any time to say whether the full number of established posts has been filled, and to state precisely how many posts are vacant and the types of vacancy.

The development of the staff database currently proceeding in the MoH Human Resources Development Department, in collaboration with the Personnel Department, provides the opportunity to prepare a list of appropriate post titles and these may be applied to positions currently existing within the service. A preliminary draft listing of post titles and the minimum qualifications appropriate to the title has been prepared as a basis for discussion with relevant people. (See Annex D)

The initial designation of posts by title and specification of establishments could be based on the present staffing situation throughout MoH. However, there will be the need to review and adjust the establishments of particular services, institutions and units in the light of changing utilisation and other factors. It is suggested that working groups be set up to determine appropriate target establishments for all services, institutions and units within the Ministry. (Some notes regarding the staffing of provincial hospitals are attached as Annex E.)

It is further suggested that a high-level Establishments Committee be set up to approve the target establishments and to consider applications for changes in the establishment and for transfer of personnel between posts. This committee would also review the necessity for filling vacancies as they occur - it may be appropriate to abolish some posts as the demand for services changes.

The suggested composition of the Establishments Committee is:

- One Secretary of State (Chair)
- Director General of Health Services
- Director General of Administration and Finance
- One representative from each of :
 - Personnel Department
 - Human Resources Department
 - Planning and Health Information Department.

The Committee would meet two or three times a year. Attendance of all members would be required for decision-making regarding changes in the establishment, designation of posts and movement of personnel.

Table 7.1

Table 7.1 Cambodia MoH - Expected and target staffing numbers at 31 October 2005, and required annual student intakes to reach the target numbers

Assumptions: Target numbers are taken from the *Health Workforce Plan 1996-2005* - they are subject to review
 Staff numbers to increase in line with population increase ie 2.4% per year compound growth
 Staff exit rate = 3.5% per year
 All students complete their course although not necessarily in the minimum time

Personnel categories	Number of staff at 31-Oct-98	Staff exits 1999-2005	Current annual student intake	Expected graduates 1999-2005	Expected number of staff at 31-Oct-05	Target number of staff at 31-Oct-05	Staffing shortfall (-) or excess (+)	Total graduate intake required 1999-2005	Required annual intake of graduates	Target population per health worker at 31-Oct-95
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g=e-f</i>	<i>h=(f-a)+b</i>	<i>l=h/7</i>	<i>j</i>
Medical Doctor	1,711	378	50	1,251	2,584					5,208*
Medical Assistant	1,697	375	0	0	1,322					10,177*
<i>Total MD + MA</i>	<i>3,408</i>	<i>752</i>	<i>50</i>	<i>1,251</i>	<i>3,907</i>	<i>***</i>		<i>**</i>	<i>**</i>	<i>3,445*</i>
Pharmacist	415	92	20	156	479					
Pharmacist Assistant	201	44	0	0	157					
<i>Total P+PA</i>	<i>616</i>	<i>136</i>	<i>20</i>	<i>156</i>	<i>636</i>	<i>727</i>	<i>-91</i>	<i>247</i>	<i>35</i>	<i>18,506</i>
Dentist	68	15	20	149	202					
Dentist Assistant	143	32	0	0	111					
<i>Total D+DA</i>	<i>211</i>	<i>47</i>	<i>20</i>	<i>149</i>	<i>313</i>	<i>313</i>	<i>0</i>	<i>149</i>	<i>21</i>	<i>42,999</i>
Registered Nurse	0	0	230	1,477	1,477					
Secondary Nurse	4,428	977	0	0	3,451					
Primary Nurse [^]	4,033	890	0	0	3,143					
<i>Total RN+SN+PN</i>	<i>8,461</i>	<i>1,868</i>	<i>230</i>	<i>1,477</i>	<i>8,070</i>	<i>9,989</i>	<i>-1,919</i>	<i>3,396</i>	<i>485</i>	<i>1,347</i>
Public Health Midwife	0	0	0	0	0					
Secondary Midwife	1,830	404	0	0	1,426					
Primary Midwife	1,482	327	0	0	1,155					
<i>Total PHM+SM+PM</i>	<i>3,312</i>	<i>731</i>	<i>0</i>	<i>0</i>	<i>2,581</i>	<i>3,910</i>	<i>-1,329</i>	<i>1,329</i>	<i>190</i>	<i>3,442</i>
Secondary Lab.	383	85	20	140	438					
Primary Lab	204	45	0	0	159					
<i>Total SL+PL</i>	<i>587</i>	<i>130</i>	<i>20</i>	<i>140</i>	<i>597</i>	<i>693</i>	<i>-96</i>	<i>236</i>	<i>34</i>	<i>19,421</i>
Xray Technician	22	5	0	0	17	26	-9	9	1	518,182
Physiotherapist	58	13		34	79	68	11	23	3	196,552

NOTES: *** This "target" has not yet been defined

** The intakes are already determined

* These are expected numbers

[^] Some secondary and primary nurses may be up-graded to RN status but this will not change total nursing workforce number nor required new RN training intake numbers

6.2.4 Delay in the production of MPA Modules and slow progress in the MPA and CPA programs

Production of training materials for use in the nation-wide MPA training program progressed very slowly during 1996-1998. There was virtually no CPA training for staff at referral hospital level. This has meant little progress in the training of operational district level staff which was to be a major component in the MoH program of up-grading district level services.

6.2.5 Growth of activity in the private health service sector

Over the past two years there has been rapid expansion of activity within the private sector of the health care delivery system. It is expected that this sector will continue to grow as demand for higher quality, better access and a wider variety of health services increases along with an increasing preparedness of people to pay for these services.

This private sector growth highlights government responsibility for ensuring that appropriate standards of provision and performance are formulated and enforced. Regulation relating to health personnel in the private sector may include professional registration, annual licensing, and the specification of staffing standards for health care facilities. The maintenance of adequate standards of staff performance will require the participation of private sector employees in programs of continuing education. The mechanisms for meeting these requirements have yet to be worked out.

6.2.6 Privatisation of training programs

There are examples of the recent establishment of non-government institutions offering formal tertiary education on a fee-paying basis. The operation of such institutions may be in the hands of private investors or "cooperatives" of teaching personnel. At present there do not appear to be proposals for the establishment of such private teaching institutions in the health field, but any future proposals will require close scrutiny regarding standards of facilities, equipment, staffing, and programs of instruction.

7. Staffing and training, 1999-2005

In this section the emerging staffing and training situation for each major category of health personnel in MoH employment for the remaining years of the 1996-2005 planning period is discussed. At this stage firm conclusions cannot be drawn, but obviously the situation as it develops over the next two years must be closely monitored.

It should be noted that the quantity and type of trained health professionals to become available for MoH employment during these years has been to a considerable extent already pre-determined. Decisions were made regarding student intake numbers and the staffing structure of the future health service in the years before the commencement of the period covered by the *Health Workforce Development Plan 1996-2005*.

Table 7.1 on the following page indicates the numbers of graduates from pre-service training programs required to enter MoH employment by the end of the year 2005 in order to meet the MoH staffing targets proposed in the *Health Workforce Development Plan 1996-2005*. These targets will, of course, be subject to review in light of the proposed production of workforce plans on a province by province basis and in light of the review of staffing establishments for individual institutions, services and units.

7.1 Medical doctors and medical assistants

As shown above in Table 4.2, there has been a 37 per cent increase in the number of medical graduates employed within MoH over the review period 1996-1998. This was due to the graduation of very large batches of students that entered the medical school some years ago. Large but decreasing graduation numbers are expected to continue for the next few years, and will be down to 50 by the year 2005. Provided all graduates from the medical school enter MoH employment in the next seven years, the number of MoH doctors will have risen in year 2005 to around 2,600. The number of medical assistants will have fallen to around 1,300, bringing the total number of medical doctors plus medical assistants to around 3,900.

The population per MoH doctor in 2005 will have fallen to around 5,200 (from around 6,700 in 1998), the population per MoH medical assistant risen to around 10,500 (also around 6,700 in 1998), and the population per MoH doctor+MA risen to around 3,500 (around 3,350 in 1998).

Note that these numbers and ratios do not take into account the numbers of doctors employed in other Ministries and elsewhere in the health care system, but the numbers of these other doctors will inevitably decrease if all graduates from the medical school enter MoH employment.

In the years following 2005, and at the current intake level of students to the medical course (50 per year), these ratios will increase as the population grows, the number of medical assistants decreases, and the output of graduates from the medical school continues at a very low level.

As discussions regarding appropriate medical establishment numbers proceed it will be possible to make more informed decisions regarding the future level of intake to the undergraduate course, but on present indications the annual intake of new students will need to be increased.

Regarding production of specialists, the first batch of graduates from the UHS specialist training program will complete their studies in Cambodia in 2001 or 2002 and then embark on a year of further training abroad. It is anticipated that this first intake into the program will produce up to 7 internal medicine specialists, 15 surgeons, and 10 each of paediatricians, ob/gyn specialists and pathologists. It is proposed that the second batch of trainees will commence their specialist training when the first batch graduate, and so there will probably be no further input of specialists to the health service from this program before the end of the planning period 1996-2005.

This post-graduate training program will go some way towards increasing the presently extremely small numbers of formally qualified specialist doctors in Cambodia. However, when one sees that in 1998 there were only 8 “specialists” employed among the 23 provincial hospitals it appears that there is room for expansion of the specialist training program.

7.2 Dentists and dental assistants

As students currently enrolled in the UHS dental school training program graduate over the next seven years there will be a significant increase in the number of qualified dental practitioners in Cambodia. (See Table 7.1) Although the number of dental assistants will continue to decrease, the total number of dental personnel will increase during the remaining years of the *Health Workforce Development Plan 1996-2005*.

The growing number of trained dental nurses should further improve the productivity of the dental practitioner workforce.

Consideration should be given to the development of dental care services outside MoH. If it were proposed to encourage dental practitioners to practise in the private sector then assistance by way of practice establishment loans would enable dentists currently in government employment to set themselves up in private dental clinics.

In order to ensure an appropriate distribution of private dental facilities, consideration must be given to the issuance of dental clinic licenses, renewed on an annual basis. The number and location of licensed dental clinics should be related to population distribution, similar to the current system of licensing pharmacies.

7.3 Pharmacists and pharmacy assistants

With the decreasing number of pharmacy assistants and an average annual graduation of around twenty pharmacists, the growth in the size of the pharmacy cadre will not keep pace with the growth in Cambodia’s population over the next seven to eight years (Table 6.1).

7.4 Nursing personnel (nurses and midwives)

A number of decisions in the past - termination of the primary nurse, primary midwife and secondary midwife programs, and reduction of nursing school intakes generally - have contributed to a very large decrease in the total number of MoH nursing personnel. In 1998 the population per MoH secondary nurse was 2616, and the population per MoH secondary midwife 6229.

The *Health Workforce Development Plan 1996-2005* drew attention to the serious shortage in nursing personnel numbers and the need to increase nursing school intakes if the deficit was to be reduced. Although nursing school intakes have been increased in the past two years, the output will still be far short of the numbers required to replace nurses who leave the service, to match the growth in population numbers and to meet the growing demand for nurses to undertake post-basic training in specialised

fields of nursing such as public health midwifery, public health nursing, anaesthesiology, ophthalmology, psychiatry, nursing management, nursing education.

To contain the worsening situation, it is proposed consideration be given to:

- Annual intakes to the three-year registered nurse training program be increased. The total annual new intake target is 405 trainees - TSMC 90, Battambang RTC 90, Kampong Cham 90, Kampot 90 and Stung Treng 45.
- A one-year enrolled nurse-training program be established. to be offered at four Provincial Training Centres located at Siem Reap (annual intake 30), Kandal (30) Kompong Thom (30) and Takeo (30). Graduates from the one-year course would be issued with a certificate and entered on the health professional database as "enrolled", but would not be eligible for licensing to practise as a fully qualified "Registered" nurse.
- The educational level for entry to the enrolled nurse program to be the same as for entry to the registered nurse program ie secondary school diploma.
- The selection process for entry to the enrolled nursing course should draw students from throughout Cambodia, not only from the provinces in which the PTCs are located.

If any significant improvement in the nurse staffing situation is to be achieved within the life of the current health workforce plan, then action must be initiated without delay.

To address the particular problem of midwifery training, a number of approaches have been discussed. These include:

- "Streaming" within the three-year general nursing course - all students follow a common course for the first two years then enter either a one year general nursing stream or a one-year midwifery/child health stream. This will require some re-adjustment of the current curricula.
- The proposed one-year post-basic Diploma in Public Health Midwifery course be introduced without further delay. Both registered nurses and secondary nurses may be admitted to the PHMW training course.
- Giving priority within the MPA training program to developing midwifery knowledge and skills of secondary nurses, using teaching material from the MPA modules.

These and any other suggested approaches are to be discussed at a WHO-supported workshop on midwifery training in August 1999. Urgent action to follow-up the workshop recommendations will be called for.

Consideration has been given to developing a program to train people from the remote areas and former Khmer Rouge areas as community nurses. This program would provide a six to eight month course in basic nursing skills.

7.5 Laboratory personnel

Continuation of the current number of students entering the two-year laboratory technician course will produce a modest increase in the total number of laboratory personnel by the year 2005. However, with the rapidly increasing number of medical doctors in the health care system one would expect an increasing demand for laboratory services. It is also probable that laboratory technical staff will be offered employment in the growing private sector. It is therefore suggested that the number of students admitted annually to the TSMC laboratory technician training program be increased to thirty for the remaining period of the implementation of the current health workforce development plan.

7.6 Radiography personnel

Just as it is to be expected that the demand for high quality laboratory services will increase in the near future, one may expect an increased demand for medical imaging services (Xray, sonography, etc). It is therefore necessary to consider the introduction of a formal program for the training of radiographers. An annual intake of six to eight students would be a minimum requirement. Consideration might also be given to selecting a small number of adequately educated Cambodians to undertake out-of-country radiography training, for example at the Fiji School of Medicine - however this should not delay the introduction of the training program in Cambodia.

7.7 Other allied health personnel

Consideration might be given to the need for training and employing personnel in a number of other allied health science fields such as nutrition, medical records administration, medical librarianship and environmental health.

7.8 Other MoH employees

There is a need to up-grade and extend the knowledge and skills of staff employed in the maintenance of bio-medical equipment including laboratory equipment, X-ray equipment, ICU equipment, physical therapy equipment etc.

Administrative and managerial staff also require in-service training in MoH procedures and office management.

8. Recommendations

In the light of the findings of this review it is **RECOMMENDED** that:

8.1 Overall health workforce development policy

8.1.1 Government define policy regarding the desirable rate at which the national health workforce be permitted to increase in numbers, taking into account possible growth in both the public and private sectors of the health care system.

8.2 Human resource planning and management

8.2.1 Health workforce development plans be developed on a province by province basis within the overall framework of the national health workforce development plan.

8.2.2 Posts within MoH be appropriately designated and minimum relevant qualifications prescribed.

8.2.3 Staff establishments be defined for all services, institutions and units within MoH.

8.2.4 A high level Establishments Committee be set up to consider proposed staffing establishments and changes in establishments.

8.2.5 Current staffing levels be reviewed and so far as is practicable adjustments made to bring staffing into line with establishment numbers.

8.2.6 Projections of staffing requirements and training intakes be adjusted to reflect target establishment numbers, with allowance for necessary growth in establishments to meet changes in demands for and provision of services.

8.3 Training programs and training intakes

8.3.1 Directors of national institutes and programs and provincial health departments be consulted regarding the adequacy of their present nurse staffing levels. Levels of secondary nurse staffing and primary nurse staffing should be considered separately. In the light of these consultations decisions be made with regard to the introduction of a practical nurse training program to meet current and projected shortages of nursing personnel.

8.3.2 Intakes of new students to registered nurse training courses at the TSMC and RTCs be adjusted in the light of the consultations proposed in 7.3.1 and target establishment numbers.

8.3.3 Urgent consideration be given to meeting the need for training in midwifery and appropriate action be taken to ensure that training commences without further delay.

8.4 Training Master Plan

8.4.1 A Master Training Plan covering the years 2000-2014 be formulated taking into account the training needs projected in the Health Workforce Plan.

8.5 Non-government sector staffing - monitoring, regulation and continuing education

8.5.1 A survey of health personnel employment in the non-government sector of the health care system be carried out in 2000 (covering NGOs, private professional practice, retail pharmacy etc) to provide a baseline for monitoring future trends in employment in this sector.

8.5.2 Decisions regarding regulation of employment in the non-government sector take into account the findings of the survey recommended in 8.5.1.

8.5.3 MoH give attention to the needs of personnel working in the non-government sector when planning for continuing education of health workers.

