

## 2. 世界エイズ・結核・マラリア基金(GFATM)の組織機構と活動内容

### 2.1 基本原則

GFATMは、政府・国際機関等の公的機関と、財団、NGO、企業等の民間機関とのパートナーシップに基づいており、公・民の連携(public-private partnership)が実際に機能するような運営の仕組みを確立することが求められている。また、資金提供機関であり、事業実施機関ではないこと、追加的資金を提供するだけであり、既存の資金の代替ではないことが定められている。資金提供と事業実施にあたっては、受益国の主体性(national ownership and country-led processes)を尊重し、独立した技術審査パネル(Technical Review Panel: TRP)が、受益国からの申請案件を評価している。

GFATMは、エイズ、結核、マラリアという3つの感染症に対して、予防・治療の両面から包括的に支援し、地域的にも幅広くバランスのとれた支援をするよう定められている。成果に基づく資金提供(performance-based funding: PBF)という方式が採用されており、事業の進捗状況により次の資金の送金の可否を決めることが、契約締結時に定められている。運営コスト節減のため、事務局はジュネーブの本部のみであるが、現地監査機関(Local Fund Agent: LFA)が実施状況を報告する仕組みがあり、説明責任と透明性を確保している。申請・報告等の手続きを簡素化して迅速に効率的な支援をするよう、指標を少数にしたり、既存の報告書を活用したりすることを認めている。

### 2.2 組織機構

#### 2.2.1 本部組織

理事会は、GFATM全体の管理・運営方針や支援案件の決定を行う、最高意思決定機関である。受益国、出資国、民間財団、NGO、企業、感染者代表からなる議決権のある理事20名と、世界銀行、世界保健機関(World Health Organization: WHO)、国連エイズ合同計画(Joint United Nations Programme on HIV/AIDS: UNAIDS)、スイスの代表からなる議決権のない理事4名の、計24名で構成されている。理事会には、倫理委員会(Ethics Committee: EC)、財務監査委員会(Finance and Audit Committee: FAC)、政策戦略委員会(Policy and Strategy Committee: PSC)、ポートフォリオ委員会(Portfolio Committee: PC)が置かれている。

事務局は、ジュネーブにあり、資金調達、資金提供管理、実務面での支援、法的支援、理事会運営、広報等を行っている。ジュネーブ以外に事務所はなく、全体予算に占める事務局経費の割合は3%以下である。現職員数は約355名で、その国籍は78カ国以上である。GFATMの資金そのものは世界銀行が管理しており、事務体制や職員の身分はWHOに準じている。

TRPは、提出された申請書を審査する独立機関で、保健、開発の専門家約30名で構成されている。専門的観点から申請案件の期待できる効果を判断し、承認、条件付き承認、再申請勧告、却下に分類し、理事会に推薦する。

#### 2.2.2 現地組織

国別調整メカニズム(Country Coordinating Mechanism: CCM)は、受益国の国内委員会で、申請案件の形成と提出、事業の実施状況の監督をする。CCMの構成は、国によって異なるが、政府、NGO、感染者、開発援助機関、国際機関、企業等の代表からなっている。

資金受入責任機関(Principal Recipient: PR)は、資金の受領者として、事務局と契約を締結し、資金の適正管理や事業の遂行に責任を負う。一定期間内の達成目標と事業の進捗状況を検討して、次の資金を要請する。PRを通して、さらに複数の実施機関(Sub Recipient: SR)に資金が配分される。PRは、SRを監督し、事業全体の進捗状況をCCMに報告する。PRとなる組織は、案件ごとにCCMの推薦によって決定される。保健省等の政府機関がPRとなることが多いものの、国ごとに多様であり、複数のPRが置かれることもある。

LFA は、多くの場合現地の監査法人で、PR による定期的な支払要請、事業報告、財務報告を監査し、GFATM の取るべき措置について助言する。

### 2.2.3 評価体制

TERGは、GFATM全体の効率性と効果を評価する独立した委員会で、理事会のPSCに報告する。TERGは、感染症対策や開発事業に関する専門家、研究者、NGO等から、理事会の承認を得て選出された9名と、PSC、UNAIDS、Roll Back Malaria (RBM)、Stop TB Partnershipのモニタリング・評価関係者4名によって構成されている。事務局運営、事業実績、パートナーシップ、感染症対策におけるインパクト等に関する評価を行い、理事会への提言を行っている。なお、本論文の共著者のうち、青山はTERGの現委員、喜多は前委員である。

## 2.3 活動内容

GFATMには、各国政府やゲイツ財団をはじめとする民間団体等が、2008年4月までに、約196億ドルの資金提供を誓約、約103億ドルがすでに拠出された。そのうち、8億4,652万ドルは、日本政府の拠出である。発足以来、第1次(2002年4月)、第2次(2003年1月)、第3次(2003年10月)、第4次(2004年6月)、第5次(2005年9月)、第6次(2006年11月)、第7次(2007年11月)の支援案件承認がなされ、136カ国で、497件、総額84億ドルの支援契約が締結された。第6次までの資金の、58%がエイズ、24%がマラリア、17%が結核の対策に使われ、全体の56%がサブサハラ・アフリカ対象、20%が南・東南アジア対象であった。これらの資金により、140万人のエイズ感染者、30万人の結核患者、4,400万人のマラリア患者が、薬剤による治療を受けられ、4,600万の蚊帳が配布されたとされている。

## 3. GFATMの5年評価

### 3.1 経緯・評価課題・基本原則

理事会は、評価戦略の一環として、資金提供のプロジェクトサイクルが最低1回完了した段階にて、GFATM設立の目標や基本原則に対する全般的パフォーマンスについて評価することを決定、TERGが、5年評価の計画・実施の監督責任を担うこととなった。2006年2月の第4回TERG会議で、5年評価の主要課題が決まり、2006年3月より、理事会やパートナー機関はじめ各方面の関係者との議論が重ねられた。

主要な評価課題は、まず、GFATMが、設立目標や基本原則にしたがって、効果的・効率的に機能している組織であるかということである。次に、3感染症対策を国・世界レベルで支援するのに、GFATMのパートナー体制が有効に機能しているかということである。最後に、実際に3感染症の負担が減ったか、それに対してGFATMはどのように貢献したかということである。

TERGは、5年評価をどのように実施するか、外部専門家の意見も加えて計画を作り、2006年8月の第6回TERG会議で、上記評価課題の回答を得るのに必要な調査内容、期間、予算に関する案を策定した。TERGの案は、理事会PSCとFACに諮られて改訂された。5年評価の実施については、以下の基本原則を定めた。

- (a) 優先的な評価課題に焦点を絞る。
- (b) GFATMやパートナー機関の保有する既存の情報・データを活用する。
- (c) 女性、貧困者等の社会的弱者はじめ、最もニーズのある人々に重点を置く。
- (d) 受益国の保健医療インパクト調査能力を向上させる。
- (e) 評価を戦略の開発と連携させる。
- (f) パートナー機関の評価への参加を確保する。
- (g) 受益国・パートナー機関はじめ、すべての関係者の評価に対する負担を軽減させる。



