

## (2) 途上国における不妊症の原因

途上国における不妊症の原因として、最も多いのが卵管障害である。アフリカでは、卵管障害が不妊症の原因に占める割合は60%以上に及ぶといわれており、先進国の約3倍の発生率であった<sup>6, 11)</sup>。卵管障害の主な原因は骨盤内感染であり、淋病・クラミジアなどの性感染症や、中絶後・分娩後の不適切な処置、または病院や伝統的治療による不衛生な処置が原因と考えられた<sup>2, 7, 8, 9)</sup>。

第二に多いのが男性不妊である。男性不妊の原因として、職場での農薬・溶剤などの化学性物質や、鉛などの重金属への暴露があげられているが、実際にははっきりと特定できないことが多い<sup>10)</sup>。不妊症の30%は男性側の要因が関係しているにもかかわらず、途上国では男性不妊はあまり注目されていない<sup>10, 11)</sup>。

## (3) 途上国における不妊症の社会的インパクト

不妊症によって引き起こされる社会的問題として、社会の不妊症に対する強い偏見があげられる。不妊症は、悪事を働いたからだとか、呪われているからだと考えられている地域もあり、不妊症の夫婦は、社会の恥や諸悪の根源として非難され、社会から孤立してしまう。結婚式や通過儀礼などの社会の集まりに、参加を許されないということもある<sup>11, 12)</sup>。

また、途上国では女性は、子供を産むことにより、家族・社会の中で地位を認められることが多いため、子供ができないと、家族や社会から強い差別や虐待を受ける。不妊症の原因は、男性側の要因もあるにもかかわらず、女性側のみの責任とみなされがちであり、夫やその家族から暴力を受けたり、激しい労働を強いられることもある。また、不妊症の夫婦において、女性が離婚を強要される割合は、不妊症でない夫婦と比較して、平均14%も高い<sup>5)</sup>。不妊症により女性は身体的、精神的に苦しみ、自殺を図ることさえある<sup>11)</sup>。

経済的問題としては、不妊症の夫婦に対する社会の強い偏見のため、よい仕事につくことができないことや、働き手としての子供がいないため、収入が減少してしまう傾向があることがあげられる。また、社会保障制度が充実していない途上国では、不妊症の夫婦は老後に頼るべき子供がおらず、経済的不安を抱えることになる<sup>11, 13)</sup>。

## 2. 途上国での不妊治療の現状

### (1) ART 以外の不妊治療

途上国では、不妊症に対し、夫婦双方の診察や精査を行わないまま、治療を進めていくことが多い<sup>6)</sup>。治療としては、性感染症の治療、タイミング療法、ホルモン治療、精液を人工的に子宮腔内に注入する人工授精など、あまり費用がかからないものが行われている。また、一部のアフリカ諸国では、病院に行かず、地域の伝統的治療師に相談する傾向がある。地域の伝統的治療師は、地元の名士であり、その地域の言葉を使い、薬草を煎じたり呪術を行ったりするなど、自分たちに理解しやすい治療をしてくれるが、病院では、医者は自分たちと違う言葉を話し、薬の飲み方や治療方法も理解しにくく、不十分な対応しか受けられないと感じているからである<sup>10)</sup>。

一方で、不妊症治療が系統的に行われている場合もある。インドやパキスタンなどでは、国際家族計画連盟の支部が、独自のプロトコールに沿って不妊症の検査と診断をし、治療を行っている。コロンビアでは、一部のNPOによって不妊症対策がなされており、2004年の報告によると、WHOの不妊症の検査と診断に関するマニュアルを用いて、不妊症の原因を確定し、その結果に応じ、ホルモン治療や、人工授精などを施行していた<sup>2, 14)</sup>。

### (2) ART

#### i) ART の普及の現状

ARTは途上国でも行われているが、実施施設数は少なく、都市部に集中している。ラテンアメリカのほとんどの国ではARTが行われているが、アルゼンチンで23施設、ブラジルで38施設が存在する以外は、10施設以下の国がほとんどである<sup>3)</sup>。アフリカでは、ARTを施行している施設が、カメルーンに2施設、ガーナに3施設、ナイジェリアに12施設、セネガルに2施設あるという報告がされている。それらの施設の多くは技術協力を受けている先進国とのみ結びついており、国内の各施設間のつながりはほとんどない<sup>15)</sup>。アジアでは、西アジアでバーレーン、ヨルダン、レバノン、サウジアラビア、南アジアでインド、パキスタン、東南アジアでマレーシア、フィリピン、タイ、ベトナムなどでARTが行われているが、