8.6 Review of the Health Workforce Development Plan

8.6.1 The next review of the *Health Workforce Development Plan 1996-2005* be conducted in May 2001.

ANNEX A – GOVERNMENT HEALTH SECTOR STAFFING

Tables A1-A29: Government health sector staffing at 31 October 1998

Table A30: MoH staffing at 30 June 1996 and 31 October 1998

Tables A31-A33: Staffing at MoH facilities in provincial groupings – large, medium and small population provinces

TABLE A1: STAFFING AT CENTRAL MOH, BY DEPARTMENT, 31 OCTOBER 1998

Categories	Hosp. Dp	PrevCareDpt	CDC Dpt	HRD Dpt	PHI Dpt	Pers. Dpt	Finance Dp	Admin. Dpt	Drug Dpt	CMS	Relat.Ext	DGH	Total
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0	0	0		0
Pharmacist / Specialist													0
Medical Doctor / Doctorate Degree													0
Pharmacist / Doctorate Degree									2				2
Medical Doctor / Master Degree	2	3	2		3		1						11
Pharmacist/ Master Degree				1									1
Dentist / Master Degree		1											1
Medical Assistant / Master Degree											1		1
Medical Doctor	14	14	12	18	17			1		2	3	1	82
Pharmacist	3			1	1		5		57	8			75
Dentist													0
Medical Assistant		12	2	6	7	7	3	4	1	1	1	5	49
Pharmacist Assistant	1					3			5	1	1		11
Dentist Assistant		1											1
Secondary Nurse	1	30		7	2	4	3	13				2	62
Secondary Midwife	1	2		3		7	6	4			2	1	26
Secondary Lab						1		1		1			3
Secondary Nurse/ Dental nurse													0
Primary Nurse / Dental nurse													0
Secondary Nurse/ Basic eye nurse													0
Anesthetic nurse													0
Technician RX													0
Physiotherapist													0
Primary Nurse							2			1			3
Primary Midwife													0
Primary Lab				1									1
Health Agent													0
Pharmacist Preparatory											1		1
Secourist													0
Medical Traditional													0
Administrative Staff						9		6		4			19
Personnel non Techni.				1			10	8		13			32
Others		3			7	2	37	12	15	6	5	4	91
TOTAL	22	66	16	38	37	33	67	49	80	37	14	13	472

TABLE A1: STAFFING AT CENTRAL MOH, BY DEPARTMENT, 1998

TABLE A2:STAFFING AT MOH NATIONAL HOSPITALS, 31 OCTOBER 1998

Categories	Calmette	Norodom	Nat.Pediatric	Kossamak	Angduong	Kunthabopha	Total
Medical Doctor / Specialist	9	5	0	6	0	6	26
Pharmacist / Specialist	0						0
Medical Doctor / Doctorate De	0						0
Pharmacist / Doctorate Degre	2				1		3
Medical Doctor / Master Degr	2		2				4
Pharmacist/ Master Degree	0						0
Dentist / Master Degree	0						0
Medical Assistant / Master De	0						0
Medical Doctor	78	108	33	64	41	17	341
Pharmacist	7	6	5	7	4	4	33
Dentist	1	6	1	7	3		18
Medical Assistant	28	48	16	35	18	11	156
Pharmacist Assistant	1	7	3	2	2		15
Dentist Assistant	1	2	1	3	3		10
Secondary Nurse	121	223	97	200	55	139	835
SecondaryMidwife	21	77	2	13	7	4	124
Secondary Lab.	12	19	9	9	7	14	70
Secondary Nurse/ Dental nurs	1				10		11
Primary Nurse / Dental nurse	0						0
Secondary Nurse/ Basic eye n	0						0
Anesthetic nurse	5	3				2	10
Technician RX	1	1					2
Physiotherapist	2	4	1	5	1	3	16
Primary Nurse	8	34	15	19		9	85
Primary Midwife	2	2			1		5
Primary Lab	1	8	1				10
Health Agent	0	1					1
Pharmacist Preparatory	2		1	1	3		7
Secourist	0					2	2
Medical Traditional	0						0
Administrative Staff	9	14	6	11	2	2	44
Personnel non Technical	16	13	15	18	8		70
Others	13	20		2	2	3	40
TOTAL	343	601	208	402	168	216	1938

TABLE A3: STAFFING AT NATIONAL INSTITUTIONS AND CENTERS, 31 OCTOBER 1998

Categories	TB-Lep.Center	Malaria Center	MCH Center	Pasteur Inst.	NIPH	TSMC	UHS	AIDS-STD	Health Pro.	Lab. Control	Blood. T. C	Trad. Med	Drug Fact.	C Red Cross	Total
Medical Doctor / Specialist	0	0	0	0	0	0	1	3	0	0	0	0	0		4
Pharmacist / Specialist										1					1
Medical Doctor / Doctorate Degree							7								0
Pharmacist / Doctorate Degree								5	3	1		1	1		10
Medical Doctor / Master Degree		2	2		5	1		5	3						18
Pharmacist/ Master Degree															0
Dentist / Master Degree															0
Medical Assistant / Master Degree		1	1		1										3
Medical Doctor	42	18	67	4	16	9	29	39	27		7			4	262
Pharmacist	5	2	11	7	6	3	6	1	1	10	4	8	28		90
Dentist			1				19								20
Medical Assistant	22	8	36		4	11	6	6	9		2		2	2	108
Pharmacist Assistant	4	1	4			1	1			2	1	1			16
Dentist Assistant			1				10								11
Secondary Nurse	65	23	96	5	9	19	14	24	13		9		2	3	282
Secondary Midwife	1		120			8	1	3							133
Secondary Lab	14	11	9	7	21	7	7	5			2		3		93
Secondary Nurse/ Dental nurse										4					4
Primary Nurse / Dental nurse															0
Secondary Nurse/ Basic eye nurse															0
Anesthetic nurse			1												1
Technician RX															0
Physiotherapist	4					1									6
Primary Nurse	3	2	28	2	1	2					1				39
Primary Midwife															0
Primary Lab	1	1	1		4			1							8
Health Agent	1	2			1			1							6
Pharmacist Preparatory	2			4		2		1			1				10
Secourist	3	1	1												6
Medical Traditional					10							1			11
Administrative Staff	2	12	7			8	33	6	15	1	4	7	7	15	117
Personnel non Techni	8	3	17			4				4	3	13		20	72
Others	7		21	3		4	2	4		12	3	7	83	16	162
TOTAL	184	87	424	32	78	80	136	99	68	37	42	36	126	60	1489

TABLE A3 STAFFING OF MOH NATIONAL INSTITUTIONS, 1998

TABLE A4: TOTAL MOH WORKFORCE AT CENTRAL LEVEL (DEPARTMENTS,
NATIONAL HOSPITALS, INSTITUTIONS & CENTRES) 31 OCTOBER 1998

Categories	Total Personnel
Medical Doctor / Specialist	30
Pharmacist / Specialist	1
Medical Doctor / Doctorate Degree	0
Pharmacist / Doctorate Degree	15
Medical Doctor / Master Degree	33
Pharmacist/ Master Degree	1
Dentist / Master Degree	1
Medical Assistant / Master Degree	4
Medical Doctor	685
Pharmacist	198
Dentist	38
Medical Assistant	313
Pharmacist Assistant	41
Dentist Assistant	22
Secondary Nurse	1179
Secondary Midwife	283
Secondary Lab.	166
Secondary Nurse/ Dental nurse	15
Primary Nurse / Dental nurse	0
Secondary Nurse/ Basic eye nurse	0
Anesthetic nurse	11
Technician RX	2
Physiotherapist	21
Primary Nurse	127
Primary Midwife	5
Primary Lab	19
Health Agent	6
Pharmacist Preparatory	18
Secourist	7
Medical Traditional	11
Administrative Staff	180
Personnel non Techni.	174
Others	293
TOTAL	3899

TABLE A4: TOTAL MOH WORKFORCE AT CENTRAL LEVEL, 1998

TABLE A5: THE HEALTH WORKFORCE AT OTHER MINISTRIES, 1998

Categories	Ministry Industry	Ministry Rural Dev	Ministry Social Affairs	Ministry Women Affairs	Ministry Interior	Ministry Commun.	Ministry Agri.(Plant.)*	Ministry Environment*	Ministry Planning	Ministry Defense*	Total
Medical Doctor / Specialist											0
Pharmacist / Specialist											0
Medical Doctor / Doctorate Degree											0
Pharmacist / Doctorate Degree											0
Medical Doctor / Master Degree											0
Pharmacist/ Master Degree											0
Dentist / Master Degree											0
Medical Assistant / Master Degree											0
Medical Doctor	5	16	18	3	50		12	6		224	334
Pharmacist		7	3	2	8		4			27	51
Dentist		2	1		1					1	5
Medical Assistant		9	12		89		17	4		865	996
Pharmacist Assistant			1		5		4			117	127
Dentist Assistant			9		2		1			12	24
Secondary Nurse	1		7		66		35			33	142
Secondary Midwife			2		8	2	9		1	38	60
Secondary Lab.					3		1			5	9
Secondary Nurse/ Dental nurse											0
Primary Nurse / Dental nurse							9				9
Secondary Nurse/ Basic eye nurse											0
Anesthetic nurse											0
Technician RX										5	5
Physiotherapist			9							7	16
Primary Nurse			2		88	20				1569	1679
Primary Midwife			1		1	3				30	35
Primary Lab					1		6			10	17
Health Agent						1	5				6
Pharmacist Preparatory										1	1
Secourist										571	571
Medical Traditional											0
Administrative Staff					80	1				311	392
Personnel non Techni.											0
Others						1				85	86
TOTAL	6	34	65	5	402	28	103	10	1	3911	4565

* Data mid-1996

TABLE A5: HEALTH WORKFORCE AT OTHER MINISTRIES, 1998

TABLE A6: MOH STAFF IN PROVINCES - SITUATION AS AT 31 OCTOBER 1998

Categories	PHD	PH	DHO*	RH	FDH	HC(MPA)	CC	RTC	GRAND TOTAL	PRO TOTAL	DIST TOTAL	GRAND TOTAL
	23	23	66	42	116	272	878	4				
Medical Doctor / Specialist	0	8	0	0	0	0	0	0	8	8	0	8
Pharmacist / Specialist	0	0	0	0	0	0	0	0	0	0	0	0
Medical Doctor / Doctorate Degree	0	0	0	0	0	0	0	0	0	0	0	0
Pharmacist / Doctorate Degree	0	0	0	0	0	0	0	0	0	0	0	0
Medical Doctor / Master Degree	3	0	1	0	0	0	0	0	4	3	1	4
Pharmacist/ Master Degree	0	0	0	0	0	0	0	0	0	0	0	0
Dentist / Master Degree	0	0	0	0	0	0	0	0	0	0	0	0
Medical Assistant / Master Degree	0	0	0	0	0	0	0	0	0	0	0	0
Medical Doctor	169	360	103	213	55	35	8	9	952	538	414	952
Pharmacist	72	52	43	16	8	4	2	3	200	127	73	200
Dentist	6	17	1	4	0	1	0	0	29	23	6	29
Medical Assistant	227	289	120	277	213	180	66	10	1382	526	856	1382
Pharmacist Assistant	26	47	32	27	17	10	0	1	160	74	86	160
Dentist Assistant	5	56	2	31	22	3	2	0	121	61	60	121
Secondary Nurse	340	835	175	343	511	512	367	50	3133	1225	1908	3133
Secondary Midwife	163	474	53	181	243	280	132	21	1547	658	889	1547
Secondary Lab.	15	83	2	58	38	15	5	1	217	99	118	217
Secondary Nurse/ Dental nurse	3	2	4	14	11	10	2	0	46	5	41	46
Primary Nurse / Dental nurse	25	7	2	14	20	3	1	0	72	32	40	72
Secondary Nurse/ Basic eye nurse	0	10	0	0	0	0	0	0	10	10	0	10
Anesthetic nurse	0	31	0	6	0	0	0	0	37	31	6	37
Technician RX	0	16	0	4	0	0	0	0	20	16	4	20
Physiotherapist	2	31	0	4	0	0	0	0	37	33	4	37
Primary Nurse	305	580	171	293	725	873	876	11	3834	896	2938	3834
Primary Midwife	58	145	29	99	270	413	463	0	1477	203	1274	1477
Primary Lab	8	47	2	31	46	6	45	0	185	55	130	185
Health Agent	3	1	4	5	4	8	4	0	29	4	25	29
Pharmacist Preparatory	14	6	0	1	8	18	1	0	48	20	28	48
Secourist	1	1	0	4	0	2	3	0	11	2	9	11
Medical Traditional	0	0	0	0	1	0	2	0	3	0	3	3
Administrative Staff	131	53	66	7	43	8	25	2	335	186	149	335
Personnel non Techni.	47	62	31	83	120	37	114	5	499	114	385	499
Others	190	135	27	45	76	93	13	2	581	327	254	581
TOTAL	1813	3348	868	1760	2431	2511	2131	115	14977	5276	9701	14977
% Distribution	12%	22%	6%	12%	16%	17%	14%	1%	100%	35%	65%	100%

Note: * Total OD in HCPlan is 73, but here 66 because 7 provinces and municipalities have only one OD: Mondulkiri, Rattanakiri, Stung Treng, Kep, Sihanouk Vile, Preah Vihear and Pailin.

TABLE A6: MOH STAFF IN PROVINCES, 1998

TABLE A7: MOH STAFF IN STUNG TRENG PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 0	RH 0	FDH 4	HC(MPA) 0	CC 17	RTC 1	TOTAL
Medical Doctor / Specialist		1							1
Pharmacist / Specialist									0
Medical Doctor / Doctorate Degree									0
Pharmacist / Doctorate Degree									0
Medical Doctor / Master Degree									0
Pharmacist/ Master Degree									0
Dentist / Master Degree									0
Medical Assistant / Master Degree									0
Medical Doctor	3	7				3		2	15
Pharmacist	2	1						1	4
Dentist		1				1			2
Medical Assistant	7	10			5	3		3	28
Pharmacist Assistant	2	3							5
Dentist Assistant		1							1
Secondary Nurse	8	31			13	1		4	57
Secondary Midwife	4	16			7	6	1	3	37
Secondary Lab.									0
Secondary Nurse/ Dental nurse		1							1
Primary Nurse / Dental nurse					3				3
Secondary Nurse/ Basic eye nurse									0
Anesthetic nurse		1							1
Technician RX		1							1
Physiotherapist									0
Primary Nurse	3	1			15		21	2	42
Primary Midwife		6			8		8		22
Primary Lab									0
Health Agent									0
Pharmacist Preparatory									0
Secourist									0
Medical Traditional									0
Administrative Staff	8	4			15		19	1	47
Personnel non Techni.		1			1			1	3
Others		3							3
TOTAL	37	89	0	0	67	14	49	17	273

TABLE A7: MOH STAFF, STUNG TRENG PROVINCE, 1998

TABLE A8: MOH STAFF IN KAMPONG CHAM PROVINCE - SITUATION AS AT 31/03/98

Categories	PHD 1	PH 1	DHO 10	RH 9	FDH 5	HC(MPA) 31	CC 111	RTC 1	TOTAL
Medical Doctor / Specialist		1	0	0	0	0	0		1
Pharmacist / Specialist			0	0	0	0	0		0
Medical Doctor / Doctorate Degree			0	0	0	0	0		0
Pharmacist / Doctorate Degree			0	0	0	0	0		0
Medical Doctor / Master Degree	1		0	0	0	0	0		1
Pharmacist/ Master Degree			0	0	0	0	0		0
Dentist / Master Degree			0	0	0	0	0		0
Medical Assistant / Master Degree			0	0	0	0	0		0
Medical Doctor	18	24	10	51	1	1	0	2	107
Pharmacist	4	3	8	2	0	0	0		17
Dentist		2	0	1	0	0	0		3
Medical Assistant	20	13	13	57	10	5	6		124
Pharmacist Assistant	1	4	3	2	0	0	0		10
Dentist Assistant	1	1	1	4	0	0	0		7
Secondary Nurse	23	67	26	54	28	53	88	9	348
Secondary Midwife	19	46	13	25	10	20	20	4	157
Secondary Lab.	1	4	2	11	3	10	2		33
Secondary Nurse/ Dental nurse			0	6	3	7	2		18
Primary Nurse / Dental nurse			0	7	0	0	0		7
Secondary Nurse/ Basic eye nurse			0	0	0	0	0		0
Anesthetic nurse		2	0	0	0	0	0		2
Technician RX		4	0	0	0	0	0		4
Physiotherapist		1	0	0	0	0	0		1
Primary Nurse	15	32	27	38	31	61	108		312
Primary Midwife	3		8	19	18	28	77		153
Primary Lab		2	0	2	0	0	0		4
Health Agent			2	1	0	0	0		3
Pharmacist Preparatory			0	0	0	0	0		0
Secourist			0	3	0	0	3		6
Medical Traditional			0	0	0	0	0		0
Administrative Staff			11	0	0	0	0	1	12
Personnel non Techni.	6		7	15	3	5	8		44
Others	24	8	3	0	0	0	0	2	37
TOTAL	136	214	134	298	107	190	314	18	1411

TABLE A8: MOH STAFF, KAMPONG CHAM PROVINCE, 1998

TABLE A9: MOH STAFF IN PHNOM PENH PROVINCE - SITUATION AS AT 31/03/98

Categories	PHD 1	PH 1	DHO 4	RH 0	FDH 6	HC(MPA) 11	CC 8	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	14	38	13		7	16			88
Pharmacist	5	5	3		2	1			16
Dentist	1	1							2
Medical Assistant	18	27	11		17	66			139
Pharmacist Assistant	1	3	3		1	3			11
Dentist Assistant	1	5	1		5				12
Secondary Nurse	13	35	3		37	68			156
Secondary Midwife	0	26	1		18	46			91
Secondary Lab.	0	9			8	3			20
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0								0
Primary Nurse	27	27	2		34	76			166
Primary Midwife	1	3	1		14	32			51
Primary Lab	0				1				1
Health Agent	0								0
Pharmacist Preparatory	7	2			2	13			24
Secourist	1								1
Medical Traditional	0								0
Administrative Staff	3	6	1		4	5			19
Personnel non Techni.	0								0
Others	37	9	3		4	6			59
TOTAL	129	196	42	0	154	335	0	0	856

TABLE A9: MOH STAFF, PHNOM PENH PROVINCE, 1998

TABLE A10: MOH STAFF IN MONDULKIRI PROVINCE - SITUATION AS AT 31/03/1998

Categories	PHD 1	PH 1	DHO 0	RH 0	FDH 4	HC(MPA) 0	CC 14	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist / Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	5	1				1			7
Pharmacist	3								3
Dentist		1							1
Medical Assistant	13	8			2	2			25
Pharmacist Assistant		3							3
Dentist Assistant		2				2			4
Secondary Nurse	10	16			10		1		37
Secondary Midwife	1	3			2	2	1		9
Secondary Lab.									0
Secondary Nurse/ Dental nurse									0
Primary Nurse / Dental nurse		1							1
Secondary Nurse/ Basic eye nurse									0
Anesthetic nurse									0
Technician RX									0
Physiotherapist									0
Primary Nurse	3	4			21	1	2		31
Primary Midwife		1			1	2			4
Primary Lab	1	1			2				4
Health Agent									0
Pharmacist Preparatory	5								5
Secourist									0
Medical Traditional									0
Administrative Staff	1								1
Personnel non Techni	3								3
Others	2	6			8	1			17
TOTAL	47	47	0	0	46	11	4	0	155