### 3.2 評価領域(SA)・期間・予算・契約

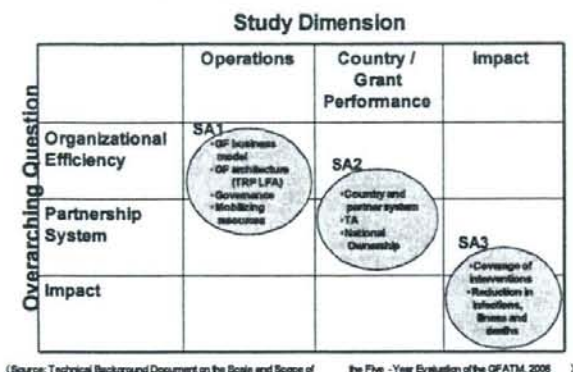
TERGは、5年評価を以下の3評価領域(SA)について実施することを提案した(図1)。

SA1 : GFATMという組織の効果・効率(Organizational Efficiency and Effectiveness)

SA2 : パートナー体制の有効性(Effectiveness of the Global Fund Partner Environment)

SA3 : 3感染症の負担緩和へのインパクト(Impact of the Global Fund on the 3 diseases)

図1: 5年評価の3評価領域



5年評価全体は、段階的に実施されることとなり、SA1の評価報告書は2007年11月、SA2の報告書は2008年1月、SA3の報告書は2008年7月、5年評価全体を統合した総合評価報告書は、2008年11月に完成し理事会に提出されることが計画された。報告書には、GFATMの組織や活動内容の改善に繋がる、実行可能な提言が求められた。SA1とSA2の報告書の提言にどのように対応したかは、最終の総合報告書に盛り込まれる。TERGの策定した各領域の評価予算案は、2006年の第14回理事会で承認された(表1)

表1: 5年評価の予算計画

Study Area and Components	2007 (US\$)	2008 (US\$)
<b>SA1 : Organizational Efficiency and Effectiveness</b>		
Efficiency study	129,000	
Key informant network	141,000	
Private sector, in-country contributions study	130,000	
Others	864,500	
<b>Total Study Area 1</b>	<b>1,264,500</b>	
<b>SA2 : Effectiveness of the Global Fund Partner Environment</b>		
Country Assessments (16 countries)	1,688,000	
Global key informants interview	72,000	
Others	669,000	
Final overall evaluation report		510,000
<b>Total Study Area 2</b>		<b>2,939,000</b>
<b>SA3 : Impact of the Global Fund on the 3 diseases</b>		
Comprehensive evaluation country studies (8 countries)	6,247,488	1,762,112
Secondary analysis country studies (12 countries)	1,742,160	1,368,840
Impact Evaluation Secretariat	440,000	440,000
<b>Total Study Area 3</b>	<b>8,429,648</b>	<b>3,570,952</b>
		12,000,600
<b>Grand Total (Overall 2 year budget)</b>	<b>12,592,098</b>	<b>4,549,902</b>
		17,142,000

(Source: Framework Document on the Scale and Scope of the Five-Year Evaluation. GFATM, 2006)

2006年12月に5年評価実施が公示され、入札の結果、保健・人口分野で著名なコンサルタント会社である米国のMACRO社が中心となり、ジョンズホプキンス大学、ハーバート大学、WHO保健情報部(Measurement and Health Information Systems)、CARE、AXIOS、APHRCといった、研究機関、NGO、コンサルタント会社が参加するコンソーシアムが受注した。契約期間は、2007年3月から2008年12月までとされた。TERGは、MACRO社らによる評価作業の進捗状況や内容を監督し、必要なら助言や指示をして評価の質を確保し、進捗状況や結果を、定期的に理事会PSCに報告する責務を担った。

### 3.3 評価領域(SA)1

SA1では、GFATMという組織の、効果・効率を評価する。すなわち、理事会、事務局、TRP、LFA等、組織各部の機能や、公・民連携、追加的資金提供、資金管理、PBF等、GFATM特有のビジネスモデルの有効性に関して評価するものである。評価項目としては、以下が挙げられる。(a) 機能と効率に重点を置いた組織発展のレビュー、(b) 基本原則に関するベンチマークの点検、(c) 事務局、受益国、パートナー等の、キー・インフォーマント・インタビュー、(d) LFA調査、(e) ガバナンスと資金調達に関する評価。

SA1の評価報告書は、計画通り2007年11月に完成し理事会に報告された。SA1評価により、GFATMが短期間で目覚ましい成果を上げ、状況に応じて変化している組織であること、次段階の発展には新たな責務を果たす必要があること、管理体制・事務手続きは現在のGFATMのニーズに合わなくなっていることが明らかになり、以下の提言がなされた。

(a) 戦略: 明確な活動計画を目指して基本原則に重点を置く。基本原則は有効であるが、ロジカルフレームワークとして再構成し、優先度によって活動計画を作るべきである。各国の疫学的状況や実施能力に応じ、どのようにして技術支援(technical assistance: TA)を得るかを明確にするべきである。

(b) パートナーシップ: パートナーの役割と責任を明確化する。資金提供、受益国の主体性重視、民間との連携促進というGFATMの基本原則を踏まえ、パートナーの果たすべき役割を明確にするべきである。

(c) ガバナンス: 理事会は戦略的課題に重点を置き、運営に関する問題は委員会や事務局に委ねるべきである。

(d) 組織構造: 中期人材計画を策定する。職員1人当たりが取扱う資金額から判断すると、組織は効率的であると言える。しかし、今後の事業拡大傾向を勘案すると、事務局費用の上限を見直し、必要な技能をもつ人材を登用するべきである。

(e) 事務手続きと資金管理: 資金管理手続きを簡素化し斬新なものとする。審査・供与の手続きを簡素化し、PBFに基づき資金管理を工夫する。資金提供期間をより長期化し、PBFによりパフォーマンスのよいところには、TRPの審査なしに資金提供期間と金額を増加させることが考えられる。また、急速な状況変化に対応してきたため、複雑で重複した事務手続きとなっており、このままでは事業拡大は難しいと考えられる。

(f) 目的遂行に不可欠な事項: 目的遂行に決定的な部分に問題があるので、ある程度の投資をして改善する工夫をする。GFATMは、資金の流れの監視体制を強化して、PR等によるSRレベルまでの支出を監視するべきである。また、調達部署を強化するべきである。さらに、情報管理システムを改善し、新資金管理システムを導入するとともに、民間セクターの参画を進めて資金増加をはかるべきである。

これらの提言については、事務局によるフォローアップがなされ、すでに提言の一部は実行されている。たとえば、コミュニケーション戦略案、人材戦略案が策定された。事務局予算の上限が見直され、FACは、事務局予算の上限を全支出の10%、提供した資金の3%とする規則を再検討している。また、財務報告体制が強化され、2008年より開始される予



定である。民間セクターに対する新しいキャンペーンも開始された。さらに、WHOに準じていた事務体制を、2008年5月に改める予定である。

### 3.4 評価領域(SA)2

SA2では、GFATMのパートナー環境の有効性を、世界的レベルで、また、さまざまな条件下の国レベルで評価し、提供資金を活用するのにパートナー環境がどのようなインパクトがあるかを検討する。世界的レベルでは、キー・インフォーマント調査を実施した。国レベルでは、パフォーマンスの良い国と悪い国から16カ国を選び、各国の状況や提供資金のパフォーマンスを包括的に分析した。詳細分析の対象国は、ブルキナファソ、エチオピア、マラウィ、ケニア、ナイジェリア、タンザニア、ウガンダ、ザンビア、イエメン、カンボジア、ベトナム、ネパール、キルギス、ハイチ、ホンジュラス、ペルーである。

SA2評価として、16カ国におけるデータ収集、700例ほどのイン・デプス・インタビューとフォーカスグループ・ディスカッション、95案件のパフォーマンス・レビューが実施された。世界的レベルにおける関係者の調査は、まだ十分ではない。ポートフォリオ全体のパフォーマンス分析はほぼ完成しているが、受益国の主体性、援助協調、調達に関するレビューはさらに進める必要がある。