正確な施設数の報告はなかった<sup>16)</sup>。

ii) ART の成功率

各国の IVF における採卵1回あたりの出生率は、アルゼンチン18%、ブラジル19%、ヨルダン17%、レバノン25%、ナイジェリア14%と報告されていた<sup>5, 6)</sup>(表2)。アフリカのその他の地域、およびアジアの途上国における出生率のデータは得られなかった。

表2 体外受精 (IVF) の費用と成功率

| 国名      | 採卵1回あたりの出生率 <sup>1)</sup> (%) (2000年) | 1回あたりの費用 <sup>2)</sup> (US\$) (2002年) | 1人当たりの国民総所得 <sup>3)</sup> (US\$) | 国民1人当たりの医療費 <sup>4)</sup> (US\$) | 5歳未満児死亡率 <sup>5)</sup> (出生1000対) |
|---------|---------------------------------------|---------------------------------------|----------------------------------|----------------------------------|----------------------------------|
| アルゼンチン  | 18                                    | 4,160                                 | 4,470                            | 238                              | 19                               |
| ブラジル    | 19                                    | NA                                    | 2,830                            | 206                              | 37                               |
| ヨルダン    | 17                                    | 1,908                                 | 1,760                            | 165                              | 33                               |
| レバノン    | 25                                    | 5,089                                 | 3,990                            | 568                              | 32                               |
| インドネシア  | NA                                    | 3,000                                 | 710                              | 26                               | 43                               |
| パキスタン   | NA                                    | 1,272                                 | 420                              | 13                               | 101                              |
| ナイジェリア  | 14 (4)                                | 2,000-2,700                           | 300                              | 19                               | 201                              |
| 日本      | 16                                    | 3,181                                 | 34,010                           | 2,476                            | 5                                |
| イギリス    | 19                                    | 2,955                                 | 25,510                           | 2,031                            | 7                                |
| アメリカ合衆国 | 31                                    | 9,547                                 | 35,400                           | 5,274                            | 8                                |

(1) 文献3, (2) 文献16, (3) 文献21, (4) 文献6のデータをもとに作成 (NA: データなし)

iii) 費用

途上国における ART の費用は一般に高額であった。1回の IVF にかかる費用は、アルゼンチンで4,160米ドル、ヨルダンで1,900米ドル、レバノンで5,089米ドル、パキスタンで1,272米ドル、ナイジェリアで2,000~2,700米ドルなどであった<sup>6, 16)</sup>(表2)。これはほとんどの国で1人当たりの国民総所得を上回っており、レバノン、ヨルダンでは約1.2倍、インドネシア、パキスタンでは約3~4倍、ナイジェリアでは、約7~9倍にものぼっていた。

iv) ART に対する技術的・倫理的規制

ART には、その有効性・安全性を確保するための技術的規制、および生命の誕生を扱うことに対する倫理的規制が必要である。ブラジル、ベトナムなどでは、法律による規制が、チリ、エジプトなどでは学会などの専門家集団によるガイドラインが存在していたが、コロンビア、マレーシアなどでは、ART に対する規制やガイドラインは存在していなかった<sup>17)</sup>(表3)。また、サブサハラアフリカでも、国で統一されたガイドラインは存在しておらず、技術協力を得ている先進国のガ

イドラインを個別に使用していた<sup>6)</sup>。

表3 生殖補助医療 (ART) に対する規制 (2006年)

| 規制の種類          | 開発途上国                                  | 先進国           |
|----------------|--|---------------|
| 法的規制           | ブラジル、チュニジア、ベトナム                        | イギリス          |
| 専門家集団によるガイドライン | チリ、エジプト、インド、メキシコ、モロッコ、フィリピン、タイ         | 日本<br>アメリカ合衆国 |
| 規制なし           | コロンビア、エクアドル、ヨルダン、マレーシア、ペルー、ベネズエラ、ウルグアイ | なし            |

文献17のデータより作成

IV. 考察

従来、途上国では、国家政策として、人口増加を抑えるための家族計画に重きが置かれており、不妊症に対する取り組みは軽視されてきた<sup>10, 12)</sup>。しかし、1994年のカイロ国際人口開発会議で、女性の生殖における自己決定権を重視した、リプロダクティブヘルス/ライツの基本概念に対するカイロ行動計画が出され、不妊症に対する適切な治療を受ける権利が示された<sup>18)</sup>。カイロ行動計画では不妊症で苦しみ、出産を願っている人は、差別なく不妊治療を受け、子供をもつ権利を有しているという内容が盛り込まれている。しかしながら、この概念をどのように具体化していくかに対しては、積極的な対策がなされてこなかった。