TABLE A10 MOH STAFF, MONDULKIRI PROVINCE, 1998

TABLE A11: MOH STAFF IN BATTAMBANG PROVINCE - SITUATION AS AT 31/03/98

Categories	PHD 1	PH 1	DHO 4	RH 3	FDH 6	HC(MPA) 22	CC 47	RTC 1	TOTAL
Medical Doctor / Specialist	0	3	0	0	0	0	0	0	3
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	10	45	7	13	6			4	85
Pharmacist	5	9	4		1			1	20
Dentist	2	1							3
Medical Assistant	7	46	10	24	25	18	8	6	144
Pharmacist Assistant	1	3	3	3	4	5		1	20
Dentist Assistant	0	4		6	3	1	2		16
Secondary Nurse	45	154	29	42	61	38	21	28	418
Secondary Midwife	30	102	2	23	35	29	20	11	252
Secondary Lab.	1	9		4	3			1	18
Secondary Nurse/ Dental nurse	0	1		1	2	1			5
Primary Nurse / Dental nurse	0			3					3
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0	5		2					7
Technician RX	0								0
Physiotherapist	1	3							4
Primary Nurse	21	76	9	51	67	96	65	3	388
Primary Midwife	2	11	1	10	19	45	23		111
Primary Lab	0	17		9	9	1			36
Health Agent	1			2		3			6
Pharmacist Preparatory	0					2			2
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	10		5		4				19
Personnel non Techni.	4			6	8			4	22
Others	4	16		1	1				22
TOTAL	144	505	70	200	248	239	139	59	1604

TABLE A11: MOH STAFF, BATTAMBANG PROVINCE, 1998

TABLE A12: MOH STAFF IN SIEM REAP PROVINCE - SITUATION AS AT 31/03/98

Categories	PHD 1	PH 1	DHO 4	RH 3	FDH 11	HC(MPA) 30	CC 38	RTC 0	TOTAL
Medical Doctor / Specialist	0	2	0	0	0	0	0	0	2
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	15	25	4	13	2	1			60
Pharmacist	5	2	3	1					11
Dentist	0								0
Medical Assistant	20	11	7	10	9	2	1		60
Pharmacist Assistant	2	3	3		1				9
Dentist Assistant	1	2							3
Secondary Nurse	19	40	8	21	66	50	19		223
Secondary Midwife	21	41	1	7	28	47	8		153
Secondary Lab	0	7		2	3				12
Secondary Nurse/ Dental nurse	0			1	1				2
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0	8							8
Anesthetic nurse	0	4		2					6
Technician RX	0	1		1					2
Physiotherapist	0	3							3
Primary Nurse	9	29	5	10	59	55	20		187
Primary Midwife	5	12	2	4	9	26	5		63
Primary Lab	1	3			5		1		10
Health Agent	0								0
Pharmacist Preparatory	1								1
Secourist	0								0
Medical Traditional	0				1				1
Administrative Staff	2			2		3			7
Personnel non Techni.	2		2	1	2	1			8
Others	1	6				2			9
TOTAL	104	199	35	75	186	187	54	0	340

TABLE A12: MOH STAFF, SIEM REAP PROVINCE, 1998

TABLE A13: MOH STAFF IN PREAH VIHEAR PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 0	RH 0	FDH 6	HC(MPA) 0	CC 26	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	2			12					14
Pharmacist	2								2
Dentist	0			1					1
Medical Assistant	4			14	3				21
Pharmacist Assistant	2			2					4
Dentist Assistant	0			1					1
Secondary Nurse	10			13	19				42
Secondary Midwife	3			16	5				24
Secondary Lab.	1								1
Secondary Nurse/ Dental nurse	0			1	1				2
Primary Nurse / Dental nurse	0			1	3				4
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0			1					1
Physiotherapist	0								0
Primary Nurse	2				29				31
Primary Midwife	1			7	23				31
Primary Lab	0			4	3				7
Health Agent	0								0
Pharmacist Preparatory	0			1	5				6
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	6				6				12
Personnel non Techni.	0				13				13
Others	1			3					4
TOTAL	34	0	0	77	110	0	0	0	221

TABLE A13: MOH STAFF, PREAH VIHEAR PROVINCE, 1998

TABLE A14: MOH STAFF IN KRATIE PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 2	RH 1	FDH 4	HC(MPA) 5	CC 40	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	4	14	1	3	1				23
Pharmacist	3								3
Dentist	0								0
Medical Assistant	10	14	3	5	7				39
Pharmacist Assistant	2	2	2		1				7
Dentist Assistant	0	2		1					3
Secondary Nurse	9	28	3	7	16	11	12		86
Secondary Midwife	2	17	1	4	10	8	6		48
Secondary Lab.	0	3		1					4
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0								0
Primary Nurse	10	32	7	6	30	18	37		140
Primary Midwife	2	7		3	8	6	6		32
Primary Lab	0								0
Health Agent	0								0
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	12	6	2	1	6		1		28
Personnel non Techni.	0								0
Others	3	5		1					9
TOTAL	57	130	19	32	79	43	62	0	422

TABLE A14: MOH STAFF, KRATIE PROVINCE, 1998

TABLE A15: MOH STAFF IN KOH KONG PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 2	RH 1	FDH 5	HC(MPA) 0	CC 29	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	2	12	5	5	1				25
Pharmacist	1	1	1						3
Dentist	0	1							1
Medical Assistant	8	5	1	10	8				32
Pharmacist Assistant	1	4	1		1				7
Dentist Assistant	1	2							3
Secondary Nurse	12	7	2		21				42
Secondary Midwife	7	7		2	7				23
Secondary Lab.	0	2			2				4
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0				1				1
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0								0
Primary Nurse	6	1		5	9				21
Primary Midwife	3	7		5	3				18
Primary Lab	0				1				1
Health Agent	0								0
Pharmacist Preparatory	0	1							1
Secourist	0	1		1					2
Medical Traditional	0								0
Administrative Staff	0								0
Personnel non Techni.	0				1				1
Others	5	1							6
TOTAL	46	52	10	28	55	0	0	0	191

TABLE A15: MOH STAFF, KOH KONG PROVINCE, 1998

TABLE A16: MOH STAFF IN BANTEAY MEANCHEY PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 3	RH 2	FDH 6	HC(MPA) 25	CC 28	RTC	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	7	22	9	2	10	1			51
Pharmacist	3	2	1	1	1				8
Dentist	0	1							1
Medical Assistant	12	15	4	1	38	5			75
Pharmacist Assistant	1	3		1	5				10
Dentist Assistant	0	4		2	4				10
Secondary Nurse	25	52	10	22	55	63			227
Secondary Midwife	14	35	3	4	38	26			120
Secondary Lab.	2	3		1	1				7
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0	4							4
Technician RX	0								0
Physiotherapist	0	5							5
Primary Nurse	10	48	10	36	101	136			341
Primary Midwife	0	10	2	7	26	66			111
Primary Lab	2	6		2	9	1			20
Health Agent	2	1		1	4	2			10
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	1	1							2
Personnel non Techni.	4	10		8	4				26
Others	17	3	4	19	28	15			86
TOTAL	100	225	43	107	324	315	0	0	1114

TABLE A16: MOH STAFF BANTEAY MEANCHEY PROVINCE, 1998

TABLE A17: MOH STAFF IN PAILIN PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD	PH	DHO	RH	FDH	HC(MPA)	CC	RTC	TOTAL
	1	1	0	0	0	0	0	0	
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	3	3			1				7
Pharmacist	0								0
Dentist	0								0
Medical Assistant	1	9			8				18
Pharmacist Assistant	3	2							5
Dentist Assistant	0	1							1
Secondary Nurse	0	8							8
Secondary Midwife	0	7			2				9
Secondary Lab.	2								2
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0	6							6
Technician RX	0	1							1
Physiotherapist	0								0
Primary Nurse	0	30			14				44
Primary Midwife	0	9			1				10
Primary Lab	0	4			1				5
Health Agent	0								0
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	8								8
Personnel non Techni.	0	9							9
Others	5	7							12
TOTAL	22	96	0	0	27	0	0	0	145

TABLE A17: MOH STAFF, PAILIN PROVINCE, 1998

TABLE A18: MOH STAFF IN SIHANOUK VILLE PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 0	RH 0	FDH 2	HC(MPA) 4	CC 4	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	1								1
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	11	18			3	2	4		38
Pharmacist	11	3							14
Dentist	0	1							1
Medical Assistant	22	4			3	4			33
Pharmacist Assistant	3	3			1				7
Dentist Assistant	0	3			1				4
Secondary Nurse	8	30			11	10	13		72
Secondary Midwife	6	19			1	1	10		37
Secondary Lab.	2	6							8
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0	1							1
Primary Nurse	8	18			9	14	10		59
Primary Midwife	1	8			4	5	9		27
Primary Lab	0								0
Health Agent	0								0
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	0								0
Personnel non Techni.	0								0
Others	5	7			1	3	2		18
TOTAL	78	121	0	0	34	39	48	0	320

TABLE A18: MOH STAFF SIHANOUK VILLE PROVINCE 1998

TABLE A19: MOH STAFF IN KEP PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD	PH	DHO	RH	FDH	HC(MPA)	CC	RTC	TOTAL
	1	1		0	0	0	5	0	
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	1	4							5
Pharmacist	0	1							1
Dentist	0								0
Medical Assistant	1	3							4
Pharmacist Assistant	0								0
Dentist Assistant	0								0
Secondary Nurse	3	2							5
Secondary Midwife	0	3							3
Secondary Lab.	0	2							2
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0								0
Primary Nurse	0	2					5		7
Primary Midwife	0	1					1		2
Primary Lab	0								0
Health Agent	0								0
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	1								1
Personnel non Techni.	0	4							4
Others	0	1							1
TOTAL	6	23	0	0	0	0	6	0	35

TABLE A19: MOH STAFF, KEP PROVINCE, 1998

TABLE A20: MOH STAFF IN TAKEO PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 5	RH 4	FDH 5	HC(MPA) 18	CC 63	RTC 0	TOTAL
Medical Doctor / Specialist	0		0	0	0	0	0	0	0
Pharmacist / Specialist	0		0	0	0	0	0	0	0
Medical Doctor / Doctorate Degree	0		0	0	0	0	0	0	0
Pharmacist / Doctorate Degree	0		0	0	0	0	0	0	0
Medical Doctor / Master Degree	0		1	0	0	0	0	0	1
Pharmacist/ Master Degree	0		0	0	0	0	0	0	0
Dentist / Master Degree	0		0	0	0	0	0	0	0
Medical Assistant / Master Degree	0		0	0	0	0	0	0	0
Medical Doctor	15	13	7	16	1	0	3		55
Pharmacist	3	3	4	3	0	0	0		13
Dentist	1		0	1	0	0	0		2
Medical Assistant	24	8	14	29	7	6	6		94
Pharmacist Assistant	0	1	4	4	0	0	0		9
Dentist Assistant	1	2	0	3	0	0	0		6
Secondary Nurse	23	46	15	15	12	11	58		180
Secondary Midwife	6	14	0	9	4	7	16		56
Secondary Lab.	0	9	0	7	1	0	1		18
Secondary Nurse/ Dental nurse	0		0	1	0	0	0		1
Primary Nurse / Dental nurse	0		0	0	0	0	0		0
Secondary Nurse/ Basic eye nurse	0		0	0	0	0	0		0
Anesthetic nurse	0	2	0	0	0	0	0		2
Technician RX	0	3	0	0	0	0	0		3
Physiotherapist	0	3	0	0	0	0	0		3
Primary Nurse	27	33	13	15	22	19	101		230
Primary Midwife	2	3	0	4	6	8	30		53
Primary Lab	0		0	3	1	0	0		4
Health Agent	0		1	0	0	2	2		5
Pharmacist Preparatory	0		0	0	0	0	0		0
Secourist	0		0	0	0	0	0		0
Medical Traditional	0		0	0	0	0	0		0
Administrative Staff	26	3	6	0	0	0	0		35
Personnel non Techni.	0	9	7	0	3	1	11		31
Others	8	5	0	0	1	3	2		19
TOTAL	136	157	72	110	58	57	230	0	820

TABLE A20: MOH STAFF TAKEO PROVINCE 1998

TABLE A21: MOH STAFF IN RATTANAKIRI PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 0	RH 0	FDH 8	HC(MPA) 1	CC 21	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	7	6							13
Pharmacist	0	2							2
Dentist	0	1							1
Medical Assistant	8	6							14
Pharmacist Assistant	2				1				3
Dentist Assistant	0	2							2
Secondary Nurse	12	11			16	2			41
Secondary Midwife	0	7			5		1		13
Secondary Lab.	0	2							2
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0	1			7				8
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0								0
Primary Nurse	0								0
Primary Midwife	10				38	3	51		102
Primary Lab	1	6			9	2	39		57
Health Agent	0								0
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	0								0
Personnel non Techni.	0								0
Others	8	13			18	1	1		41
TOTAL	48	57	0	0	94	8	92	0	299

TABLE A21: MOH STAFF, RATTANAKIRI PROVINCE, 1998

TABLE A22: MOH STAFF IN PURSAT PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD	PH	DHO	RH	FDH	HC(MPA)	CC	RTC	TOTAL
	1	1	2	1	3	18	21	0	
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	1								1
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	1	9	3	12	4				29
Pharmacist	1	1	2	1					5
Dentist	0	1		1					2
Medical Assistant	3	12	3	12	9	4	2		45
Pharmacist Assistant	0		1	1					2
Dentist Assistant	0	2		2	1				5
Secondary Nurse	10	50	11	43	34	45	18		211
Secondary Midwife	0	35	4	33	12	17	10		111
Secondary Lab.	0	2		3	2				7
Secondary Nurse/ Dental nurse	0			1					1
Primary Nurse / Dental nurse	25	4							29
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0			2					2
Technician RX	0	3		2					5
Physiotherapist	0	4		4					8
Primary Nurse	0			1	12	14	8		35
Primary Midwife	0	2			11	12	7		32
Primary Lab	0	3		6	3	1	1		14
Health Agent	0								0
Pharmacist Preparatory	0	1				2			3
Secourist	0					2			2
Medical Traditional	0								0
Administrative Staff	0		2	3	1		1		7
Personnel non Techni.	0		1	11	3		2		17
Others	3	7		5		15			30
TOTAL	44	136	27	143	92	112	49	0	603

TABLE A23: MOH STAFF IN PREY VENG PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD	PH	DHO	RH	FDH	HC(MPA)	CC	RTC	TOTAL
	1	1	7	5	6	17	82	0	
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	3	9	3	25					40
Pharmacist	2	2	4	2					10
Dentist	1								1
Medical Assistant	5	13	13	41	14	13	17		116
Pharmacist Assistant	1	2	2	4					9
Dentist Assistant	0	3		1	2				6
Secondary Nurse	6	20	4	26	11	10	53		130
Secondary Midwife	2	10	3	16	3	5	9		48
Secondary Lab.	1	4		6	1				12
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0	2							2
Primary Nurse	26	28	33	54	37	35	209		422
Primary Midwife	6	24	4	17	25	15	97		188
Primary Lab	0	1					1		2
Health Agent	0								0
Pharmacist Preparatory	0	1							1
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	24		9						33
Personnel non Techni.	0	9	5	15	12	5	30		76
Others	0			2			1		3
TOTAL	77	128	80	209	105	83	417	0	1099

TABLE A23: MOH STAFF, PREY VENG PROVINCE, 1998

TABLE A24: MOH STAFF IN SVAY RIENG PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 3	RH 1	FDH 5	HC(MPA) 22	CC 20	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacists / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacists / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacists/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	7	21	5	8	1	1			43
Pharmacist	3	2	1						6
Dentist	0	1							1
Medical Assistant	5	12	1	11	7				36
Pharmacist Assistant	0	3		1					4
Dentist Assistant	0	5							5
Secondary Nurse	10	31	5	17	13	35			111
Secondary Midwife	5	9	2	4	6	11			37
Secondary Lab.	1	2		2	1				6
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0	2							2
Primary Nurse	29	34	2	16	48	108	10		247
Primary Midwife	3	10		1	3	23	5		45
Primary Lab	0			1					1
Health Agent	0								0
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	0								0
Personnel non Techni.	0								0
Others	10	5	3	2	1				21
TOTAL	73	137	19	63	80	178	15	0	565

TABLE A24: MOH STAFF SVAY RIENG PROVINCE, 1998

TABLE A25: MOH STAFF IN KAMPONG SPEU PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 3	RH 2	FDH 3	HC(MPA) 20	CC 54	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	7	25	5	13	1	1			52
Pharmacist	4	4	2	1					11
Dentist	0	1							1
Medical Assistant	6	14	7	20	1	9	3		60
Pharmacist Assistant	2		2	2	1				7
Dentist Assistant	0	6		2					8
Secondary Nurse	25	28	13	11	8	27	11		123
Secondary Midwife	1	14	4	4	6	13	7		49
Secondary Lab.	0	5		3			2		10
Secondary Nurse/ Dental nurse	0								0
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0								0
Physiotherapist	0	2							2
Primary Nurse	40	56	16	17	51	67	55		302
Primary Midwife	0	5	2	3	3	15	6		34
Primary Lab	0								0
Health Agent	0								0
Pharmacist Preparatory	0	1			1		1		3
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	0								0
Personnel non Techni.	0								0
Others	5	4	5	2	4	7	3		30
TOTAL	90	165	56	78	76	139	88	0	692