SA2評価によって、パートナーシップ体制は、TA、保健医療システム強化、国レベルでの監視、及び、PBFに関して、課題のあることが判明した。GFATM自体は、急速に活動を拡大している幅広く斬新なパートナーシップであるという認識であるが、世界的レベルでのGFATMの位置づけは、TAや保健医療システム強化に尽力している他の主要機関に比べて、まだ確立されていない。国レベルでの事務局とパートナーの連携は、個人の努力に依存しており体系化されていない。TAは、申請書の書き方等に限られていて、案件サイクルに応じた体系的なTAは実施されていない。また、CCMやPRに対してはTAがなされているが、実際の活動を担っているSRにはほとんど達しておらず、SRに対するTAやパートナーシップが十分機能していない。しかし、効果的に能力向上を進めている案件のあることも調査結果から判明しており、そこからの教訓が抽出できると想定された。

SA2評価の最終報告書案は、2008年2月の第8回TERG会議に提出されたが、質的に不十分であったため受理されず、2008年5月の第9回TERG会議までに、改訂したSA2報告書案を提出することとなった。その後、6-7月にパートナーによる報告書のレビューと、パートナーシップ戦略を作成する議論が行われる。それらの議論を踏まえ、10月頃に理事会で議論して、11月に最終報告書が完成する予定である。すなわち、5月に報告書を完成するとしていた当初の計画より、6ヵ月遅れることになった。一次データ収集については十分であるが、分析に費やす時間が限定されるため、コンサルタント・チームのメンバーを補強するよう求められた。また、根拠に基づく実行可能な提言を明記することが、再度要請された。

### 3.5 評価領域(SA)3・今後の予定

SA3では、3感染症の負担の全般的緩和の程度とそれに対するGFATMの寄与に関して評価する。このインパクト評価では、GFATMばかりでなく他機関の活動も含めた全般的な効果を評価し、GFATMの寄与分を特定することはしない。包括的国別評価では、8カ国を対象として、死亡記録、サービス普及調査、サービスに関する記録、国内保健医療収支分析(National Health Accounts: NHA)等、幅広い一次データを収集して分析する。二次的国別評価では、12カ国を対象に既存の二次的データを収集し分析する。対象国の選定には、GFATMのポートフォリオ、地域、疫学的状況、評価調査の実行可能性等が考慮された。包括的評価は、ブルキナファソ、エチオピア、マラウィ、タンザニア、ザンビア、カンボジア、ハイチ、ペルーの8カ国を対象とし、二次的評価は、ベナン、ブルンジ、コンゴ民主共和国、ガーナ、モザンビーク、レソト、ルワンダ、インド、ネパール、ベトナム、キルギス、モ



ルドバの12カ国を対象とすることとなった。

このようなインパクト調査は前例がなく、全般的なインパクトを評価するという目的のみならず、受益国の能力を向上してインパクトを計測するシステムを形成することが期待されている。経験的データもインパクト推定には使用することとした。18ヵ月にわたり、20カ国を対象に評価調査が行われることとなり、2007年以降、各国にインパクト評価タスクフォースが置かれ、評価計画が作られた。評価計画には、政府記録のレビュー、過去の調査の分析、NHA、郡レベルの評価等が含まれ、データ収集する人材の研修がなされた。

調査対象国の主体性と参加意思を尊重しており、それぞれの国の状況により、進捗状況は一定ではない。南アフリカのように計画段階で辞退した国、インドのように政府が調査予算を計上しNHA等一部の調査を自力で実施する国、ネパールのように政情不安定のため参加意思を表明したのにも関わらず反応が遅れている国、カンボジアのようにNHAに関しては参加しない意向の国等がある。調査資金不足の国もあり、追加資金を他機関から得る努力もなされ、600万ドルが得られた。TERGは委員・事務局職員2-3名ずつを調査対象国に派遣して、調査の内容と進捗状況を監督している。

SA3は、5年評価の予算の75%を費やす主要な部分である。2008年4月頃からは、パートナーの参加する分析ワークショップを進める予定である。SA3の最終評価報告書作成と並行して、SA1、SA2の評価報告を合わせた総合評価報告書の作成も進めていく。SA2の報告書が遅れているため、当初は、2008年8月に第10回TERG会議を開催してSA3の報告書に関して議論する予定であったが、TERG会議を10月に延期して、SA3報告書と総合報告書を合わせて議論することとなった。評価の質を譲歩することなく、契約通り2008年11月の理事会に5年評価の報告ができるように、コンサルタントの努力が求められている。

#### 4. GFATMの5年評価の特色と課題

GFATMの5年評価は、外部コンサルタント会社によるコンソーシアムに外注し、TERGにより監督されている。実際に調査を担当するコンサルタント・チームが若手中心であると、分析能力が不足することがあり、実行可能な提言を作成するに至らない。TERGの監督により評価報告書の質が確保されており、TERGは、評価プロセスを監視し評価報告書を評価する役割を果たしている。TERG委員が現地調査監督に出張したり、通常より会議回数が増大したりするため、事務局費用と合わせ、外注した予算に加えて、5年評価に伴いかなりの費用を要している。しかし、外部機関に発注した評価の質を確保するには、TERGのような利害関係のない専門家による監視は必要不可欠と考えられる。

この5年評価には高額な予算を費やしているが、とくに、SA3インパクト評価に割り当てた予算が大きい。インパクト評価はこれまでほとんどなされていないこと、評価活動を通して受益国の調査能力を向上させること等、SA3評価をすることに意義があることは理解できる。しかし、発足からわずか5年でインパクトを測定するのは、時期尚早の感もある。また、対象となる20カ国は、地域や提供資金のパフォーマンス等を考慮して選定したとはいえ、対象国の主体性を尊重しているため、必ずしも当初の計画通り客観的であるとは言えない。たとえば、南アフリカが辞退したためレソトに変更したが、国の規模や経済社会開発水準が同等であるとは考えにくい。対象国を、20カ国よりもう少し絞り込んでもよかったのではないかと考えられる。対象国数を少なくすれば、大幅な予算節減にも繋がる。

評価結果を、どのように活用していくかも課題である。SA1の評価結果はすでに反映されているとのことだが、拡大傾向にあるGFATMの状況が前提となっている。GFATMのビジネスモデルの是非に関する考察や、世界的潮流が保健医療システム強化に向かう時、GFATMをどう位置づけて機能させていくかといった、本質的な議論はなお不足している。

## 5. おわりに

GFATMの5年評価は、現在 SA3の調査と分析が進行している。2008年11月頃には、SA3の評価報告書、及び、SA1・SA2・SA3の評価結果を合わせた総合評価報告書が完成する予定である。この評価が、今後どのようにGFATMの活動に反映されるか、また、GFATMの位置づけに関する本質的な議論に発展するか、今後も観察を継続していく。

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## 謝辞

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なお、本稿は著者らの見解によるもので、GFATM及びTERGの公式見解と必ずしも同一ではない。



## Seroprevalence of Leptospirosis and Risk Factor Analysis in Flood-prone Rural Areas in Lao PDR

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**Abstract.** A cross-sectional seroprevalence study on leptospirosis, using microscopic agglutination test (MAT), was conducted in rural villages in Khammouane Province, Lao People's Democratic Republic, in December 2006. The overall prevalence of leptospiral infection among 406 subjects was 23.9% (95% confidence interval [CI] 19.7-28.0%). Independent risk factors for the infection, identified by multivariate logistic regression, were male sex (odds ratio [OR], 1.92; 95% CI: 1.24-2.98), recent flooding on one's own property (OR, 2.12; 95% CI: 1.25-3.58), and collecting wood in the forest (OR, 1.90; 95% CI: 1.17-3.09). Age, occupation, and animal ownership were not associated with seropositivity. Flooding was associated with the risk of infection particularly for women, whose behaviors or activities involving contact with floodwater were presumed to play an important role. This study showed that leptospirosis is endemic in Khammouane Province and that local flooding plays an important role in the transmission of the disease.