TABLE A25: MOH STAFF, KAMPONG SPEU PROVINCE, 1998

TABLE A26: MOH STAFF IN KAMPONG CHHANG PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 2	RH 1	FDH 5	HC(MPA) 10	CC 46	RTC 0	TOTAL
Medical Doctor / Specialist	0	1	0	0	0	0	0	0	1
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	4	8	11	5	3				31
Pharmacist	2	3	2						7
Dentist	0		1						1
Medical Assistant	4	7	9	7	10	6			43
Pharmacist Assistant	1	1	1	2					5
Dentist Assistant	0	1		1					2
Secondary Nurse	31	34	14	6	21	14	4		124
Secondary Midwife	14	12	4	1	16	10	2		59
Secondary Lab.	0			3	2				5
Secondary Nurse/ Dental nurse	0				1				1
Primary Nurse / Dental nurse	0	1		1	5				7
Secondary Nurse/ Basic eye nurse	0	2							2
Anesthetic nurse	0	2							2
Technician RX	0								0
Physiotherapist	1	1							2
Primary Nurse	36	32	6	3	47	58	50		232
Primary Midwife	7	7	2	3	17	39	33		108
Primary Lab	2								2
Health Agent	0								0
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	0								0
Personnel non Techni.	10	5	2		11		3		31
Others	18	8							26
TOTAL	130	125	52	32	133	127	92	0	691

TABLE 26: MOH STAFF KAMPON CHHANG PROVINCE 1998

TABLE A27: MOH STAFF IN KANDAL PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 8	RH 4	FDH 14	HC(MPA) 18	CC 98	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	13	30	12	16	11	6	1		89
Pharmacist	6	4	3	1	3	2	2		21
Dentist	0	2							2
Medical Assistant	5	16	15	23	22	22	18		121
Pharmacist Assistant	0	4	4	5	1	2			16
Dentist Assistant	0	4		6	5				15
Secondary Nurse	17	38	17	33	38	38	46		227
Secondary Midwife	6	15	5	15	16	9	17		83
Secondary Lab.	0	6		8	6	2			22
Secondary Nurse/ Dental nurse	0			2		2			4
Primary Nurse / Dental nurse	0								0
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0	4							4
Technician RX	0	1							1
Physiotherapist	0	1							1
Primary Nurse	11	47	25	18	46	63	91		301
Primary Midwife	2	2	3	7	15	31	54		114
Primary Lab	1		2	1	2		2		8
Health Agent	0			1			2		3
Pharmacist Preparatory	0								0
Secourist	0								0
Medical Traditional	0						1		1
Administrative Staff	11	33	17	1	4		4		70
Personnel non Techni.	8		5	1	21	4	16		55
Others	1	4	4	6	7	8	4		34
TOTAL	81	211	112	144	197	189	258	0	1192

TABLE A27: MOH STAFF, KANDAL PROVINCE, 1998

TABLE A28: MOH STAFF IN KAMPONG THOM PROVINCE - SITUATION AS AT 31/10/1998

Categories	PHD 1	PH 1	DHO 3	RH 2	FDH 5	HC(MPA) 10	CC 53	RTC 0	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	11	13	4	14	2				44
Pharmacist	3	1	4						8
Dentist	1	1							2
Medical Assistant	9	12	3	11	8	8	5		56
Pharmacist Assistant	0	1	1						2
Dentist Assistant	0	2		1	1				4
Secondary Nurse	7	41	6	15	11	16	15		111
Secondary Midwife	4	18	4	13	11	9	3		62
Secondary Lab.	3	5		3	4				15
Secondary Nurse/ Dental nurse	0				3				3
Primary Nurse / Dental nurse	0			2	1	3	1		7
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0	1							1
Technician RX	0								0
Physiotherapist	0	2							2
Primary Nurse	12	17	5	6	37	41	67		185
Primary Midwife	6	13	3	7	15	30	46		120
Primary Lab	0						1		1
Health Agent	0		1			1			2
Pharmacist Preparatory	0					1			1
Secourist	0								0
Medical Traditional	0						1		1
Administrative Staff	6		8		3				17
Personnel non Techni.	8	15	1	15	26	15	28		108
Others	18	5	4	2	3				32
TOTAL	88	147	44	89	125	124	167	0	784

TABLE A28: MOH STAFF KAMPONG THOM PROVINCE 1998

TABLE A29: MOH STAFF IN KAMPOT PROVINCE - SITUATION AS AT 31/10/98

Categories	PHD 1	PH 1	DHO 4	RH 3	FDH 3	HC(MPA) 10	CC 53	RTC 1	TOTAL
Medical Doctor / Specialist	0	0	0	0	0	0	0	0	0
Pharmacist / Specialist	0								0
Medical Doctor / Doctorate Degree	0								0
Pharmacist / Doctorate Degree	0								0
Medical Doctor / Master Degree	0								0
Pharmacist/ Master Degree	0								0
Dentist / Master Degree	0								0
Medical Assistant / Master Degree	0								0
Medical Doctor	6	13	4	5		2		1	31
Pharmacist	4	3	1	4	1	1		1	15
Dentist	0	1							1
Medical Assistant	15	24	6	2		7		1	55
Pharmacist Assistant	1	2	2						5
Dentist Assistant	0	2		1					3
Secondary Nurse	14	66	9	18	10	20	8	9	154
Secondary Midwife	18	18	6	5	1	14	1	3	66
Secondary Lab.	1	3		4	1				9
Secondary Nurse/ Dental nurse									0
Primary Nurse / Dental nurse	0		2						2
Secondary Nurse/ Basic eye nurse	0								0
Anesthetic nurse	0								0
Technician RX	0	2							2
Physiotherapist	0	1							1
Primary Nurse	10	33	11	17	6	31	16	1	125
Primary Midwife	4	4	1	2	3	27	5		46
Primary Lab	0	4		3		1			8
Health Agent	0								3
Pharmacist Preparatory	1								1
Secourist	0								0
Medical Traditional	0								0
Administrative Staff	12		5						17
Personnel non Techni.	2		1	11	12	6	16		46
Others	15	12	1	2		32			62
TOTAL	103	188	49	74	34	141	46	16	651

TABLE A29: MOH STAFF, KAMPOT PROVINCE, 1998

TABLE A30: MINISTRY OF HEALTH STAFF 1996 AND 1998

Categories	Central			Province*			Operational District			Total MOH Staff		
	1996	1998	% increase	1996	1998	% increase	1996	1998	% increase	1996	1998	% increase
Medical Doctor	564	748	32.6	475	549	15.6	208	414	99.0	1247	1711	37.2
Pharmacist	201	215	7.0	108	127	17.6	18	73	305.6	327	415	26.9
Dentist	43	39	-9.3	19	23	21.1	2	6	200.0	64	68	6.3
Medical Assistant	328	317	-3.4	533	526	-1.3	597	856	43.4	1458	1699	16.5
Pharmacist Assistant	29	41	41.4	81	74	-8.6	59	86	45.8	169	201	18.9
Dentist Assistant	16	22	37.5	66	61	-7.6	43	60	39.5	125	143	14.4
Secondary Nurse	1226	1179	-3.8	1322	1271	-3.9	1431	1908	33.3	3979	4358	9.5
Secondary Midwife	288	283	-1.7	730	658	-9.9	688	889	29.2	1706	1830	7.3
Secondary Lab.	171	192	12.3	91	99	8.8	72	118	63.9	334	409	22.5
Technician RX	9	2	-77.8	10	16	60.0	1	4	300.0	20	22	10.0
Physiotherapist	19	21	10.5	31	33	6.5	3	4	33.3	53	58	9.4
Primary Nurse	152	127	-16.4	1135	928	-18.2	3143	2938	-6.5	4430	3993	-9.9
Primary Midwife	7	5	-28.6	316	203	-35.8	1192	1274	6.9	1515	1482	-2.2
Primary Lab	19	19	0.0	69	55	-20.3	79	130	64.6	167	204	22.2
Health Agent	10	6	-40.0	14	4	-71.4	14	25	78.6	38	35	-7.9
Pharmacist Preparatory	13	18	38.5	24	20	-16.7	28	28	0.0	65	66	1.5
Secourist	10	7	-30.0	3	2	-33.3	2	9	350.0	15	18	20.0
Medical Traditional	2	11	450.0	0	0	0.0	16	3	-81.3	18	14	-22.2
Administrative Staff	242	180	-25.6	434	186	-57.1	476	149	-68.7	1152	515	-55.3
Personnel non Techni.	25	174	596.0	17	114	570.6	215	385	79.1	257	673	161.9
Others	428	293	-31.5	289	327	13.1	377	254	-32.6	1094	874	-20.1
TOTAL	3802	3899	2.6	5767	5276	-8.5	8664	9701	12.0	18233	18876	3.5

* Provincial Hospital Staff included in this level

TABLE A31: TOTAL & AVERAGE NUMBERS OF MOH STAFF IN 7 LARGE PROVINCES AS AT 31/10/98

Categories	PHD	PH	DHO	RH	FDH	HC	CC	RTC	TOTAL
Medical Doctor / Specialist	0	6	0	0	0	0	0	0	6
Pharmacist / Specialist	0	0	0	0	0	0	0	0	0
Medical Doctor / Doctorate Degree	0	0	0	0	0	0	0	0	0
Pharmacist / Doctorate Degree	0	0	0	0	0	0	0	0	0
Medical Doctor / Master Degree	1	0	1	0	0	0	0	0	2
Pharmacist/ Master Degree	0	0	0	0	0	0	0	0	0
Dentist / Master Degree	0	0	0	0	0	0	0	0	0
Medical Assistant / Master Degree	0	0	0	0	0	0	0	0	0
Medical Doctor	88	184	56	134	28	24	4	6	570
Pharmacist	30	28	29	9	6	3	2	1	117
Dentist	5	6	0	2	0	0	0	0	15
Medical Assistant	99	134	83	184	104	132	56	6	843
Pharmacist Assistant	6	20	22	18	7	10	0	1	89
Dentist Assistant	4	21	2	20	15	1	2	0	70
Secondary Nurse	146	400	102	191	253	268	285	37	1776
Secondary Midwife	84	254	25	95	114	163	90	15	896
Secondary Lab.	3	48	2	38	25	15	3	1	144
Secondary Nurse/ Dental nurse	0	1	0	11	6	10	2	0	31
Primary Nurse / Dental nurse	0	0	0	10	0	0	0	0	10
Secondary Nurse/ Basic eye nurse	0	8	0	0	0	0	0	0	9
Anesthetic nurse	0	17	0	4	0	0	0	0	24
Technician RX	0	9	0	1	0	0	0	0	11
Physiotherapist	1	13	0	0	0	0	0	0	16
Primary Nurse	136	272	114	186	296	405	594	3	2083
Primary Midwife	21	55	19	61	106	185	286	0	750
Primary Lab	2	23	2	15	18	1	4	0	70
Health Agent	1	0	3	4	0	5	4	0	17
Pharmacist Preparatory	8	3	0	0	2	15	0	0	30
Secourist	1	0	0	3	0	0	3	0	7
Medical Traditional	0	0	0	0	1	0	1	0	2
Administrative Staff	76	42	49	3	12	8	4	1	213
Personnel non Techni.	20	18	26	38	49	16	65	4	245
Others	75	48	10	9	13	19	7	2	202
TOTAL	807	1610	545	1036	1055	1280	1412	77	8249
Average total number of personnel	115	230	13	37	20	9	3	39	

Province	Pop
Battambang	791,958
Takeo	789,710
Siem Reap	695,485
Kandal	1,073,586
PPenh	997,986
K. Cham	1,607,913
Prey Veng	945,129
Total	6,901,767
Average pop	985,967

TABLE A31: STAFFING OF FACILITIES, 7 LARGE POPULATION PROVINCES

TABLE A32: TOTAL & AVERAGE NUMBERS OF MOH STAFF IN 7 MEDIUM PROVINCES AS AT 31/10/98

Categories	PHD		PH		DHO		RH		FDH		HC		CC		RTC		TOTAL
	7		7		7		12		30		115		275		1		
Number of facilities	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	
Personnel																	
Medical Doctor / Specialist	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1
Pharmacist / Specialist	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Pharmacist / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor / Master Degree	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1
Pharmacist/ Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Dentist / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Assistant / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor	43	6.1	111	15.9	41	5.9	59	4.9	21	0.7	5	0.0	0	0.0	1	1.0	315
Pharmacist	20	2.9	16	2.3	13	1.9	7	0.6	2	0.1	1	0.0	0	0.0	1	1.0	60
Dentist	1	0.1	6	0.9	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	10
Medical Assistant	54	7.7	96	13.7	33	4.7	64	5.3	73	2.4	39	0.3	10	0.0	1	1.0	404
Pharmacist Assistant	5	0.7	10	1.4	7	1.0	7	0.6	6	0.2	0	0.0	0	0.0	0	0.0	39
Dentist Assistant	0	0.0	22	3.1	0	0.0	9	0.8	6	0.2	0	0.0	0	0.0	0	0.0	41
Secondary Nurse	122	17.4	302	43.1	68	9.7	132	11.0	152	5.1	220	1.9	56	0.2	9	9.0	1149
Secondary Midwife	56	8.0	141	20.1	27	3.9	64	5.3	90	3.0	100	0.9	23	0.1	3	3.0	545
Secondary Lab	7	1.0	20	2.9	0	0.0	19	1.6	11	0.4	0	0.0	2	0.0	0	0.0	65
Secondary Nurse/ Dental nurse	0	0.0	0	0.0	0	0.0	1	0.1	4	0.1	0	0.0	0	0.0	0	0.0	5
Primary Nurse / Dental nurse	25	3.6	5	0.7	2	0.3	3	0.3	6	0.2	3	0.0	1	0.0	0	0.0	50
Secondary Nurse/ Basic eye nurse	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2
Anesthetic nurse	0	0.0	7	1.0	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	10
Technician RX	0	0.0	5	0.7	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	8
Physiotherapist	1	0.1	17	2.4	0	0.0	4	0.3	0	0.0	0	0.0	0	0.0	0	0.0	25
Primary Nurse	137	19.6	220	31.4	50	7.1	96	8.0	302	10.1	455	4.0	206	0.7	1	1.0	1548
Primary Midwife	20	2.9	51	7.3	10	1.4	23	1.9	78	2.6	212	1.8	102	0.4	0	0.0	514
Primary Lab	4	0.6	13	1.9	0	0.0	12	1.0	12	0.4	3	0.0	2	0.0	0	0.0	50
Health Agent	2	0.3	1	0.1	1	0.1	1	0.1	4	0.1	3	0.0	0	0.0	0	0.0	13
Pharmacist Preparatory	1	0.1	2	0.3	0	0.0	0	0.0	1	0.0	3	0.0	1	0.0	0	0.0	8
Secourist	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	2
Medical Traditional	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	1
Administrative Staff	19	2.7	1	0.1	15	2.1	3	0.3	4	0.1	0	0.0	1	0.0	0	0.0	48
Personnel non Techni.	24	3.4	30	4.3	5	0.7	45	3.8	56	1.9	21	0.2	49	0.2	0	0.0	244
Others	86	12.3	44	6.3	17	2.4	32	2.7	36	1.2	69	0.6	3	0.0	0	0.0	312
TOTAL	628	89.7	1123	160.4	290	41.4	586	48.8	864	28.8	1136	9.9	457	1.7	16	16.0	5481
Average total number of personnel	90		160		41		49		29		10		2		16		

Province	Pop
Kg Chhnang	416999
Svay Rieng	478099
Kg Thom	568454
BMeanChey	577300
Pursat	360291
Kampot	527904
Kg Speu	598101
Total	3527148
Average pop	503878

TABLE A32: STAFFING OF FACILITIES, 7 MEDIUM POPULATION PROVINCES

TABLE A33: TOTAL & AVERAGE NUMBERS OF MOH STAFF IN 9 SMALL PROVINCES AS AT 31/10/98

Categories	PHD		PH		DHO		RH		FDH		HC		CC		RTC		TOTAL
	9		9		4		2		33		10		156		1		
Number of facilities																	
Personnel	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number
Medical Doctor / Specialist	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1
Pharmacist / Specialist	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Pharmacist / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor / Master Degree	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1
Pharmacist/ Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Dentist / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Assistant / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor	38	4.2	65	7.2	6	1.5	20	10.0	6	0.2	6	0.6	4	0.0	2	2.0	147
Pharmacist	22	2.4	8	0.9	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	1	1.0	32
Dentist	0	0.0	5	0.6	0	0.0	1	0.5	0	0.0	1	0.1	0	0.0	0	0.0	7
Medical Assistant	74	8.2	59	6.6	4	1.0	29	14.5	36	1.1	9	0.9	0	0.0	3	3.0	214
Pharmacist Assistant	15	1.7	17	1.9	3	0.8	2	1.0	4	0.1	0	0.0	0	0.0	0	0.0	41
Dentist Assistant	1	0.1	13	1.4	0	0.0	2	1.0	1	0.0	2	0.2	0	0.0	0	0.0	19
Secondary Nurse	72	8.0	133	14.8	5	1.3	20	10.0	106	3.2	24	2.4	26	0.2	4	4.0	390
Secondary Midwife	23	2.6	79	8.8	1	0.3	22	11.0	39	1.2	17	1.7	19	0.1	3	3.0	203
Secondary Lab.	5	0.6	15	1.7	0	0.0	1	0.5	2	0.1	0	0.0	0	0.0	0	0.0	23
Secondary Nurse/ Dental nurse	0	0.0	1	0.1	0	0.0	1	0.5	1	0.0	0	0.0	0	0.0	0	0.0	3
Primary Nurse / Dental nurse	0	0.0	2	0.2	0	0.0	1	0.5	14	0.4	0	0.0	0	0.0	0	0.0	17
Secondary Nurse/ Basic eye nurse	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Anesthetic nurse	0	0.0	7	0.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7
Technician RX	0	0.0	2	0.2	0	0.0	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	3
Physiotherapist	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1
Primary Nurse	32	3.6	88	9.8	7	1.8	11	5.5	127	3.8	33	3.3	75	0.5	2	2.0	375
Primary Midwife	17	1.9	39	4.3	0	0.0	15	7.5	86	2.6	16	1.6	75	0.5	0	0.0	248
Primary Lab	2	0.2	11	1.2	0	0.0	4	2.0	16	0.5	2	0.2	39	0.3	0	0.0	74
Health Agent	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Pharmacist Preparatory	5	0.6	1	0.1	0	0.0	1	0.5	5	0.2	0	0.0	0	0.0	0	0.0	12
Secourist	0	0.0	1	0.1	0	0.0	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	2
Medical Traditional	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Administrative Staff	36	4.0	10	1.1	2	0.5	1	0.5	27	0.8	0	0.0	20	0.1	1	1.0	97
Personnel non Techni.	3	0.3	14	1.6	0	0.0	0	0.0	15	0.5	0	0.0	0	0.0	1	1.0	33
Others	29	3.2	43	4.8	0	0.0	4	2.0	27	0.8	5	0.5	3	0.0	0	0.0	111
TOTAL	375	41.7	615	68.3	29	7.3	137	88.6	512	15.6	115	11.5	261	1.7	17	17.0	2275
Average total number of personnel	42		68		7		69		16		12		2		17		