### INTRODUCTION

Leptospirosis is a zoonosis caused by pathogenic spirochetes of the genus *Leptospira*.<sup>1-3</sup> Many wild and domestic animals are potential reservoirs of the bacteria, and transmission usually results from direct or indirect exposure to the urine of infected animals. People working with livestock and wild animals are at great risk of infection because of the high opportunity for direct exposure.<sup>4</sup> Indirect exposure (*i.e.*, contact with contaminated water and soil) has caused numerous outbreaks<sup>5,6</sup> and also plays a crucial role in endemic settings.<sup>7</sup> Clinical presentations of human leptospirosis range from asymptomatic infection to potentially fatal manifestations; however, the majority of infections are subclinical or a mild self-limiting systemic illness presenting as fever, malaise, and muscle pain.<sup>2</sup>

Although leptospirosis is one of the most widespread zoonoses in the world, it is more common in the tropical regions, because of the longer survival of leptospires in the environment and frequent human exposure to contaminated environments. However, because it is most prevalent in areas where diagnostic capabilities are limited, few reliable data on its incidence and prevalence in developing countries are available.<sup>1</sup>

There was a marked increase in the number of febrile patients at Khammouane Provincial Hospital in Khammouane Province in Lao People's Democratic Republic (Lao PDR), after severe floods had hit many parts of the province in August 2005. Screening for acute leptospirosis was carried out using locally available rapid diagnostic tests, and 81 of 327 (24.8%) turned out to be positive, suggesting that leptospirosis is quite common in Khammouane Province (technical report of Khammouane Provincial Health Office, unpublished data). Local flooding was presumed to play an important role in the transmission of the bacteria, although no epidemiologic studies were carried out to investigate risk factors of the disease.

The objectives of this study were to estimate the prevalence of leptospiral infection among people in rural villages of Khammouane Province in Lao PDR and to identify risk factors for the infection, including local flooding and other environmental and behavioral factors.

### MATERIALS AND METHODS

A random cross-sectional survey was carried out in two districts in Khammouane Province, Lao PDR, in December 2006. Khammouane Province, with a population of 340,000, is located ~250 km east-southeast of the Lao PDR's capital city, Vientiane (Figure 1). Among the nine districts in Khammouane Province, Thakhek and Nongbok Districts were selected because many cases of leptospirosis were diagnosed in those districts during the possible outbreak in 2005. The total population of the two districts is ~150,000, and most inhabitants of the districts are members of the Tai Lao group, the largest ethnic community in the country.<sup>8</sup> Villages in the two districts are located near streams or rivers and surrounded by irrigated or rainfed rice paddies. Rice farming is the primary occupation in Khammouane's villages, although many villagers also are engaged in other work such as vegetable and fruit gardening, livestock farming, fishing, and weaving. Houses are usually built high-floored on high wooden or concrete poles, with floor and walls of wood or bamboo. Roofing is of thatch, leaves, and recently of corrugated tinplate. Cattle and water buffalo are reared both in sheds and free range around the village. Pigs, goats, and chickens are also kept by many households, and they are usually reared free range around the houses.

A total of 406 persons  $\geq 15$  years of age (200 males and 206 females) were selected using a two-stage random cluster sampling technique. In the first stage, 24 villages (clusters) were selected from 213 villages in Thakhek and Nongbok districts by random sampling with probability-proportional-to-size (PPS).<sup>9</sup> From each selected village, 16-20 individuals,  $\geq 15$  years of age, were randomly selected per cluster, using a list of village inhabitants kept by the village leader. If the sampled individual was not present, an available person from the same household or in the immediate neighborhood was selected, with the same sex and closest in age.

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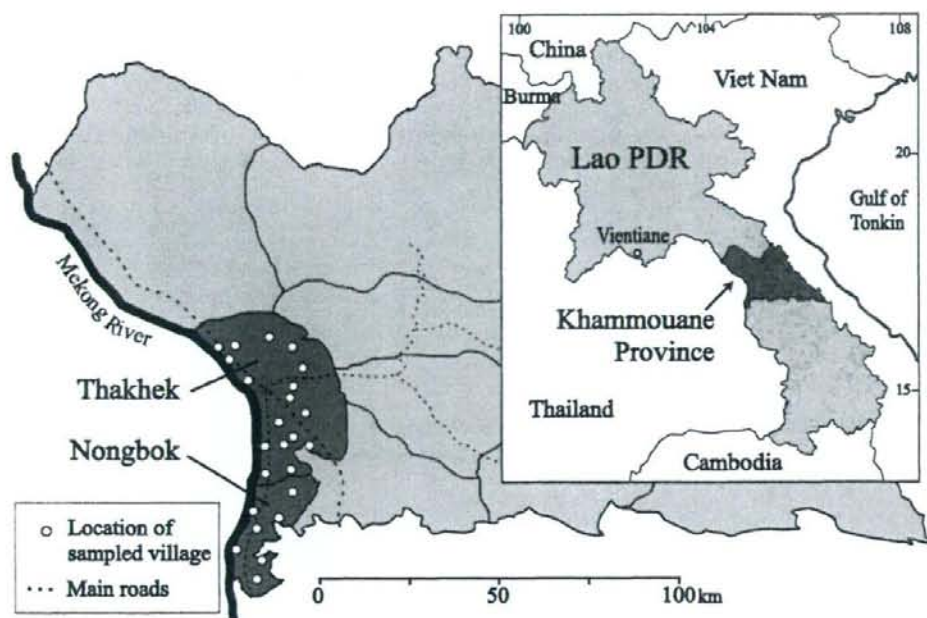


FIGURE 1. Khammouane Province, Lao People's Democratic Republic.

One individual face-to-face interview was carried out with each person selected for inclusion in the sample, using a structured questionnaire to collect information on that person's potential risk factors for leptospiral infection, such as occupation, ownership of different kinds of animals, activities associated with water and livestock, and the environmental conditions of the house and the village. After the interview, a venous blood sample was collected from each participant for determination of past leptospiral infections. A written informed consent was obtained from each participant before the interview and blood collection. Additional sessions of focus group discussion were held in two selected villages in July 2007 to obtain information regarding lifestyles and daily behaviors of the village populations. Ethical clearances for this study were obtained from the National Ethics Committee for Health Research, Ministry of Health, Lao PDR, and from the Ethics Review Committee of Nagoya University School of Medicine, Nagoya, Japan.

Frozen serum samples were sent to the laboratory of the National Institute of Infectious Diseases (NIID), Tokyo, Japan, for serologic analysis of leptospiral antibodies. The microscopic agglutination test (MAT) was performed for all serum samples, using a battery of 18 live *Leptospira* serovars from 15 serogroups, recommended by the World Health Organization.<sup>10</sup> A reactive antibody titer  $\geq 1/100$  was considered positive, based on previous serosurveys conducted in other developed and developing countries.<sup>11</sup> The serovar giving the highest titer was considered to indicate the presumptive serovar infecting the subject.

Collected data were entered in Epi Info version 6.4 (Centers for Disease Control and Prevention, Atlanta, GA). STATA release 9.2 (Stata Corp., College, TX) was used to derive descriptive statistics and in subsequent multivariate analyses. The considered risk factors were subjected to uni-

variate analysis using Wald  $\chi^2$  and Fisher's exact tests for the whole study population and for selected strata. Multivariate analysis using a logistic regression model was performed with the laboratory results, with seropositive or seronegative as dependent variables and with age, sex, and other behavioral, socioeconomic, and environmental variables as independent variables. The model was adjusted for the cluster sampling by the svy: command in STATA program, setting village as the primary sampling unit. A hierarchical backward elimination approach was used to identify significant interaction terms and exposure variables that were strongly associated with seropositivity for leptospirosis. Variables and interaction terms with Wald  $P \leq 0.05$  were considered significant.

## RESULTS

Of the 406 serum samples tested, 97 (23.9%) were seropositive for antibodies against *Leptospira* (95% confidence interval [CI]: 19.7–28.1%) with agglutination titers ranging from 1/100 to 1/800 (Table 1). Of the 15 serogroups tested, 12 were detected among the samples. The most prevalent serogroups were Panama, Autumnalis, Hebdomadis, and Icterohaemorrhagiae, which together accounted for 84% (81/97) of the seropositive samples. The prevalence among males (28.5%) was significantly higher than among females (19.4%). Seropositivity rates were almost uniformly distributed among all age groups.

Table 2 indicates the univariate associations between exposures and leptospiral infection. The median age of the infected was 35 years (range, 15–78 years), and median age among the non-infected was 36 years (range, 15–81 years). The age group of 35–44 years, which had the lowest seropositive rate (18.6%), was used as the reference group for the

TABLE 1

Prevalence of *Leptospira* antibodies in Khammouane Province: by sex and age

Variable	Subjects with antibodies	Total (N)	Prevalence (%)	95% Confidence interval	P*
Total	97	406	23.9	19.7-28.0	
Sex					
Male	57	200	28.5	22.2-34.8	0.032
Female	40	206	19.4	14.0-24.9	
Age (years)					
15-24	21	88	23.9	14.8-32.9	0.44
25-34	26	85	30.6	20.6-40.6	
35-44	18	97	18.6	10.7-26.4	
45-54	18	73	24.7	14.5-34.8	
≥ 55	14	63	22.2	11.7-32.8	

\* The Pearson  $\chi^2$  test was used to calculate P values.

statistical comparisons, but none of the other age groups were found to be significantly associated with infection ( $P > 0.05$ ) compared with the reference group.

Being male was associated with high seropositivity (odds ratio [OR], 1.65; 95% CI: 1.04-2.63). Seventy-seven (19%) of the sample population answered that at least some part of their land had been flooded at some time in the previous 2 years. Having experienced flooding of their land was slightly more frequent among non-infected persons than among infected persons (20.1% versus 15.5%), although the associa-

tion between flooding and seropositivity was not significant. Living in Thakhek District was very strongly associated with infection (OR, 2.80; 95% CI: 1.54-5.07;  $P = 0.0004$ ). The seroprevalence in Thakhek district (28.9%) was 2.3 times higher than in Nongbok district.

Univariate analysis indicated that infected persons were significantly more likely to walk barefoot around the house (OR, 2.11;  $P = 0.024$ ). Gathering wood in the forest was also associated with high OR (OR, 1.84;  $P = 0.027$ ). Activities involving water and animal contact were not associated with infection. Keeping dogs, cattle, and pigs was not associated with infection. Having chickens and ducks around the house was more frequent among non-infected than infected persons (87.7% versus 77.3%;  $P = 0.012$ ). Occupation, household water source, and condition and type of sanitary facility did not show associations with infection.

The result of multiple logistic regression analysis is shown in Table 3. Contrary to the result from the univariate analysis, recent history of flooding on the respondent's property was found to have a positive association with the infection (OR, 2.12; 95% CI: 1.25-3.58). Other risk factors for infection were being male, collecting wood in the forest, living in Thakhek district, and keeping no poultry at home. It is noteworthy that a strong interaction was observed between sex and a history of flooding on the respondent's property in the multivariate regression analysis. Both factors were independently associ-

TABLE 2

Univariate results of potential risk factors among persons MAT positive and MAT negative for leptospirosis

Variable	MAT result				OR	(95% CI)	P*
	Positive (N = 97)		Negative (N = 309)				
	N	Percentage	N	Percentage			
Age groups (years)							
35-44	18	(18.6)	79	(25.6)	1 (reference)		
15-24	21	(21.6)	67	(21.7)	1.38	(0.67-2.80)	0.38
25-34	26	(26.8)	59	(19.1)	1.93	(0.96-3.89)	0.059
45-54	18	(18.6)	55	(17.8)	1.44	(0.68-3.02)	0.34
≥ 55	14	(14.4)	49	(15.9)	1.25	(0.57-2.76)	0.57
Sex							
Female	40	(41.2)	166	(53.7)			
Male	57	(58.8)	143	(46.3)	1.65	(1.04-2.63)	0.032
District							
Nongbok	16	(16.5)	110	(35.6)			
Thakhek	81	(83.5)	199	(64.4)	2.80	(1.54-5.07)	0.0004
Recent flooding on one's own property	15	(15.5)	62	(20.1)	0.73	(0.39-1.35)	0.31
Individual activities							
Collect water from stream	26	(26.8)	105	(34.0)	0.71	(0.43-1.18)	0.19
Swim in stream	52	(53.6)	164	(53.1)	1.02	(0.65-1.62)	1.62
Walk barefoot	85	(87.6)	238	(77.0)	2.11	(1.09-4.11)	0.024
Collect wood in the forest	77	(79.4)	209	(67.6)	1.84	(1.06-3.19)	0.027
See rodents around house	94	(96.9)	288	(93.2)	2.28	(0.66-7.87)	0.18
Household animal ownership							
Dogs	55	(56.7)	180	(58.3)	0.94	(0.59-1.49)	0.79
Cattle	52	(53.6)	194	(62.8)	0.68	(0.43-1.09)	0.11
Pigs	22	(22.7)	64	(20.7)	1.12	(0.65-1.95)	0.68
Poultry	75	(77.3)	271	(87.7)	0.48	(0.27-0.86)	0.012
Occupation							
Rice field farmer	86	(88.7)	280	(90.6)	0.81	(0.39-1.69)	0.57
Vegetable/fruit farmer	24	(24.7)	102	(33.0)	0.67	(0.40-1.12)	0.13
Livestock farmer	9	(9.3)	30	(9.7)	0.95	(0.43-2.08)	0.90
Fisher	5	(5.2)	14	(4.5)	1.15	(0.40-3.27)	0.80
Household water source							
Well	91	(93.8)	272	(88.0)			
River, lake	6	(6.2)	37	(12.0)	0.48	(0.20-1.19)	0.11
Household sanitary facility							
Toilet/latrine	40	(41.2)	138	(44.7)	0.87	(0.55-1.38)	0.55

\* The Wald  $\chi^2$  test was used to calculate P values.