Province	Popn
St Treng	80,978
Rattanakiri	94,188
Mondulakiri	32,392
Kratie	262,945
Pailin	22,844
Sihanouk Ville	155,376
Kep	28,677
Koh Kong	131,912
Preah Vihear	119,160
Total	928,472
Average pop	103,164

TABLE A33: STAFFING OF FACILITIES, 9 SMALL POPULATION PROVINCES

ANNEX B – HEALTH PERSONNEL TRAINING PROGRAMS CAMBODIA

Table 1 – Pre-service Education

Table 2 – Post-basic and Post-graduate Education

Table.3 – In-service Training

Education of Health Personnel in Cambodia, 1999

Table 1. Pre-service Education

Institution & Course	Qualification Level	Duration of Course	Comments
Faculties of Medicine, Pharmacy & Dentistry, University of Health Science			
Medical Doctor	Diploma (Degree)	7 years (or MA + 4 years)	Medical Assistant training ceased in 1994 <i>Supported by Cooperation Francaise</i>
Pharmacist	Diploma (Degree)	5 years	Pharmacist Assistant training ceased in 1994 <i>Supported by Cooperation Francaise</i>
Dentist	Diploma (Degree)	7 years (or DA + 4 years)	Dental Assistant training ceased in 1994 <i>Supported by Cooperation Francaise</i>
Technical School for Medical Care, UHS			
Registered Nurse	Diploma (RN)	3 years	Introduced in 1996
Secondary Nurse	Diploma	Primary Nurse + 2 years	Primary Nurse training ceased in 1988
Secondary Midwife	Diploma	Primary Midwife + 2 years	Primary Midwife training ceased in 1988
Secondary Laboratory Technician	Diploma	2 years	Duration reduced from 3 to 2 years in 1999 <i>Supported by MSF Holland/Belgium</i>
Physiotherapist	Diploma	3 years	<i>Supported by Handicap International</i>
Regional Training Schools			
Registered Nurse	Diploma (RN)	3 years	Introduced in 1996
Secondary Nurse	Diploma	Primary Nurse + 2 years	Primary Nurse training ceased 1988
Secondary Midwife	Diploma	Primary Midwife + 2 years	Primary Midwife training ceased 1988

Table 2: Post-graduate and post-basic education

Institution & Course	Qualification Level	Duration of Course	Comments
Faculties of Medicine, Pharmacy & Dentistry, UHS			
Physician Anaesthetist (CESAR)	Diploma	2 years	<i>Support from Cooperation Francaise</i>
Internal Medicine	Specialist Diploma	3 – 4 years	Commenced 1998
Surgery	Specialist Diploma	3 – 4 years	2 – 3 years of training in Cambodia followed by 6 months – 1 year of training overseas. <i>Support from Cooperation Francaise</i>
Obstetrics & Gynaecology	Specialist Diploma	3 – 4 years	
Paediatrics	Specialist Diploma	3 – 4 years	
Pathology	Specialist Diploma	3 – 4 years	
Ministry of Health with external provider			
Psychiatrist	Specialist	3 years	<i>Support from IOM & University of Norway until 2001</i>
Community Mental Health for Primary Care Physician	Certificate	1 year	<i>Support from Harvard Program for Refugee Trauma, funding from USAID & Nippon</i>
Basic Eye Doctor	Certificate	2 years	Training Centres at Siem Reap Provincial Eye Unit and Takeo Provincial Eye Hospital <i>Supported by Help Age International and CBM / Maryknoll in collaboration with PBL & MoH</i>
Basic Eye Nurse	Certificate	8 months	
Optometry Technician	Certificate	6 months	Training Centre COA Optometry Clinic Phnom Penh

Table 2: Post-graduate and post-basic education (continued)

Ministry of Health with external provider, continued			
Basic Surgery (CPA)	Certificate	1 year	Commences mid 1999 <i>Support from MSF, UNICEF, World Bank 1999</i>
Health Personnel Education	Diploma	15 months	2 nd intake starts mid 1999 <i>Support from AusAID / SCFA for 2 courses</i>
Technical School for Medical Care, UHS			
Nurse Anaesthetist (ISAR)	Diploma (ISAR)	2 years	<i>Support from MSF previously, now World Bank</i>
Public Health Midwife	Post Graduate Diploma	RN + 1 year	For secondary or registered nurses, course developed, but not commenced due to lack of funding
Mental Health Nurse	Certificate	8 months	Commenced early 1999 <i>Support from IOM</i>
Kampong Cham RTS			
Dental Nurse	Certificate	6 months	<i>Support from World Concern</i>
National Institute of Public Health			
Health Service Management	Certificate	6 months	Modular format, application focus <i>Support from GTZ, SEAMEO Tropmed & Mahidol University</i>
Basic Epidemiology	Certificate	Short course	Started 1998
Master of Public Health	Degree		Articulated with other NIPH programmes <i>Planned for the future linked with Mahidol</i>

Table 3: In-service education

Institution & Course	Qualification Level	Duration of Course	Comments
MoH National Programs, and in association with other agencies			
Accredited short-courses including Birth Spacing, Maternal and Child Care, EPI, Case Management related to Malaria, DHF, TB, Leprosy, ARI, CDD are offered at Provincial and OD level, according to needs identified by National Programs	Certificate	1 – 3 weeks	These courses are currently being revised and will be incorporated into MPA training modules.

ANNEX C – TRAINING STATISTICS

TABLE C1: CAMBODIA UHS - FACULTIES OF MEDICINE, PHARMACY AND DENTISTRY
STUDENT NUMBERS 1998/1999 AND PROJECTION OF NUMBERS OF GRADUATES, 1998/99 TO 2005/06

Medicine- undergraduate				Graduates 1996=408; 1997=310; 1998=321							
Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Prep Yr				51							
Year 1				46	51						
Year 2				50	46	51					
Year 3				132	50	46	51				
Year 4				132	132	50	46	51			
Year 5				244	132	132	50	46	51		
Intern Yr				326	244	132	132	50	46	51	
Total				981							
To HS		408	310	321	326	244	132	132	50	46	51

Number of graduates entering health services 1999-200 1251

Pharmacy - undergraduate				Graduates 1996=79; 1997=56; 1998=?							
Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Prep Yr				21							
Year 1				20	21						
Year 2				29	20	21					
Year 3				32	29	20	21				
Year 4				24	32	29	20	21			
Year 5	79	56	?	30	24	32	29	20	21		
Total				156							
To HS		79	56	?	30	24	32	29	20	21	

Number of graduates entering health services 1999-20 156

Dentistry - undergraduate				Graduates 1996=5; 1997=18; 1998=23							
Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Prep Yr				20							
Year 1				19	20						
Year 2				8	19	20					
Year 3				28	8	19	20				
Year 4				19	28	8	19	20			
Year 5				29	19	28	8	19	20		
Intern Yr	5	18	23	26	29	19	28	8	19	20	
Total				149							
To HS		5	18	23	26	29	19	28	8	19	20

Number of graduates entering health services 1999-20 152

Pharmacy Assistants Graduates 1996=0; 1997=0; 1998=0; 1999 to 2005=0

Dental Assistants Graduates 1996=32; 1997=0; 1998=0; 1999 to 2005=0

Medical Assistants Graduates 1996=321; 1997=372; 1998=68; 1999=10

**TABLE C2: CAMBODIA UHS - FACULTIES OF MEDICINE, PHARMACY AND DENTISTRY
POSTGRADUATE STUDENT NUMBERS 1998/1999 AND PROJECTIONS TO 2005/06**

Internal Medicine Diploma (Course commenced 1998)

Year	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1	7	0	0	0	10	0	0	0
Year 2	0	7	0	0	0	10	0	0
Year 3	0	0	7	0	0	0	10	0
Total	7							
Entry HS	0	0	0	7	0	0	0	10

Surgery Diploma (Course commenced 1998)

Year	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1	15	0	0	0	15	0	0	0
Year 2	0	15	0	0	0	15	0	0
Year 3	0	0	15	0	0	0	15	0
Total	15							
Entry HS	0	0	0	15	0	0	0	15

Obstetrics and Gynaecology Diploma (Course commenced 1998)

Year	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1	10	0	0	0	10	0	0	0
Year 2	0	10	0	0	0	10	0	0
Year 3	0	0	10	0	0	0	10	0
Total	10							
Entry HS	0	0	0	10	0	0	0	10

Paediatrics Diploma (Course commenced 1998)

Year	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1	10	0	0	0	10	0	0	0
Year 2	0	10	0	0	0	10	0	0
Year 3	0	0	10	0	0	0	10	0
Total	10							
Entry HS	0	0	0	10	0	0	0	10

Pathology Diploma

Year	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1	5				5			
Year 2	0	5	0	0	0	5	0	0
Year 3	0	0	5	0	0	0	5	0
Total	5							
Entry HS	0	0	0	5	0	0	0	5

Anaesthetics Diploma

Year	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1	*							
Year 2	0	*	0	0	0	0	0	0
Year 3	0	0	*	0	0	0	0	0
Entry HS	0	0	0	*	0	0	0	0

* Data not available

UHS - FMPD - POSTGRADUATE STUDENT NUMBERS 1998/99 AND PROJECTIONS TO 2005/06

TABLE C3: CAMBODIA TECHNICAL SCHOOL FOR MEDICAL CARE (TSMC) - STUDENT STATISTICS, 1995/96 TO 2005/06

Note: n/bd = Number to be decided

Registered Nurse Training Program														Graduates 1996=31; 1997=114; 1998=9										
Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06			
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem		
Year 1							58		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Year 2							50		58		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Year 3	31		114		9		17		50		58		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Total							125																	
Entry HS			31		114		9		17		50		58		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		

Secondary Midwife Training Program														Graduates 1996=28; 1997=10; 1998=0										
Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06			
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem		
Year 1																								
Year 2																								
Year 3	28	28	10	10	0	0																		
Total					0																			
Entry HS			28	28	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Public Health Midwife Training Program																							
Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06		
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	
Year 1	COURSE DEVELOPMENT											NFA	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	
Year 2	COURSE DEVELOPMENT											NFA	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd
Year 3	COURSE DEVELOPMENT											NFA	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd
Total																							
Entry HS	0		0		0		0		0		0		0		0		0		0		0		

NFA=No funding available

Primary to Secondary Nurse Upgrade														Graduates 1996=17; 1997=24; 1998=17										
Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06			
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem		
Year 1							36		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Year 2	17		24		17		30		36		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Year 3							17		30		36		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Total							17		30		36		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Entry HS			17		24		17		30		36		n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		

Primary to Secondary Midwife Upgrade														Graduates 1996=8; 1997=11; 1998=17										
Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06			
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem		
Year 1							7	7	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Year 2	8	8	11	11	17	17	9	9	7	7	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Year 3							17	17	9	9	7	7	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Total							17	17	9	9	7	7	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		
Entry HS			8	8	11	11	17	17	9	9	7	7	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd	n/bd		

TABLEC3 continued: CAMBODIA TECHNICAL SCHOOL FOR MEDICAL CARE (TSMC) - STUDENT STATISTICS, 1995/96 TO 2005/06

Secondary Laboratory Technician Training Program Graduates 1996=24; 1997=28; 1998=16

Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06	
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem
Year 1							20		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Year 2							14		20		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Year 3	24		28		16		30		14		20		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Entry HS			24		28		16		30		14		20		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd

Number of graduates entering health services 1999-2 80

Radiography Technician Training Program Graduates 1996=0; 1997=0; 1998=0

Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06	
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem
Year 1	Course planned but not implemented - lack of donor interest said to be reason for this																					
Year 2	Course planned but not implemented - lack of donor interest said to be reason for this																					
Year 3	Course planned but not implemented - lack of donor interest said to be reason for this																					
Total																						
Entry HS																						

Anaesthetic Nurse Training Program (2-year course) Graduates 1996= ; 1997= ; 1998=

Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06	
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem
Year 1					16				nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Year 2					0		16				nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Total					16		16				nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Entry HS							16															

Mental Health Nurse Training Program (8-month course) Graduates 1996=0; 1997=12; 1998=0

Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06	
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem
Year 1	0		12		0		10		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Entry HS	0		12		0		10		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd

Physiotherapist Training Program (3-year course) Graduates 1996=12; 1997=11; 1998=3

Year	1995/96		1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03		2003/4		2004/05		2005/06	
	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem	Total	Fem
Year 1							9		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Year 2							11		9		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Year 3	12		11		3		11		11		9		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Total	12		11		3		31		20		9		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd
Entry HS							3		11		11		9		nbd	nbd	nbd	nbd	nbd	nbd	nbd	nbd

Head Nurse Training Program (1 year course following 4-5 years nursing experience)
First intake will graduate in 1999

Health Personnel Educator Training Program (15-month course) (First course was offered at National Children's Hospital in 1997)
Second intake to commence at TSMC in May, 1999 - 20 students

TABLE C4: CAMBODIA, RTC BATTAMBANG
PROJECTON OF STUDENT AND GRADUATION NUMBERS, 1998/99 TO 2005/06

Note: ntbd=Number to be decided

Registered Nurse Training Program Graduates 1996=21; 1997=0; 1998=17

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				48	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2				60	48	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 3	21	0	17	22	60	48	ntbd	ntbd	ntbd	ntbd	ntbd
Total				130							
Entry HS		21	0	17	22	60	48	ntbd	ntbd	ntbd	ntbd

Secondary Midwife Training Program Graduates 1996=19; 1997=0; 1998=0

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1			Course discontinued								
Year 2			Course discontinued								
Year 3	19	0	Course discontinued								
Total			Course discontinued								
Entry HS		19	Course discontinued								

Primary to Secondary Nurse Upgrade Program Graduates 1996=34; 1997=12; 1998=16

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				32	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2	34	12	16	28	32	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Total				60	32						
Entry HS		34	12	16	28	32	ntbd	ntbd	ntbd	ntbd	ntbd

Primary to Secondary Midwife Upgrade Program Graduates 1996=12; 1997=0; 1998=21

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				5	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2	12	0	21	9	5	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Total				14	5						
Entry HS		12	0	21	9	5	ntbd	ntbd	ntbd	ntbd	ntbd

TABLE C5: CAMBODIA, RTC KAMPOT
PROJECTON OF STUDENT AND GRADUATION NUMBERS, 1998/99 TO 2005/06

Note: ntbd=Number to be decided

Registered Nurse Training Program Graduates 1996=21; 1997=0; 1998=0

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				55	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2				58	55	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 3	21	0	0	24	58	55	ntbd	ntbd	ntbd	ntbd	ntbd
Total				137							
Entry HS		21	0	0	24	58	55	ntbd	ntbd	ntbd	ntbd

Secondary Midwife Training Program Graduates 1996=9; 1997=0; 1998=0

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				Course discontinued							
Year 2				Course discontinued							
Year 3				Course discontinued							
Total				Course discontinued							
Entry HS				Course discontinued							

Primary to Secondary Nurse Upgrade Program Graduates 1996=30; 1997=10; 1998=12

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				0	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2	30	10	12	8(F4)	0	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Total				8(F4)							
Entry HS		30	10	12	8(F4)	0	ntbd	ntbd	ntbd	ntbd	ntbd

Primary to Secondary Midwife Upgrade Program Graduates 1996=6; 1997=0; 1998=05

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1		5	0	0	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2	6	0	5	0	0	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Total											
Entry HS		6	0	5	0	0	ntbd	ntbd	ntbd	ntbd	ntbd

TABLE C6: CAMBODIA, RTC KAMPONG CHAM
PROJECTION OF STUDENT AND GRADUATION NUMBERS, 1998/99 TO 2005/06

Note: ntbd=Number to be decided

Registered Nurse Training Program Graduates 1996=159; 1997=38; 1998=11

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				41	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2				63	41	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 3	159	38	11	19	63	41	ntbd	ntbd	ntbd	ntbd	ntbd
Total				123	104	41					
Entry HS		159	38	11	19	63	41	ntbd	ntbd	ntbd	ntbd

Secondary Midwife Training Program Graduates 1996=53; 1997=14; 1998=0

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				Course discontinued							
Year 2				Course discontinued							
Year 3	53	14	0	Course discontinued							
Total				Course discontinued							
Entry HS		53	14	Course discontinued							

Primary to Secondary Nurse Upgrade Program Graduates 1996=58; 1997=22; 1998=7

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				0	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2	58	22	7	13	0	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Total				13							
Entry HS		58	22	7	13	0	ntbd	ntbd	ntbd	ntbd	ntbd

Primary to Secondary Midwife Upgrade Program Graduates 1996=35; 1997=4; 1998=0

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				0	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2	35	4	0	7	0	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Total				7							
Entry HS		35	4	0	7	0	ntbd	ntbd	ntbd	ntbd	ntbd

Dental Nurse Training Program (8 month course) Graduates 1996=?, 1997=21, 1998=43

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1		21	43	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Entry HS		21	43								

TABLE C7: CAMBODIA, RTC STUNG TRENG
PROJECTON OF STUDENT INTAKE AND GRADUATION NUMBERS, 1998/99 TO 2005/06

Note: ntbd=Number to be decided

Registered Nurse Training Program Graduates 1996=19; 1997=08; 1998=11

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				27	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2				0	27	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 3	19	8	11	19	0	27	ntbd	ntbd	ntbd	ntbd	ntbd
Total				46	27	27					
Entry HS		19	8	11	19	0	27	ntbd	ntbd	ntbd	ntbd

Secondary Midwife Training Program Graduates 1996=11; 1997=0; 1998=6

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				Course discontinued							
Year 2				Course discontinued							
Year 3	19	0	6	Course discontinued							
Total				Course discontinued							
Entry HS		19	0	6	Course discontinued						

Primary to Secondary Nurse Upgrade Program Graduates 1996=58; 1997=22; 1998=7

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2	58	22	7	13	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Total				13							
Entry HS		58	22	7	13	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd

Primary to Secondary Midwife Upgrade Program Graduates 1996=35; 1997=4; 1998=0

Year	1995/96	1996/97	1997/98	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1				ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Year 2	35	4	0	7	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd
Total	35	4	0	7							
Entry HS		35	4	0	7	ntbd	ntbd	ntbd	ntbd	ntbd	ntbd

TABLE C8: CAMBODIA - REGISTERED NURSE TRAINING PROGRAM
PROJECTED STUDENT AND GRADUATION NUMBERS, 1998/99 TO 2005/06,

ASSUMPTIONS: 1. Annual new student intakes maintained at 1998/99 level
2. All entrants complete their training and enter the health services

Year	1998/99	999/200	2000/01	2001/02	2002/03	2003/4	2004/05	2005/06
Year 1								
TSMC	58	58	58	58	58	58	58	58
BB	48	48	48	48	48	48	48	48
KAM	55	55	55	55	55	55	55	55
KC	41	41	41	41	41	41	41	41
ST	27	27	27	27	27	27	27	27
Total	229	229	229	229	229	229	229	229
Year 2								
TSMC	50	58	58	58	58	58	58	58
BB	60	48	48	48	48	48	48	48
KAM	58	55	55	55	55	55	55	55
KC	63	41	41	41	41	41	41	41
ST	0	27	27	27	27	27	27	27
Total	231	229	229	229	229	229	229	229
Year 3								
TSMC	17	50	58	58	58	58	58	58
BB	22	60	48	48	48	48	48	48
KAM	24	58	55	55	55	55	55	55
KC	19	63	41	41	41	41	41	41
ST	19	0	27	27	27	27	27	27
Total	101	231	229	229	229	229	229	229
Total students	561	689	687	687	687	687	687	687
Graduates to health servic		101	231	229	229	229	229	229

Total number of RN graduates 1998/99 to 2005/06 1477

RN TRAINING PROGRAM - PROJECTED STUDENT AND GRADUATION NUMBERS 1998/99 TO 2005/06

**ANNEX D – PRELIMINARY LISTING OF POST TITLES AND
REQUIRED MINIMUM QUALIFICATION**

**CAMBODIA MoH - LIST OF POST CATEGORIES AND MINIMUM QUALIFICATIONS
FIRST DRAFT FOR DISCUSSION**

Cadre	Post category	Minimum qualification	Comments
SMP - Senior management posts	Director Deputy/Vice Director Hospital Administrator (National Hospitals) Medical Administrator Public Health Administrator		
ACC - Finance and accounting posts	Accountant Accounting Officer Accounts Clerk	Diploma Certificate	
ADM - Administration posts	Administrator Administrative Officer Administrative Assistant Clerk Secretary KBO Telephonist Messenger	Diploma Certificate	
BME - Biomedical engineering posts	Biomedical Engineer Biomedical Technician BME Trainee	Diploma Certificate	
DEN - Dental posts	Dentist Dental Assistant Dental Nurse	Degree Diploma Certificate	
DOM - Domestic Services posts	Domestic Services Supervisor Cleaner Cook Laundryman/maid Kitchen Hand Wardmaid		
HED - Health Promotion Health Education posts	Health Educator Assistant Health Educator A. V Technician Graphic Artist Printing Technician	Diploma Certificate	

Cadre	Post category	Minimum qualification	Comments
HPEd – Health Personnel Education posts	Health Personnel Education Specialist Health Personnel Educator (eg Master Trainer) Assistant Health Personnel Educator (eg CEC)	Health Qual + Degree Health Qual + Diploma Health Qual + Certificate	
LAB - Laboratory service posts	Laboratory Scientist Laboratory Technician Assistant Lab Tech	Degree Diploma	
MED - Medical posts	Consultant Specialist Specialist Senior Medical Officer Specialist Trainee Medical Officer Resident Intern Medical Assistant	Doctorate Doctorate Degree Degree Degree Degree Degree Diploma	
MNT - Maintenance service posts	Maintenance Supervisor Plant Operator Carpenter Electrician Handyman Labourer	Trade Certificate Trade Certificate Trade Certificate	
MRA - Medical records administration posts	Medical Records Administrator Assistant MRA	Diploma	
NUR - Nursing posts	Nursing Administrator Registered Nurse Secondary Nurse Primary Nurse Enrolled Nurse Community Health Worker Public Health Midwife Nurse Anaesthetist Nurse- Ophthalmology Nurse Educator Mental Health Nurse ??Other	RN+Diploma Diploma Diploma Certificate Certificate Certificate RN+PBD/C RN+PBD/C RN+PBD/C RN+Diploma RN+PBD/C	
PHA – Pharmacy posts	Pharmacist Pharmacist Assistant	Degree Diploma	

Cadre	Post category	Minimum qualification	Comments
PHY - Physiotherapy posts	Physiotherapist	Diploma	
	Assistant Physiotherapist	Certificate	
PHI - Planning and health information service posts	Planning Officer	Diploma	
	Statistician	Diploma	
	Health Information Officer	Diploma	
RAD - Radiography posts	Radiographer	Diploma	
	Assistant Radiographer	Certificate	
STO - Stores posts	Storekeeper		
TRA - Transport service posts	Mechanic	Trade Certificate	
	Ambulance Driver		
	Driver		

ANNEX E – A NOTE ON PROVINCIAL HOSPITAL STAFFING

Annex E - A Note on Provincial Hospital Staffing

It is clear from Tables E1-E7 at the end of this note that there is wide variability between provinces in terms of provincial hospital bed provision (eg beds per 1,000 population), provincial hospital utilisation (eg separations¹ per 1,000 population, average length of stay) , and provincial hospital staffing (eg staff per hospital bed and doctor:nurse ratios).

Overall, the coefficient of correlation between provincial population numbers and provincial hospital beds is 0.43, the coefficient for population and provincial hospital staff is 0.57, and for provincial population and provincial hospital doctors is 0.58.

As one might expect, the correlation coefficient for provincial hospital beds and provincial hospital staff numbers (0.87) is higher than any of the above coefficients, but there is still very considerable variation in the total numbers of staff and the pattern of staffing among provincial hospitals of similar bed complement. Table 1 below indicates the range of staffing numbers for provincial hospitals arranged according to hospital bed numbers.

Table1: Cambodia : Provincial hospitals (n=22*) - staffing by hospital bed numbers, 1998

Bed numbers	Number of hospitals	Range - total staff numbers	Range - number of medical doctors
0-49	2	23-47	3-4
50-99	1 (70 beds)	52	12
100-199	12	57-211 (median 129)	6-30 (median 13)
200-299	3	136-214 (median 137)	9-24 (median 21)
300-399	3	147-225 (median 199)	13-27 (median 22)
400-499	0	na	na
500-599	1 (533 beds)	505	48

*Comparable data for the provincial hospital in Pailin was not available

If tables similar to Table 2 were set up for other categories of staff showing the staffing of provincial hospitals related to their bed complements then again one would find very wide variations in staffing between hospitals of similar bed complement.

The ratio of patient separations to hospital staff numbers is one indicator of hospital "productivity". For the provincial hospitals covered in Table 1 the coefficient of correlation between separations and staff numbers in 1998 was 0.87, virtually the same as that for beds and staff numbers.

Two striking features of the provincial hospital statistics in the tables at the end of this note are:

- (a) the very low utilisation rates of provincial hospitals - perhaps suggesting that the district level services are not functioning very effectively. (The available statistics regarding morbidity and mortality do not suggest that the rural population is overall very healthy!), and
- (b) the extremely low number of formally qualified specialist doctors employed in provincial hospitals.

¹ "Separations" is a term which covers all exits of in-patients from hospital, including discharges, abscondings, transfers and deaths.

Table E1: Cambodia: Provincial Hospitals - Hospital Utilisation Statistics (1997) and Staffing (1998)

PROVINCE	Category of Facility	Population 1997	Beds	Separations	EMD	Average daily census	ALS (days)	BOR 1997	Budget allocation 1997	Expenditure 1997	Medical Doctor / Specialist	Medical Doctor / Doctoral Degree	Medical Doctor / Master Degree	Pharmacist / Specialist	Pharmacist / Doctoral Degree	Pharmacist / Master Degree	Dentist / Master Degree	Medical Assistant / Master Degree	Medical Doctor	Pharmacist	Dentist	Medical Assistant	Pharmacist Assistant						
Battambang	PH	740,608	533	13,806	99,317	272	7.2	51.1	na	na	3	0	0	0	0	0	0	0	45	9	1	46	0						
Siem Reap	PH	597,567	350	9,661	90,473	248	9.4	70.8	na	na	2	0	0	0	0	0	0	0	25	2		11	0						
Banteay Meanchey	PH	525,229	329	8,640	43,646	120	5.1	36.3	na	na	0	0	0	0	0	0	0	0	22	2	1	15	0						
Kampong Chhn	PH	571,729	305	2,995	27,860	76	9.3	25.0	na	na	0	0	0	0	0	0	0	0	13	1	1	12	1						
Kampong Chhn	PH	1,600,397	248	5,027	31,089	85	6.2	34.3	na	na	1	0	0	0	0	0	0	0	24	3	2	13	3						
Pursat	PH	336,960	242	5,603	42,732	117	7.6	48.4	na	na	0	0	0	0	0	0	0	0	9	1	1	12	0						
Svay Rieng	PH	473,348	200	3,691	27,837	76	7.5	38.1	na	na	0	0	0	0	0	0	0	0	21	2	1	12	0						
Kampong Speu	PH	363,050	195	4,737	33,607	92	7.1	47.2	na	na	1	0	0	0	0	0	0	0	8	3		7	1						
Kampong Speu	PH	606,190	173	3,550	21,020	58	5.9	33.3	na	na	0	0	0	0	0	0	0	0	25	4	1	14	1						
Kampot	PH	559,044	159	2,435	12,498	34	5.1	21.5	na	na	0	0	0	0	0	0	0	0	13	3	1	24	2						
Takeo	PH	772,712	198	4,663	37,640	103	8.1	65.3	na	na	0	0	0	0	0	0	0	0	13	3		8	1						
Kanda	PH	1,017,323	150	3,785	28,918	79	7.7	52.8	na	na	0	0	0	0	0	0	0	0	30	4	2	16	3						
Pnom Penh	PH	805,544	150	3,696	16,862	46	4.6	30.8	na	na	0	0	0	0	0	0	0	0	38	5	1	27	2						
Kratie	PH	234,473	140	3,928	25,017	69	6.4	49.0	na	na	0	0	0	0	0	0	0	0	14			14	2						
Sihanoukville	PH	128,154	120	2,649	17,040	47	6.4	38.9	na	na	0	0	0	0	0	0	0	0	18	3	1	4	1						
Katantkhi	PH	80,868	119	1,636	9,467	26	5.8	21.8	na	na	0	0	0	0	0	0	0	0	0	2	1	6							
Prey Veng	PH	546,398	110	2,535	21,722	60	8.6	54.1	na	na	0	0	0	0	0	0	0	0	9	2		13	2						
Preah Vihear	PH	107,435	110	3,439	31,111	85	9.0	77.5	na	na	0	0	0	0	0	0	0	0	12		1	14	2						
Stung Treng	PH	76,677	109	2,942	17,776	49	6.0	44.7	na	na	1	0	0	0	0	0	0	0	7	1	1	10	3						
Kuh Kong	PH	101,780	70	656	3,126	9	4.8	12.2	na	na	0	0	0	0	0	0	0	0	12	1	1	5	4						
Mondul Kiri	PH	27,174	39	1,203	6,066	17	5.0	42.6	na	na	0	0	0	0	0	0	0	0	1		1	8	3						
Kep	PH	27,652	10	440	2,114	6	4.8	57.9	na	na	0	0	0	0	0	0	0	0	4	1		3							
Pailin	PH	22,844	na	na	na	na	na	na	na	na	0	0	0	0	0	0	0	0	3			9	2						
TOTAL		10,723,176	4,019	91,801	646,908	1,772	Mean=7.0	Mean=44.1	0	0	8	0	0	0	0	0	0	0	372	52	16	303	49						
												Average staff per PH	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	2.3	0.8	13.2	2.1
												% of PH workforce	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.9%	1.5%	0.5%	8.8%	1.4%
												Pop per employee	1,340,397	na	na	na	na	na	na	na	na	na	na	na	28,826	206,215	595,732	35,350	218,640
												Beds per employee	502	na	na	na	na	na	na	na	na	na	na	na	11	77	223	13	82
												Separations per employee	13,475	na	na	na	na	na	na	na	na	na	na	na	247	1,765	5,100	303	1,873
												Bed-days per employee	80,864	na	na	na	na	na	na	na	na	na	na	na	1,739	12,441	35,539	2,135	13,202
												DA patients per employee	222	na	na	na	na	na	na	na	na	na	na	na	5	34	98	6	36

Dental Assistant	Secondary Nurse	Secondary Mobile	Secondary Lab.	Secondary Nurse/Dental Nurse	Primary Nurse/Dental Nurse	Secondary Nurse/Basic eye nurse	Anesthetic nurse	Technician RA	Physio-therapist	Primary Nurse	Primary Diabetic	Primary Lab	Health Agent	Pharmacist Preparatory	Secondary	Medical Traditional	Administrative Staff	Personnel non Technical	Others	TOTAL PERSONNEL	POP PER HOSP EMPLOYEE	
4	154	102	9	1			5		3	76	11	17								10	505	1,467
2	40	41	7				8	4	1	3	29	12	3							6	199	3,003
4	52	35	3				4		5	48	10	6	1				1	10	3	225	2,334	
2	41	18	5				1		2	17	13							15	5	147	3,889	
1	67	46	4				2	4	1	32		2							8	214	7,478	
2	50	35	2		4			3	4	1	2	3		1					7	136	2,478	
5	31	9	2					2	2	34	10								5	137	3,455	
1	34	12			1	2	2		1	32	7							5	8	125	2,904	
6	28	14	5						2	56	5				1				4	165	3,674	
2	66	18	3					2	1	33	4	4							12	188	2,974	
2	46	14	9				2	3	3	33	3						3	9	5	157	4,822	
4	38	15	6				4	1	1	47	2						33		4	211	4,821	
5	35	26	9							27	3				2			6	9	196	4,110	
2	28	17	3							32	7							6	5	130	1,804	
3	30	19	6						1	18	8								7	121	1,059	
2	11	7	2		1					0			6						13	57	1,419	
3	20	10	4						2	28	24	1		1				9		128	7,394	
1	13	16		1	1			1			7	4		1					3	77	1,395	
1	31	16		1			1	1		1	6							4	1	89	862	
2	7	7	2							1	7			1		1			1	52	1,957	
2	16	3			1					4	1	1							6	47	578	
2	2	3	2							2	1							4	1	23	1,202	
1	8	7					6	1		30	9	4						9	7	96	238	
57	848	490	83	3	8	10	31	17	31	580	152	51	1	7	1	0	53	62	138	3,425	3,131	
2.5	36.9	21.3	3.6	0.1	0.3	0.4	1.3	0.7	1.3	25.2	6.6	2.2	0.0	0.3	0.0	0.0	2.3	2.7	6.0	148.9	na	
1.7%	24.8%	14.3%	2.4%	0.1%	0.2%	0.3%	0.9%	0.5%	0.9%	16.9%	4.4%	1.5%	0.0%	0.2%	0.0%	0.0%	1.5%	1.8%	4.0%	100.0%	na	
188,126	12,645	21,884	129,195	3,574,392	1,340,597	1,072,318	345,909	630,775	345,909	18,488	70,547	210,258	10,723,176	1,531,882	10,723,176	na	202,324	172,954	77,704	3,131	na	
71	5	8	48	1,340	502	462	136	236	130	7	26	79	4,019	574	4,019	na	76	65	29	1.2	na	
1,611	108	187	1,106	30,600	11,475	9,180	2,961	5,400	2,961	158	604	1,800	91,801	13,114	91,801	na	1,732	1,481	665	27	na	
11,349	763	1,320	7,794	215,636	80,864	64,891	20,866	38,053	20,866	1,115	4,256	12,684	646,908	92,415	646,908	na	12,206	10,434	4,688	189	na	
31	2	4	21	591	222	177	57	104	57	3	12	35	1,772	253	1,772	na	33	29	13	0.5	na	