TABLE 3

Risk factors for leptospiral infection by multivariate logistic regression

Variable	Adjusted OR (95% CI)	P
Sex (female = 0, male = 1)	1.92 (1.24-2.98)	0.005
Recent flooding on one's own property	2.12 (1.25-3.58)	0.007
Collect wood in the forest	1.90 (1.17-3.09)	0.012
Reside in Thakhek district	2.80 (1.90-4.12)	< 0.001
Keep no poultry at home	2.22 (1.10-4.48)	0.029
See rodents around house	2.63 (0.73-9.44)	0.13
Walk barefoot	1.58 (0.72-3.46)	0.24
Collect water from stream	0.83 (0.49-1.41)	0.48
Swim in stream	0.86 (0.50-1.48)	0.58
Sex × flood	0.26 (0.11-0.63)	0.005

ated with high risk of infection (OR, 1.92 and 2.12, respectively). However, if the person was male and had also experienced flooding of his land, the OR dropped to 1.06 ( $1.98 \times 2.11 \times 0.26$ ). Seeing rodents around the house, walking barefoot, gathering water from the stream, and swimming in the stream did not show significant associations with seropositivity. However, they were found to confound other variables and therefore were retained in the model.

## DISCUSSION

This is the first study that investigated both seroprevalence and risk factors for leptospiral infection in Lao PDR. Only a limited number of case reports and hospital-based studies for leptospiral infection in Lao PDR have been published.<sup>12,13</sup> We found that the overall prevalence of infection among rural populations in two districts of Khammouane Province was 23.9%. A serosurvey on leptospiral infection had been conducted previously among the general population in four different provinces in Lao PDR in 2000 and 2001, using the IgG ELISA to detect antibodies.<sup>14</sup> In that survey, the four provinces' prevalence rates ranged from 19% to 45%. Although different diagnostic methods were used, our findings are comparable to those of the previous survey, which suggests that leptospirosis is widely distributed in Lao PDR.

Southeast Asia is recognized as a leptospirosis-endemic region,<sup>14-16</sup> and several epidemiologic studies have been conducted in the area. A survey in the Mekong Delta, Vietnam, found a prevalence of 19%,<sup>17</sup> whereas a cross-sectional survey of 315 persons involved in high-leptospirosis-risk activities in Thailand reported a prevalence as high as 41%.<sup>18</sup> Leptospirosis is now increasingly recognized as an important cause of acute febrile illness,<sup>14,19</sup> among other febrile diseases such as malaria, dengue fever, scrub typhus, and other rickettsial diseases, which are commonly observed in Southeast Asia.<sup>13,20-22</sup> In a study in Thailand, 37% of patients with acute undifferentiated febrile illnesses were found to have leptospirosis.<sup>21</sup> Our findings also indicate that it is important to consider leptospirosis in the differential diagnosis of febrile illness in Lao PDR.

In this study, males had a significantly higher risk of infection (OR, 1.92), which suggests that males are likely to have contact with leptospires through their daily activities or occupational exposures,<sup>23-25</sup> because there were differences in certain daily activities between males and females. For example, the proportion of barefoot walkers was significantly

higher in males than in females (86% versus 73%;  $P = 0.002$  with  $\chi^2$  test). Swimming in streams and collecting wood were also common in males. Previous studies in Central America and South Asia showed that certain activities influence the transmission of leptospires and possibly contribute to the male predominance in seropositivity.<sup>7,25-27</sup> Among those activities, walking barefoot has been considered to be one of the important risk factors for the infection, especially in developing countries.<sup>7,18,25,28</sup> Behavioral changes for reducing environmental exposure to the bacteria are therefore likely to contribute to the prevention of leptospiral infection in Lao PDR. Regarding occupational exposures, on the other hand, we found that the proportion of persons engaged in rice farming was almost equal among males and among females (92% and 89%, respectively), as was also the case in other occupations, because most of the occupational activities in the region are uniformly performed by males and females.<sup>8</sup> Thus, occupation is not an important factor related to the male predominance in seropositivity in Lao PDR.

This study showed a strong association between a history of recent flooding of the participant's own land and leptospiral infection (OR, 2.12). Most of the sampled villages are located in the lowlands along the Mekong River and its tributaries. Because of poor drainage in those areas, many villages are hit by floods every year or two, caused by high seasonal rainfall. Flooding sometimes lasts up to 2 weeks, with water rising as high as 60-90 cm above ground level, which might cause extensive contamination of soil and of water systems by leptospires. Local flooding is known to play an important role in the transmission of leptospirosis in both epidemic and endemic settings.<sup>5,29,30</sup> Therefore, flood control and other environmental modifications are expected to reduce the risk of leptospiral infection.

We found that a history of recent flooding was associated with seropositivity, especially for women, with a strong interaction between sex and flooding. In the group discussion held in July 2007, villagers commented that men usually stay at home when the land is flooded, whereas women need to walk into the stagnant water to feed their livestock. Women's behaviors and daily activities during floods might increase their exposure to the bacteria and consequently increase their risk of infection.

The reason why the disease prevalence and risk are so much higher in Thakhek District than in Nongbok District is unknown, because cultural background, lifestyles, and economic status are quite similar among the villages of the two districts. Non-obvious differences in behavior, in environmental conditions, or in the distributions of reservoir animals could play important roles in this difference in seroprevalence, and further study of those factors is needed.

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## **Social work in international health and medical assistance**

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## Original Article

## Social work in international health and medical assistance

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## Summary

Welfare issues such as the poor, children, women, and the handicapped are dealt with in the field of development assistance. Few studies, however, have discussed development assistance from a social work point of view. This study analyzes the social work aspects of development assistance through a review of 60 health projects completed by the Japan International Cooperation Agency between 2000 and 2006. Although the term "social work" is ambiguous, several projects with diverse themes included what could be called social work. Projects conducted three types of activities: that for a target population of social works; that for the general population, which included its target population; and that not for a specific target population. Project interventions included both micro-level interventions and system development. There are several possible reasons why only a few projects included social work: 1) social work has a lower priority in development assistance than other areas such as health do, and 2) there are few relevant specialists who can handle a wide range of social work interventions.

Donor agencies are gradually focusing more on social work aspects in their projects. Since social work will likely become a greater necessity in the field of development assistance for developing countries in the near future, donor nations and agencies will need to be prepared more adequately to respond to social work needs.

**Keywords:** Social work, Social welfare, Development assistance, Developing countries, Health

## 1. Introduction

In recent years, social welfare has become an aspect of development assistance studies. At the Lyon Summit focusing on social welfare, Prime Minister Hashimoto of Japan announced the Initiative for a Caring World (1). In 1996, the East Asian Ministerial Meeting on Caring Societies was held in Okinawa (2,3). Following these initiatives, Japan launched the Community Empowerment Program as a part of its social welfare aid (4). This trend has also appeared in other aid agencies such as the World Bank and Asian Development Bank (5). Since 1996, the World Bank has increased investment in the social welfare sector (5).

According to the National Association of Social

Workers in the United States (6), social welfare is defined as "a nation's system of programs, benefits, and services that help people meet those social, economic, educational, and health needs that are fundamental to the maintenance of society." This social welfare framework encompasses the poor (7-11), child care (7,12), child abuse (13), child trafficking (14), street children (5,15), widows (7), unsafe abortion (16), victims of sexual violence (17) and domestic violence (18), the elderly (5,7,19-21), the handicapped (7,22), the homeless, people living with HIV/AIDS and their families (23,24), disaster survivors (25), immigrants, refugees (26), minorities, alcoholics (27), and drug addicts. There are welfare laws (7,28) dealing with these issues, and public welfare programs exist to provide a wide range of services (22).

Social work, which is defined as "the professional activities of helping individuals, groups, or communities to enhance or restore their capacity for social functioning and to create societal conditions favorable to their goals" (1), can play an important role

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in the social welfare system for such people (23).