Table E1: Provincial Hospitals - Statistics, 1998
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TABLE E2: TOTAL & AVERAGE NUMBERS OF MOH STAFF IN 7 LARGE POPULATION NUMBER PROVINCES AS AT 31/10/98

Categories Number of facilities	PHD		PH		DHO		RH		FDH		HC		CC		RTC		TOTAL
	7		7		42		28		53		147		447		2		
Personnel	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	
Medical Doctor / Specialist	0	0.0	6	0.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6
Pharmacist / Specialist	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Pharmacist / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor / Master Degree	1	0.1	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2
Pharmacist/ Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Dentist / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Assistant / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor	88	12.6	184	26.3	56	1.3	134	4.8	28	0.5	24	0.2	4	0.0	6	3.0	570
Pharmacist	30	4.3	28	4.0	29	0.7	9	0.3	6	0.1	3	0.0	2	0.0	1	0.5	117
Dentist	5	0.7	6	0.9	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	15
Medical Assistant	99	14.1	134	19.1	83	2.0	184	6.6	104	2.0	132	0.9	56	0.1	6	3.0	843
Pharmacist Assistant	6	0.9	20	2.9	22	0.5	18	0.6	7	0.1	10	0.1	0	0.0	1	0.5	89
Dentist Assistant	4	0.6	21	3.0	2	0.0	20	0.7	15	0.3	1	0.0	2	0.0	0	0.0	70
Secondary Nurse	146	20.9	400	57.1	102	2.4	191	6.8	253	4.8	268	1.8	285	0.8	37	18.5	1776
Secondary Midwife	84	12.0	254	36.3	25	0.6	95	3.4	114	2.2	163	1.1	90	0.2	15	7.5	896
Secondary Lab.	3	0.4	48	6.9	2	0.0	38	1.4	25	0.5	15	0.1	3	0.0	1	0.5	144
Secondary Nurse/ Dental nurse	0	0.0	1	0.1	0	0.0	11	0.4	6	0.1	10	0.1	2	0.0	0	0.0	31
Primary Nurse / Dental nurse	0	0.0	0	0.0	0	0.0	10	0.4	0	0.0	0	0.0	0	0.0	0	0.0	10
Secondary Nurse/ Basic eye nurse	0	0.0	8	1.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	9
Anesthetic nurse	0	0.0	17	2.4	0	0.0	4	0.1	0	0.0	0	0.0	0	0.0	0	0.0	24
Technician RX	0	0.0	9	1.3	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	11
Physiotherapist	1	0.1	13	1.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	16
Primary Nurse	136	19.4	272	38.9	114	2.7	166	6.6	296	5.6	405	2.8	594	1.3	3	1.5	2083
Primary Midwife	21	3.0	55	7.9	19	0.5	61	2.2	106	2.0	185	1.3	286	0.8	0	0.0	750
Primary Lab	2	0.3	23	3.3	2	0.0	15	0.5	18	0.3	1	0.0	4	0.0	0	0.0	70
Health Agent	1	0.1	0	0.0	3	0.1	4	0.1	0	0.0	5	0.0	4	0.0	0	0.0	17
Pharmacist Preparatory	8	1.1	3	0.4	0	0.0	0	0.0	2	0.0	15	0.1	0	0.0	0	0.0	30
Secourist	1	0.1	0	0.0	0	0.0	3	0.1	0	0.0	0	0.0	3	0.0	0	0.0	7
Medical Traditional	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	1	0.0	0	0.0	2
Administrative Staff	76	10.9	42	6.0	49	1.2	3	0.1	12	0.2	8	0.1	4	0.0	1	0.5	213
Personnel non Techni.	20	2.9	18	2.6	26	0.6	38	1.4	49	0.9	16	0.1	65	0.1	4	2.0	245
Others	75	10.7	48	6.9	10	0.2	9	0.3	13	0.2	19	0.1	7	0.0	2	1.0	202
TOTAL	807	115.3	1810	230.0	545	13.0	1036	37.0	1065	19.9	1280	8.7	1412	3.2	77	38.6	8249
Average total personnel	115		230		13		37		20		9		3		39		

Province	Pop
Kg Cham	1,607,913
Prey Veng	945,129
Battambang	791,958
Takeo	789,710
Siem Reap	695,485
Kandal	1,073,586
PPent	997,986
Total	6,901,767
Average pop	985,967
Median pop	971,558

TABLE E2: PROVINCIAL HEALTH SERVICE STAFFING - 7 LARGE POPULATION NUMBER PROVINCES

PROVINCIAL HEALTH SERVICE STAFFING - 7 MEDIUM NUMBER POPULATION PROVINCES

TABLE E3: TOTAL & AVERAGE NUMBERS OF MOH STAFF IN 7 MEDIUM POPULATION NUMBER PROVINCES AS AT 31/10/98

Categories <i>Number of facilities</i>	PHD 7		PH 7		DHO 7		RH 12		FDH 30		HC 115		CC 275		RTC 1		TOTAL	
	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean		
<i>Personnel</i>																		
Medical Doctor / Specialist	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pharmacist / Specialist	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Medical Doctor / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pharmacist / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Medical Doctor / Master Degree	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pharmacist/ Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dentist / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Medical Assistant / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Medical Doctor	43	6.1	111	15.9	41	5.9	59	4.9	21	0.7	5	0.0	0	0.0	1	1.0	315	
Pharmacist	20	2.9	16	2.3	13	1.9	7	0.6	2	0.1	1	0.0	0	0.0	1	1.0	66	
Dentist	1	0.1	6	0.9	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	10	
Medical Assistant	54	7.7	96	13.7	33	4.7	64	5.3	73	2.4	39	0.3	10	0.0	1	1.0	404	
Pharmacist Assistant	5	0.7	10	1.4	7	1.0	7	0.6	6	0.2	0	0.0	0	0.0	0	0.0	39	
Dentist Assistant	0	0.0	22	3.1	0	0.0	9	0.8	6	0.2	0	0.0	0	0.0	0	0.0	41	
Secondary Nurse	122	17.4	302	43.1	68	9.7	132	11.0	152	5.1	220	1.9	56	0.2	9	9.0	1149	
Secondary Midwife	56	8.0	141	20.1	27	3.9	64	5.3	90	3.0	100	0.9	23	0.1	3	3.0	545	
Secondary Lab.	7	1.0	20	2.9	0	0.0	19	1.6	11	0.4	0	0.0	2	0.0	0	0.0	65	
Secondary Nurse/ Dental nurse	0	0.0	0	0.0	0	0.0	1	0.1	4	0.1	0	0.0	0	0.0	0	0.0	5	
Primary Nurse / Dental nurse	25	3.6	5	0.7	2	0.3	3	0.3	6	0.2	3	0.0	1	0.0	0	0.0	50	
Secondary Nurse/ Basic eye nurse	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	
Anesthetic nurse	0	0.0	7	1.0	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	10	
Technician RX	0	0.0	5	0.7	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	8	
Physiotherapist	1	0.1	17	2.4	0	0.0	4	0.3	0	0.0	0	0.0	0	0.0	0	0.0	25	
Primary Nurse	137	19.6	220	31.4	50	7.1	96	8.0	302	10.1	455	4.0	206	0.7	1	1.0	1546	
Primary Midwife	20	2.9	51	7.3	10	1.4	23	1.9	78	2.6	212	1.8	102	0.4	0	0.0	514	
Primary Lab	4	0.6	13	1.9	0	0.0	12	1.0	12	0.4	3	0.0	2	0.0	0	0.0	50	
Health Agent	2	0.3	1	0.1	1	0.1	1	0.1	4	0.1	3	0.0	0	0.0	0	0.0	13	
Pharmacist Preparatory	1	0.1	2	0.3	0	0.0	0	0.0	1	0.0	3	0.0	1	0.0	0	0.0	8	
Secourist	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	2	
Medical Traditional	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	1	
Administrative Staff	19	2.7	1	0.1	15	2.1	3	0.3	4	0.1	0	0.0	1	0.0	0	0.0	40	
Personnel non Techni.	24	3.4	30	4.3	5	0.7	45	3.8	56	1.9	21	0.2	49	0.2	0	0.0	244	
Others	86	12.3	44	6.3	17	2.4	32	2.7	36	1.2	69	0.6	3	0.0	0	0.0	312	
TOTAL	628	89.7	1123	160.4	290	41.4	586	48.8	864	28.8	1136	9.9	457	1.7	16	16.0	5481	
<i>Average number of personnel</i>	90		160		41		49		29		10		2		16			

Province	Pop
Kg Chhnang	416,999
Svay Rieng	478,099
Kg Thom	568,454
BMeanChey	577,300
Pursat	360,291
Kampot	527,904
Kg Speu	598,101
Total	3,527,148
Average pop	503,878
Median pop	548,179

TABLE E3: PROVINCIAL HEALTH SERVICE STAFFING - 7 MEDIUM NUMBER POPULATION PROVINCES

TABLE E4: TOTAL & AVERAGE NUMBERS OF MOH STAFF IN 9 SMALL NUMBER POPULATION PROVINCES AS AT 31/10/98

Categories	PHD		PH		DHO		RH		FDH		HC		CC		RTC		TOTAL
Number of facilities	9		9		4		2		33		10		156		1		
Personnel	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number
Medical Doctor / Specialist	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1
Pharmacist / Specialist	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Pharmacist / Doctorate Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor / Master Degree	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1
Pharmacist/ Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Dentist / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Assistant / Master Degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Medical Doctor	38	4.2	65	7.2	6	1.5	20	10.0	6	0.2	6	0.6	4	0.0	2	2.0	147
Pharmacist	22	2.4	8	0.9	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	1	1.0	32
Dentist	0	0.0	5	0.6	0	0.0	1	0.5	0	0.0	1	0.1	0	0.0	0	0.0	7
Medical Assistant	74	8.2	59	6.6	4	1.0	29	14.5	36	1.1	9	0.9	0	0.0	3	3.0	214
Pharmacist Assistant	15	1.7	17	1.9	3	0.8	2	1.0	4	0.1	0	0.0	0	0.0	0	0.0	41
Dentist Assistant	1	0.1	13	1.4	0	0.0	2	1.0	1	0.0	2	0.2	0	0.0	0	0.0	19
Secondary Nurse	72	8.0	133	14.8	5	1.3	20	10.0	106	3.2	24	2.4	26	0.2	4	4.0	390
Secondary Midwife	23	2.6	79	8.8	1	0.3	22	11.0	39	1.2	17	1.7	19	0.1	3	3.0	203
Secondary Lab.	5	0.6	15	1.7	0	0.0	1	0.5	2	0.1	0	0.0	0	0.0	0	0.0	23
Secondary Nurse/ Dental nurse	0	0.0	1	0.1	0	0.0	1	0.5	1	0.0	0	0.0	0	0.0	0	0.0	3
Primary Nurse / Dental nurse	0	0.0	2	0.2	0	0.0	1	0.5	14	0.4	0	0.0	0	0.0	0	0.0	17
Secondary Nurse/ Basic eye nurse	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Anesthetic nurse	0	0.0	7	0.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7
Technician RX	0	0.0	2	0.2	0	0.0	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	3
Physiotherapist	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1
Primary Nurse	32	3.6	88	9.8	7	1.8	11	5.5	127	3.8	33	3.3	75	0.5	2	2.0	375
Primary Midwife	17	1.9	39	4.3	0	0.0	15	7.5	86	2.6	16	1.6	75	0.5	0	0.0	248
Primary Lab	2	0.2	11	1.2	0	0.0	4	2.0	16	0.5	2	0.2	39	0.3	0	0.0	74
Health Agent	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Pharmacist Preparatory	5	0.6	1	0.1	0	0.0	1	0.5	5	0.2	0	0.0	0	0.0	0	0.0	12
Secourist	0	0.0	1	0.1	0	0.0	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	2
Medical Traditional	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Administrative Staff	36	4.0	10	1.1	2	0.5	1	0.5	27	0.8	0	0.0	20	0.1	1	1.0	97
Personnel non Techni.	3	0.3	14	1.6	0	0.0	0	0.0	15	0.5	0	0.0	0	0.0	1	1.0	33
Others	29	3.2	43	4.8	0	0.0	4	2.0	27	0.8	5	0.5	3	0.0	0	0.0	111
TOTAL	375	41.7	615	68.3	29	7.3	137	68.5	512	15.5	115	11.5	261	1.7	17	17.0	2275
Mean total staff	42		68		7		69		16		12		2		17		

Province	Popn
St Treng	80,978
Rattanakiri	94,188
Monduliri	32,392
Kratie	262,945
Pailin	22,844
Sihanouk Ville	155,376
Kep	28,677
Koh Kong	131,912
Preah Vihear	119,160
Total	928,472
Average pop	103,164
mmmmmm	94,188

TABLE E4: PROVINCIAL HEALTH SERVICE STAFFING - 9 SMALL POPULATION PROVINCES

SUMMARY PROVINCIAL HOSPITAL STAFFING BY POPULATION GROUPING

TABLE E5: TOTAL & AVERAGE NUMBERS OF PROVINCIAL HOSPITAL STAFF, IN LARGE, MEDIUM AND SMALL POPULATION PROVINCES, 1998

Province groups Number of provinces	Large population (median 971,556)		Medium population (median 548,179)		Small population (median 94,188)		Total	
	7		7		9		23	
Personnel	Number	Mean	Number	Mean	Number	Mean	Number	Mean
Medical Doctor / Specialist	6	1	1	0	1	0	8	0
Pharmacist / Specialist	0	0	0	0	0	0	0	0
Medical Doctor / Doctorate Degree	0	0	0	0	0	0	0	0
Pharmacist / Doctorate Degree	0	0	0	0	0	0	0	0
Medical Doctor / Master Degree	0	0	0	0	0	0	0	0
Pharmacist / Master Degree	0	0	0	0	0	0	0	0
Dentist / Master Degree	0	0	0	0	0	0	0	0
Medical Assistant / Master Degree	0	0	0	0	0	0	0	0
Medical Doctor	184	26	111	16	65	7	360	16
Pharmacist	28	4	16	2	8	1	52	2
Dentist	6	1	6	1	5	1	17	1
Medical Assistant	134	19	96	14	59	7	289	13
Pharmacist Assistant	20	3	10	1	17	2	47	2
Dentist Assistant	21	3	22	3	13	1	56	2
Secondary Nurse	400	57	302	43	133	15	835	36
Secondary Midwife	254	36	141	20	79	9	474	21
Secondary Lab.	48	7	20	3	15	2	83	4
Secondary Nurse/ Dental nurse	1	0	0	0	1	0	2	0
Primary Nurse / Dental nurse	0	0	5	1	2	0	7	0
Secondary Nurse/ Basic eye nurse	8	1	2	0	0	0	10	0
Anesthetic nurse	17	2	7	1	7	1	31	1
Technician RX	9	1	5	1	2	0	16	1
Physiotherapist	13	2	17	2	1	0	31	1
Primary Nurse	272	39	220	31	88	10	580	25
Primary Midwife	55	8	51	7	39	4	145	6
Primary Lab	23	3	13	2	11	1	47	2
Health Agent	0	0	1	0	0	0	1	0
Pharmacist Preparatory	3	0	2	0	1	0	6	0
Secourist	0	0	0	0	1	0	1	0
Medical Traditional	0	0	0	0	0	0	0	0
Administrative Staff	42	6	1	0	10	1	53	2
Personnel non Techni.	18	3	30	4	14	2	62	3
Others	48	7	44	6	43	5	135	6
TOTAL	1610	230	1123	160	615	68	3348	146
Average total personnel	230		160		68		459	

TABLE E5: SUMMARY OF PROVINCIAL HOSPITAL STAFFING BY PROVINCIAL POPULATION SIZE GROUP

TABLE E6: Cambodia: Provincial Hospitals - Medical Doctors and Medical Assistants: Population, Beds, and Hospital Utilisation Statistics, 1997-1998

PROVINCE	Category of facility	Population 1997	Beds	Separations	EHD	Average daily census	ALS (days)	BOR 1997	Medical Doctor (Specialist)	Medical Doctor	Medical Assistant	Total Doctors and Med Assts	Population per (Dr+MA)	Beds per (Dr+MA)	Separations per (Dr+MA)	EHD per (Dr+MA)	ADC per (Dr+MA)
Battambang	PH	740,608 ^a	533	13,866	99,317	272	7.2	51.1	3	45	46	94	7,879	6	148	1057	3
Siem Reap	PH	597,587	350	9,661	90,423	248	9.4	70.8	2	25	11	38	15,726	9	254	2380	7
Banteay Meanchey	PH	525,229	329	8,640	43,646	120	5.1	36.3	0	22	15	37	14,195	9	234	1180	3
Kampong Thom	PH	571,729	305	2,995	27,860	76	9.3	25.0	0	13	12	25	22,869	12	120	1114	3
Kampong Cham	PH	1,600,397	248	5,027	31,089	85	6.2	34.3	1	24	13	38	42,116	7	132	818	2
Pursat	PH	336,960	242	5,603	42,732	117	7.6	48.4	0	9	12	21	16,046	12	267	2035	6
Svay Rien	PH	473,348	200	3,691	27,837	76	7.5	38.1	0	21	12	33	14,344	6	112	844	2
Kampong Chhnang	PH	363,050	195	4,737	33,607	92	7.1	47.2	1	8	7	16	22,691	12	296	2100	6
Kampong Speu	PH	606,190	173	3,590	21,020	58	5.9	33.3	0	25	14	39	15,543	4	92	539	1
Kampot	PH	559,044	159	2,449	12,498	34	5.1	21.5	0	13	24	37	15,109	4	66	338	1
Takeo	PH	772,712	158	4,663	37,640	103	8.1	65.3		13	8	21	36,796	8	222	1792	5
Kandal	PH	1,017,323	150	3,755	28,918	79	7.7	52.8	0	30	16	46	22,116	3	82	629	2
Phnom Penh	PH	805,544	150	3,696	16,862	46	4.6	30.8	0	38	27	65	12,393	2	57	259	1
Kratie	PH	234,473	140	3,928	25,017	69	6.4	49.0	0	14	14	28	8,374	5	140	893	2
Sihanouk Ville	PH	128,154	120	2,649	17,040	47	6.4	38.9	0	18	4	22	5,825	5	120	775	2
Ratanak-kiri	PH	80,868	119	1,636	9,487	26	5.8	21.8	0	6	6	12	6,739	10	136	791	2
Preah Vihear	PH	946,398	110	2,535	21,722	60	8.6	54.1	0	9	13	22	43,018	5	115	987	3
Preah Vihear	PH	107,435	110	3,439	31,111	85	9.0	77.5	0	12	14	26	4,132	4	132	1197	3
Stung Treng	PH	76,677	109	2,942	17,776	49	6.0	44.7	1	7	10	18	4,260	6	163	988	3
Koh Kong	PH	101,780	70	656	3,126	9	4.8	12.2	0	12	5	17	5,987	4	39	184	1
Mondul-kiri	PH	27,174	39	1,203	6,066	17	5.0	42.6	0	1	8	9	3,019	4	134	674	2
Kep	PH	27,652	10	440	2,114	6	4.8	57.9	0	4	3	7	3,950	1	63	302	1
Pailin	PH	22,844	na	na	na	na	na	na	0	3	9	12	1,904	na	na	na	na
TOTAL		10,700,332	4,019	91,801	646,908	1,772	Mean=7.0	Mean=44.1	8	369	294	671	15,947	6	137	964	3