In the field of development assistance, however, the issues affecting such people are considered to fall under social work but instead fall under health, insurance, labor, disabilities, education, gender, district health system development, refugee-related issues, etc. (5,29). As in developed countries, furthermore, social work services do not cover all of the groups previously listed.

Here, the population which social work targets will be referred to as the "target population." All 60 JICA technical cooperation projects on health that were conducted by the Japan International Cooperation Agency (JICA) and completed between 2000 and 2006 were reviewed (see Table 1) (30-89) in order to analyze the social work aspects of these projects in the context of development assistance.

## 2. Scope of social work

### 2.1. Historical changes in the role of social work

In the past, development assistance has not been discussed from the point of view of social work or social welfare. Perhaps one reason for this is because the terms "social welfare" (5) and "social work" are ambiguous. For instance, distinguishing social welfare activities from other regular human services is sometimes difficult. That is, regular human services such as library services, consumer protection, and firefighting are not recognized as social welfare services, and the term "human services" is broader than what is encompassed by social welfare programs. In this ambiguous framework of social welfare, the meaning of the term "social work" is also unclear.

Another reason for this ambiguity is that the issues which social work deals with and its interventions have changed gradually over time in response to historical changes in social needs. In the early 1800s, the target population was the poor, and in the United States and other developed countries interventions focused more on physical needs, such as food and shelter. Later, the target population broadened to include the unemployed, the sick, the physically and mentally handicapped, and orphans. This led to interventions in the form of social casework and family counseling. Later still, community organization and social planning approaches were introduced to deal with social problems (6). Consequently, the target population has changed over time since "there is a tendency to use the term 'human services' for what in the past has been called 'social welfare'" (6,22). Today, therefore, the target population differs from country to country (28).

### 2.2. Population approach to social work

Should activities such as primary health care and

mobile clinics for remote areas in developing countries be considered social work or regular human services? JICA classifies primary health care as one activity to reduce regional disparities and poverty in some of its projects (in Zambia, Nicaragua, China, etc.). Ullin has also noted that primary health care requires a greater team approach, integrating nutrition, agriculture, social work, education, and other fields (90). In reality, many people in remote areas of developing countries live in poor and precarious living conditions and have limited access to human services. This means that there are needs to which social work services should respond in developing countries, although these may be covered by regular human services in developed countries. In this paper, primary health care and health promotion activities, including community participation approaches, are classified as activities for the general population, which includes the target population, whether they include social work or not. This is since the Ottawa Charter (91) states that "health promotion is not just the responsibility of the health sector but goes beyond healthy life-styles to well-being."

## 3. Classification of "social work"

### 3.1. Classification of the "target population"

A target population can be classified into three types: "individuals," "families," and "population segments."

1) An individual target population includes persons who are not necessarily related but who are suffering from a similar problem, such as a disability, homelessness, or domestic violence. Examples of work targeting an individual population are domestic violence counseling (Honduras) and mass health examinations for radiation victims (Kazakhstan).

2) A family target population includes persons suffering from difficulties as a family, such as broken or bereaved families and the poor. Examples of work targeting a family target population are user fee exemptions for the poor (Cambodia), X-ray diagnostic service for the poor (Dominican Republic), and support for AIDS widows (Thailand).

3) A population segment target population includes certain population segments (race/ethnicity, sex, geography, etc.) suffering from difficulties such as discrimination. An example of work targeting a population segment is income generation for women (Jordan).

Although this study covered all three types of target populations, the most common interventions were for a population segment (two projects targeted an individual population, five targeted families, and 18 targeted a population segment).



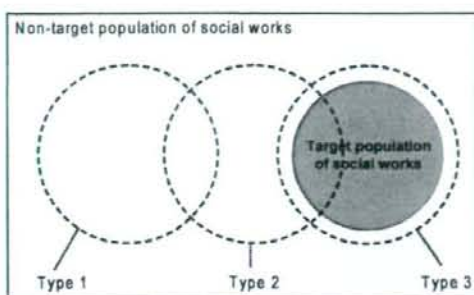


Figure 1. Project activities for the target population of social works.

### 3.2. Classification of project activities and projects

1) Project activity classification by target population: There are three types of project activities from a social work point of view (Figure 1).

- Type 1: Those that do not target a target population,
- Type 2: Those for the general population, which includes a target population,
- Type 3: Those that target a target population.

Type 1 activities included upgrading a clinical laboratory, Type 2 activities included primary health care activities for people living in rural areas, including the poor, and Type 3 activities included domestic violence counseling training, establishing counseling systems, and setting up a user free exemption system for the poor.

2) Project Classification: Based on the types of project activities, the projects themselves can be classified into the following three categories.

- Category 1: Projects with only Type 1 activities,
- Category 2: Projects with Type 2 activities and possibly including Type 1 activities,
- Category 3: Projects with Type 3 activities and possibly including activities of other Types.

Table 1 shows the classification of each project. Out of 60 projects, there were 35 Category 1 projects (59%), 17 Category 2 projects (28%), and eight Category 3 projects (13%) indicating that only a small number of projects involved social work targeting a specific population.

In addition, the study results show that Category 3 project themes are diverse, covering areas from improving maternal and child health and enhancing district health systems to controlling infectious diseases, indicating that many projects can be considered to include social work components regardless of the project theme.

### 3.3. Classification of interventions

Here, project activities are classified as either micro-level intervention, such as case work, case management, group work, group therapy, and family therapy, and system development or policy-making. Social work interventions in the form of both micro-level interventions and system development or policy-making were observed in health-related development assistance projects. The activities in Category 3 included activities for case work services for individual clients, such as technical training for counseling in Honduras and Jordan and the provision of X-ray diagnostic services in the Dominican Republic, and activities for system development, such as creating a user free exemption system for the poor in Cambodia. The Honduras project covered both case work services and system development for counseling services.

Different levels of assistance activities are therefore necessary for developing countries since no special national social work or social welfare system usually exists nor are there official social workers in these countries (5). Therefore, the system development approach appears useful. In this context, UNICEF has recently conducted special seminars in Myanmar to train social workers and to help improve social work proficiency and establish a social work system (92). The current findings also show that there are several project activities relating to development of the social welfare system rather than micro-level interventions in Category 3 projects. This indicates that policy-making and system development related to social work are likely to become more important in developing countries in the near future.

### 4. Importance of social work

Japan has conducted several projects to establish social welfare systems for the elderly and for street children and to develop national insurance systems in developing countries, although, as with other donor nations, it has supported only a handful of aid projects focusing on social work (5). There may be several possible reasons for this. First, social work has a lower priority in development assistance than do other areas such as health. In other words, disease mortality and morbidity are greater concerns in developing countries than quality of life, which social work focuses on. That said, several facts are clear: the problem of poverty is related to health (93-95), and the issue of the elderly will become more pressing in developing countries in the near future (20,96). Consequently, social work as part of international health assistance will receive greater attention.

Second, there are very few relevant specialists. Japan, for instance, has dispatched several policy-making advisors and Japan Overseas Cooperation



Table 1. Project list

Year of end	Country name	Project name	Project theme	Social work related interventions	Category	Level of target group
1 2000	Costa Rica	The project for early detection of gastric cancer	Clinical	Mass screening	2	Population segment
2 2000	Brazil	The public health development project for the north-east Brazil in Pernambuco	PHC	Training of primary health workers	2	Population segment
3 2000	Zambia	The infectious diseases control project in Zambia	Infectious diseases	None	1	NA
4 2000	Jordan	The project on family planning and women in development in the Hashemite Kingdom of Jordan	MCH/Repro	Counselling for FP, income generation	3	Population segment
5 2000	Vietnam	Reproductive health project in Nghe an province	MCH/Repro	Mobile team, community participation	2	Population segment
6 2000	Indonesia	The project for upgrading the emergency medical care system of The Dr.Soetomo Hospital	Hospital	None	1	NA
7 2000	China	The clinical medical education project for China-Japan medical education center	Education	None	1	NA
8 2000	Cambodia	The maternal and child health project, Phase I	MCH/Repro	Exemption of user fees for the poor	3	Family
9 2000	Thailand	The development for Trauma Center Complex project	Hospital	None	1	NA
10 2001	Pakistan	The maternal and child health project	MCH/Repro	Pictorial manual for the illiterate	2	Population segment
11 2001	Philippines	The project of the Prevention and Control of AIDS	Infectious diseases	None	1	NA
12 2001	Sri Lanka	The project for nursing education	Education	None	1	NA
13 2001	Kenya	The research and control of infectious diseases project, Phase II	Infectious diseases	None	1	NA
14 2001	Zimbabwe	The infectious disease control project	Infectious diseases	None	1	NA
15 2001	Brazil	The maternal and child health improvement project in north-east Brazil	MCH/Repro	Humanization of child delivery, dispatched WID specialists	2	Population segment
16 2001	Tanzania	The follow-up programme of the maternal and child health services project	MCH/Repro	Usage of TBA for remote areas	2	Population segment
17 2001	Laos	The pediatric infectious disease prevention project	Infectious diseases	None	1	NA
18 2001	Sri Lanka	In-country training course in medical equipment maintenance and troubleshooting	Med. equipment maintenance	None	1	NA
19 2002	Zambia	Primary health care project in Lusaka Urban district	PHC	Community participation in urban slum	2	Population segment
20 2002	Brazil	The clinical research project in the State University of Campinas in Brazil	Clinical	None	1	NA
21 2002	El Salvador	The fortification of nursing education project	Education	None	1	NA
22 2002	Ghana	The maternal and child health care in-service training system project	MCH/Repro	None	1	NA
23 2002	Turkey	The infectious disease control project	Infectious diseases	None	1	NA
24 2002	Egypt	The pediatric emergency care project	MCH/Repro	None	1	NA
25 2002	Mongolia	The maternal and child health project	MCH/Repro	Promotion of iodized salt to prevent mental retardation	2	Population segment
26 2002	Philippines	Tuberculosis control project	Infectious diseases	None	1	NA
27 2002	Philippines	The project for family planning and the maternal and child health, Phase II	MCH/Repro	PHC, community participation to protect women	2	Population segment
28 2002	Indonesia	The improvement of district health services in South Sulawesi	District health	None	1	NA
29 2003	Jamaica	The project on strengthening of health care in the southern region	District health	Mobile clinic	2	Population segment

( to be continued )

Table 1. Project list (continued)

Year of end	Country name	Project name	Project theme	Social work related interventions	Category	Level of target group
30 2003	Kenya	The Kenya Medical Training College project	Education	None	1	NA
31 2003	Ghana	The infectious diseases project at the Noguchi Memorial Institute for Medical Research	Infectious diseases (Laboratory)	None	1	NA
32 2003	Philippines	Tuberculosis control project	Infectious diseases	None	1	NA
33 2003	Thailand	The project for model development of comprehensive HIV/AIDS prevention and care	Infectious diseases	Promotion of district activities	2	Population group
34 2003	Sri Lanka	The project for improvement of the faculty of dental sciences, University of Peradeniya	Education	None	1	NA
35 2003	Indonesia	The ensuring the quality of MCH services through MCH handbook project	MCH/Repro	None	1	NA
36 2004	Yemen	Tuberculosis control project, Phase III	Infectious diseases	Modified DOTS for remote areas	2	Population segment
37 2004	Bangladesh	The project of human resources development in reproductive health	MCH/Repro	None	1	NA
38	Cambodia	Tuberculosis control project	Infectious diseases	None	1	NA
39	Thailand	The project for strengthening of national institute of health capabilities for research and development on AIDS and emerging infectious diseases	Infectious diseases	None	1	NA
40 2003	India	The project for prevention of emerging diarrhoeal diseases	Infectious diseases	None	1	NA
41 2004	Mexico	Reproductive Health Project	MCH/Repro	None	1	NA
42 2004	Nicaragua	The project for strengthening of the local system of integral health care (SII-AIS) of Granada	District health	Community participation, health promotion	2	Population segment
43 2004	Dominican Republic	Medical education and training project	Education	X-ray diagnosis services for the poor	3	Family
44 2004	Ethiopia	Laboratory support for Polio Eradication (LAST POLIO) project	Infectious diseases (Laboratory)	None	1	NA
45 2004	Tunisia	The project for strengthening of reproductive health education	MCH/Repro	None	1	NA
46 2004	Laos	The project for the improvement of Sethahirath Hospital	Hospital	None	1	NA
47 2004	Madagascar	The project for the improvement of Mahajanga University Hospital in the Republic of Madagascar	Hospital	Forming worker groups for exemption of user fees for the poor	3	Family
48 2005	Cambodia	The Maternal and Child Health Project, Phase II	MCH/Repro	Exemption of user fees for the poor	3	Family
49 2005	Kazakhstan	The project for the improvement of health care services in the Semipalatinsk region	District health	Mass health examination for victims of radiation	3	Individual
50 2005	The Republic of Honduras	The reproductive health project in the Health Region Seven	District health (MCH/Repro)	Counseling for IDV	3	Individual
51 2005	The Republic of Guatemala	The project on Chagas disease vector control	Infectious diseases	None	1	NA
52 2005	China	Anhui primary health care technical training center project	PHC	PHC for the poor	2	Population segment
53 2005	Thailand	The project for the Asian center of international parasite control	Infectious diseases	None	1	NA
54 2005	Myanmar	The project for primary health care for mothers and children in Myanmar	MCH/Repro	Nutrition and food program	2	Population segment
55 2005	Vietnam	Bach Mai Hospital project for functional enhancement	Hospital	None	1	NA
56 2005	China	The expanded program on immunization strengthening project	Infectious diseases	None	1	NA
57 2006	Zambia	Cross border initiative project	Infectious diseases	Peer educator, drop-in center	3	Population segment
58 2006	Zambia	HIV/AIDS and tuberculosis control project	Infectious diseases	None	1	NA
59 2006	Thailand	The project for strengthening of national institute of health capabilities for research and development on AIDS and emerging infectious diseases	Infectious diseases	Support for AIDS widows	3	Family
60 2006	Bolivia	The project for strengthening Regional health network for Santa Cruz Prefecture in the Republic of Bolivia	District health	Health promotion for remote areas	2	Population segment



Volunteers in the field of the elderly and street children (5), although few specialists on social work have been dispatched as members of missions to evaluate health projects. The current findings suggest that various aspects of social work, from case work and community organization to system development and policy-making, are required in developing countries. Experienced generalists in social work can assist with those aspects (6). In Japan, few experts in social work have received such specialized training (5). While donor agencies may recognize the necessity of social work in projects, such specialized training and education still needs to be fostered in Japan.

## 5. Conclusion

This study shows that social work is already being implemented in various ways, although the amount of this work appears inadequate. Since the importance of social work in development assistance in developing countries is likely to increase in the near future, donor nations and agencies will have to prepare themselves more adequately to respond to social work needs.

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