TABLE E6: PROVINCIAL HOSPITALS - BEDS, UTILISATION AND MEDICAL STAFFING

PROVINCIAL HOSPITALS - BEDS, UTILISATION AND NURSING STAFF

TABLE E7: Cambodia: Provincial Hospitals - Nurses and Midwives: Population, Beds and Hospital Utilisation Statistics 1997-1998

PROVINCE	Category of Facility	Population 1997	Beds	Separations	EMG	Average daily census	ALS (days)	BGR 1997	Secondary Nurse	Pop per Secondary Nurse	Beds per Secondary Nurse	ADC per Secondary Nurse	Primary Nurse	Pop per Primary Nurse	Secondary/Mide	Pop per Secondary/Mide	Primary/Midwife	Total Nursing and Midwifery Personnel	Pop per Nursing & Midwifery employee	Beds per Nursing & Midwifery employee	Separations per Nursing & Midwifery employee	EMG per Nursing & Midwifery employee	ADC per Nursing & Midwifery employee
Battambang	PH	740,600	533	13,868	99,317	272	7.2	51.1	154	4,809	3	2	76	9,745	102	7,267	11	343	2,159	1.6	40	250	0.8
Siem Reap	PH	597,587	350	9,661	90,423	248	9.4	70.8	40	14,940	9	6	29	20,606	41	14,575	12	122	4,898	2.9	75	741	2.0
Banteay Meanchey	PH	525,229	329	8,640	43,646	120	5.1	36.3	52	10,101	6	2	48	10,942	35	15,007	10	145	3,622	2.3	60	301	0.8
Kampong Thom	PH	571,728	305	2,955	27,860	76	9.3	25.0	41	13,945	7	2	17	33,631	18	31,763	13	89	6,424	3.4	34	313	0.9
Kampong Cham	PH	1,600,397	248	5,027	31,089	85	6.2	34.3	67	23,887	4	1	32	50,012	46	34,791		145	11,037	1.7	35	214	0.6
Pursat	PH	336,960	242	5,603	42,732	117	7.6	48.4	50	6,739	5	2	0	na	35	9,627	2	87	3,073	2.8	64	491	1.3
Svay Rean	PH	473,348	200	3,691	27,837	76	7.5	38.1	31	15,269	6	2	34	13,922	9	52,594	10	84	5,635	2.4	44	331	0.9
Kampong Chhnang	PH	363,050	195	4,737	33,607	92	7.1	47.2	34	10,678	6	3	32	11,345	12	30,254	7	85	4,271	2.3	56	396	1.1
Kampong Speu	PH	606,190	173	3,590	21,020	58	5.9	33.3	28	21,650	6	2	56	10,825	14	43,299	5	103	5,885	1.7	35	204	0.6
Kampul	PH	559,044	159	2,449	12,498	34	5.1	21.5	66	8,470	2	1	33	16,911	18	31,058	4	121	4,620	1.3	20	103	0.3
Takeo	PH	772,712	158	4,663	37,640	103	8.1	65.3	46	16,798	3	2	33	23,416	14	55,194	3	96	8,049	1.6	49	392	1.1
Kandal	PH	1,077,323	150	3,755	28,918	79	7.7	52.6	38	26,772	4	2	47	21,645	15	67,022	2	102	9,974	1.5	37	284	0.8
Plasom	PH	805,544	150	3,696	16,862	46	4.6	30.8	35	23,016	4	1	27	29,835	26	30,902	3	81	8,852	1.6	41	185	0.5
Kratie	PH	234,473	140	3,928	25,017	69	6.4	49.0	28	8,374	5	2	32	7,327	17	13,793	7	84	2,791	1.7	47	258	0.8
Sihanoukville	PH	128,159	120	2,649	17,040	47	6.4	38.9	30	4,272	4	2	18	7,120	19	6,745	8	75	1,709	1.6	35	227	0.6
Ratanak-kiri	PH	80,808	119	1,636	9,487	26	5.8	21.8	11	7,352	11	2	0	na	7	11,553		18	4,493	6.6	91	527	1.4
Prey Veng	PH	946,398	110	2,535	21,722	60	8.6	54.1	20	47,320	6	3	28	33,800	10	94,640	24	82	11,541	1.3	31	205	0.7
Preah Vihear	PH	107,435	110	3,439	31,111	85	9.0	77.5	13	8,264	8	7	0	na	16	6,715	7	36	2,984	3.1	56	864	2.4
Stung Treng	PH	76,677	109	2,942	17,776	49	6.0	44.7	31	2,473	4	2	1	76,677	16	4,792	6	54	1,420	2.0	54	329	0.9
Koh Kong	PH	101,780	70	656	3,126	9	4.8	12.2	7	14,540	10	1	1	101,780	7	14,540	7	22	4,626	3.2	30	142	0.4
Mondul-kiri	PH	27,174	39	1,203	6,066	17	5.0	42.6	16	1,698	2	1	4	6,794	3	9,058	1	24	1,132	1.6	50	253	0.7
Kep	PH	27,652	10	440	2,114	6	4.8	57.9	2	13,826	5	3	2	13,826	3	9,217	1	8	3,457	1.3	55	264	0.7
Pathum	PH	22,844	na	na	na	na	na	na	8	2,856	na	na	30	761	7	3,263	9	54	423	na	na	na	na
TOTAL		10,700,332	4,019	91,801	640,908	1,772	Mean=7.0	Mean=44.1	840	Av 12,738	Mean=4.8	Mean=2.1	550	Av 19,455	483	Av 22,154	143	2,016	Av 5,308	Av 2.0	Av 46	Av 321	Av 0.9

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ឆ្នាំ ១៩៩៩

Kingdom of Cambodia

Nation Religion King

Ministry of Health

National Policies and Strategies

for

Human Resources for Health

1999 - 2003

Ministry of Health, December 1999

Introduction

Human Resource Development (HRD) is one of the three main components of the Cambodian Health Sector Reform (HSR). All three aspects of HRD - planning, training and management - have implications for the reform process. The Ministry of Health will ensure that changes in HRD are consistent with the overall public administrative reform of the country as well as with the HSR.

The first Health Workforce Development Plan 1996-2005, which was adopted in May 1997, is providing direction for HRD change. The Plan provides comprehensive information on the health workforce situation in the country, including clear information on health worker supply and demand during the Plan period. Change is also planned in the area of training. The restructuring of the health care system requires health workers possess skills to manage the change and skills to deliver services according to the new health system. Curriculums and training are being revised and redesigned in order to meet the HSR goals. Changes will be made according to the Training Master Plan. The HSR also necessitates the improvement of health worker management in line with the reform policies and strategies of the government and the Ministry of Health. This includes the strengthening of the staff selection and recruitment system; job descriptions; staff motivation; staff deployment and reallocation; systems of reward and sanction; information and research.

The Policies and Strategies for Human Resources for Health has been developed to present the policies and strategies of the Ministry of Health related to human resources, so as to provide clear direction for the implementation and coordination of activities through a period of five years from 1999 to 2003. The development of this document was conducted through a participatory process involving major stakeholders. The development is based on a situation analysis of current health workforce, and takes into consideration the wider context of the health sector and public administrative reform, and the social and economic realities of the Kingdom of Cambodia.

The implementation of the Policies and Strategies for Human Resources for Health will be regularly monitored and reviewed.

1. Policies and Strategies on Health Workforce Planning

The Ministry of Health assumes primary responsibility for planning, monitoring and evaluating the health workforce in order to meet the specific health service needs of Cambodia including both the public and private sectors.

Key Strategies

1. The Department of Human Resource Development and the Department of Planning and Health Information assume overall responsibility for health workforce planning, in close collaboration with the Personnel Department, training institutions and relevant MoH Departments/Programs/Centers, other Ministries and Agencies.
2. A national Health Workforce Development Plan, with Training Master Plan, has been developed to provide direction for health worker training, based on existing and projected staff levels, staff establishment targets, demand for health services, and overall Ministry of Health policies, plans and strategies.
3. This Plan will take into account relevant aspects of the Cambodian context such as National Public Administrative Reform and the socioeconomic, demographic and epidemiological situation.
4. The Department of Human Resource Development and Department of Planning and Health Information will provide technical assistance as needed to support health workforce development planning at all levels of the health system, consistent with national directions.
5. The Human Resource Database has been developed, and will be used to meet ongoing data requirements for health workforce planning and other human resource activities.
6. The MoH will fully support the implementation of the Health Workforce Development Plan, including regulation of training intakes, recruitment of graduates, and deployment of staff.
7. Urgent action will be taken to define posts and establishment levels for all MoH health facilities, institutions and departments, in order to facilitate health workforce planning.
8. The status of the health workforce will be monitored and reviewed regularly. A formal biennial review of the Health Workforce Development Plan will be undertaken.

2. Policies and Strategies on Human Resource Training

2.1. Policy on Pre-service Training: Health Workforce Needs

The Ministry of Health will seek to ensure that the health workforce grows in line with health service needs and population size, with due consideration given to quality of the health workforce as well as cost efficiency and relevance of pre-service training.

Key Strategies

1. The Department of Human Resource Development will collaborate with training institutions to regulate intakes into training programs. Intakes will be based on targets specified in the Health Workforce Development Plan.
2. Selection of trainees to participate in pre-service training programs will be based on identified health service needs in particular regions or health facilities, together with educational levels of trainees.
3. Primary level pre-service training programs will be reconsidered as an option to meet the health facility needs of rural and remote areas.
4. Alternative options will be explored regarding upgrading training programmes from primary to secondary level.
5. The Ministry of Health will collaborate with other relevant Ministries, such as Ministry of Public Function and Ministry of Planning, to advocate appropriate levels of employment of new graduates to meet the needs of the public health sector, within the overall context of National Public Administrative Reform and health system development.

2.2. Policy on In-Service Training : Human Resources for Quality Health Services

The Ministry of Health is committed to providing quality health services to all Cambodians, particularly those living in rural areas, and priority will be given to improving the skills of health workers in those areas.

Key Strategies

1. Minimum Package of Activities (MPA) will be implemented at Health Center level, and Health Center staff will be trained in order to manage and provide these services.
2. Complementary Package of Activities (CPA) will be implemented at Referral Hospital level, and Referral Hospital staff will be trained in this package, including management, in order to provide these services.

3. Specific refresher courses will be identified and implemented according to specific needs of each level.

4. The Continuing Education System will be strengthened through strategies including the clarification of roles and functions, and regular supervision / support.

2.3. Policy on Post-Graduate Training : Specialty Training Directions & Priorities

The Ministry of Health recognizes the growing demand and need for specialized health services including public health, and will pursue the development of relevant post-graduate training programs in Cambodia, while maintaining the current/planned level of support and resources for pre-service and in-service training programs.

Key Strategies

1. The development of post-graduate training programs for health workers in Cambodia will be based on identified priority health service needs, and will reflect the principles of quality, relevance and cost-efficiency. Coordination will be the responsibility of the Department of Human Resource Development.

2. The Ministry of Health will urgently identify and implement appropriate and affordable training strategies to increase the numbers of qualified midwives in the public health sector, and the availability of life saving obstetric services.

3. Links will be established between Cambodian training institutions and appropriate training institutions in the ASEAN Region, and beyond, in order to promote collaboration, strengthen training capacity and improve quality.

4. Selection of MoH staff for post-graduate training, in-country or abroad, will be based on the capacity of the candidate to apply this training course for the maximum benefit of the MoH on their return. Where necessary, likely candidates will be nominated for language training in advance, in order to prepare them for study.

5. Participants in post-graduate programs in Cambodia and overseas will be contracted to work for the MoH in a designated posts for a period of at least three years after completion of training.

2.4. Policy on Coordination and Quality Enhancement of Training

The Ministry of Health will take such measures as necessary to ensure that all training of the health workforce is relevant, cost efficient, of high quality, competency-based, and addresses the priority health needs of Cambodia.

Key Strategies

1. The Department of Human Resource Development will have overall responsibility for coordinating, monitoring and evaluating health worker training.
2. The Human Resource Development Sub-Committee of CoCom will act as an advisory and support body for the Department.
3. The MoH will develop standards for health worker training. All training courses offered in Cambodia must meet the set standards of the Ministry.
4. The MoH provides accreditation, certificate or degree for all in-country training with the exception of undergraduate training, which requires collaboration with the Ministry of Education Youth and Sport.
5. The capacity of training institutions will be strengthened through training, supervision and support of staff, including part-time clinical teachers, upgrading of facilities, and other measures as appropriate.
6. The MoH will review the current funding practices related to training, particularly in-service training, in order to improve standardization and sustainability.
7. A system of registration/licensing for all health professionals practicing in Cambodia will be organized in collaboration with relevant institutions/organizations.

3. Policies and Strategies on Management of Human Resources for Health

The Ministry of Health will take such measures as necessary to effectively carry out activities of personnel management based on law, sub-decree, circular of the Royal Government, and appropriate guidelines of the Ministry in order to successfully achieve the Public Administrative Reform program of the Government

3.1. Policy on Operational Plan for Personnel Needs

Health personnel needs for all health units/facilities will be identified and met based on the Health Workforce Development Plan.

Key Strategies

1. The Department of Personnel will closely collaborate with the Department of Planning and Health Information, and the Department of Human Resource Development for the purpose of determining the number of health staff needed in all health units / facilities on an annual operational plan basis.
2. The Department of Personnel will regularly prepare the tables of operational information so as to identify the number of staff leaving the government service.
3. The Department of Personnel will prepare all administrative papers for professional management, administrative management for all health personnel as well as prepare technical positions/posts and human resources for the Ministry.

3.2. Policy on Recruitment and Deployment of Health Personnel

The Ministry carries out recruitment of staff to the government service, staff transfer to the Ministry, and internal transferring based on law and guidelines of the Royal Government, and determines the number according to the practical need based on establishment levels.

Key Strategies

1. Based on identified needs for personnel the Ministry of Health will request to the Royal Government through the Secretariat of Public Function in order to recruit health professional and other professional to the Ministry service according to the co-statute of civil servants of Cambodia.
2. Based on identified needs the Ministry will consider requests and make decisions regarding staff transfer from other ministries or institutions in accordance with regulation.
3. Staff internal transfer will be carried out according to the needs of the health system.

4. Staff recruited or transferred into Ministry of Health will be deployed based on identified personnel needs in specific health units/facilities at all levels.
5. The Ministry will support the development of posts, establishment levels and job descriptions, based on the official MoH organogram.
6. The Ministry will seek to provide incentives to encourage staff to work in under served areas, particularly in remote and rural areas.

3.3. Policy on Leadership and Management of Health Personnel

The Ministry of Health will provide leadership and management for health personnel.

Key Strategies

1. The Ministry of Health enforces the implementation of regulation on personnel leadership/management consistent with role and functions, structure and hierarchy, in order to obtain better performance of work.
2. The Ministry of Health will seek to strengthen the implementation of the government regulations and/or law regarding the private practice of public servants.
3. The Ministry of Health provides training on administrative and health personnel management to health officials in managerial position so that they understand the regulations on leadership and delegation.

3.4. Policy on Monitoring, Supervision, and Evaluation of Health Personnel Management

The Ministry of Health enhances monitoring, supervision and evaluation of health units / facility performance at all levels with a view to obtaining better performance based on law circular and decision of the government, the Ministry of Health and institutions concerned.

Key Strategies

1. The Ministry of Health prepares schedules and conducts supervision of health unit/facility personnel management for the purpose of monitoring and improving the effectiveness and efficiency of performance in conformity with state law and guidelines.
2. Monitoring and evaluation will ensure staff encouragement and serve all legal benefits of personnel in their professional jobs.
3. Staff promotion will be based on qualification, experience and work performance according to regulation and law.

4. The MoH will strengthen mechanisms for career development and identify career pathways within the Ministry in order to improve staff motivation and performance.
5. Discipline of health staff will conform with state law and real fault, avoiding unfairness or abuse of power to individuals.
6. Guidelines on encouragement for units/facilities or individuals that have good performance should be strengthened.

Phnom Penh, 17 December 1999

Senior Minister and Minister for Health



Dr. HONG SUN HUOT