本論文にて明らかになったように、不妊症は、途上国において、医学的・社会的に大きな問題である。不妊症の割合は、先進国の約2~3倍と高く、またその社会的インパクトもより甚大であり、特に女性にとっては、生死を左右する事柄といっても過言ではない。リプロダクティブヘルス/ライツの概念からも、解決が急がれる問題といえよう。

不妊症対策としては、まず途上国、先進国の双方が、不妊症の問題の大きさを認識し、その実情を調査することが必要である<sup>12, 19)</sup>。不妊症の発生率、その原因、そして、現在行われている不妊治療の有効性・安全性・費用などを明確にして、何が足りないかを把握することにより、適切な対策を立てていくことが重要な課題である。

ARTは途上国でも行われており、アジア、アフリカ、ラテンアメリカ諸国には、ARTを施行している施設が存在していた。途上国の不妊症の原因として多い卵管障害や男性不妊に対しては、ARTによる治療が効果的であり、ARTに対する

潜在的需要は高いと考えられる。しかし、ARTの普及には、費用および技術的・倫理的規制の問題があげられる。

表2に示したように、途上国においては、1人当たりの国民総所得に対してARTにかかる費用はきわめて高額である。加えて、ARTを施行している病院は都市部に限られていることが多く、地方の住民が病院を受診するためには、交通費や宿泊費なども必要であり、費用がよりいっそう高額となる。一方で、IVFでの採卵1回あたりの出生率は、先進国でも20%程度と低く<sup>3)</sup>、実際に子供ができるまで、治療を複数回受けなくてはいけないこともあり、出産するまでに莫大な費用がかかり、一般の人には手の届かない治療法となってしまう。多くの人が治療を受けられるようにするためには、国際機関による支援や、ARTに必要な医療製品、特に、高額な薬剤の価格引下げなどの協力が望まれる。

費用の問題には、限られた資金をどう配分するかという側面もある。途上国が抱える問題は不妊症だけではない。表2に示されたように、途上国では、5歳未満児死亡率がまだ高値であり、保健医療システムの整備が急務である。そのような状態で、ARTという、高額な医療に、限られた資金を使うべきかどうかは、十分検討しなくてはならない問題である。ARTの普及の前提として、まずは、ART以外の安価な方法での治療体制を確立することを念頭に置くべきであろう。

途上国の不妊症の主要原因は、骨盤内感染により引き起こされる卵管障害であるが、これは安価な費用で予防可能なものである。また、これまでの途上国の不妊治療は、系統的な検査や正確な診断がなされず、漫然と費用と時間を使い、治療が行われていることが多かった。各病院で、原因を確定した上で治療を進めるという体制を整えれば、少ない費用で短期間のうちに、不妊症の問題が改善される可能性が高くなるだろう。

ARTに対する規制は、先進国では、政府による法的規制や専門家集団によるガイドラインが存在しており、技術的側面と倫理的側面に関する規制が明記されている。技術面に関しては、年間報告書の提出や、施設の視察などによる治療状況の監視が定められており、倫理面では、ARTの適応の限界、例えば、非配偶者間体外受精による精

子・卵子・胚提供や出生前診断、減数手術、代理懐胎の是非に関する規制がある<sup>17)</sup>。一方、途上国では、技術的・倫理的規制が不十分であり、規制がない国も存在する。実際、アジア・アフリカ諸国では、ARTの治療結果や適応に関するデータは、ほとんど公表されていないため、技術的な面での安全の保障や、倫理面での規制などが不明瞭である<sup>3, 17, 19, 20)</sup>。安全で有効なARTの普及のためには、治療状況を技術的・倫理的観点から監視するシステムの構築が必要である。

不妊症対策の別の大きな柱として、不妊症に対する理解を深めるための一般の人々に対する教育があげられる。先進国に比べ、途上国の不妊症の問題を大きくしている理由のひとつは、人々の、不妊症に対する知識・理解の低さにある。不妊症は呪いなどによるものではない。身体的原因によって起こるものであり、骨盤内感染症など、予防可能なものもあること、病院で検査をし、適切に治療をすれば妊娠も可能な場合も多いこと、また、不妊症は女性側だけでなく男性側にも原因がある場合も多いことといった事実を、伝えていくことが重要であろう。

## V. 結論

不妊症は、途上国において、先進国に比べ高い割合で認められるばかりか、社会的・経済的影響もより大きく、リプロダクティブヘルスの重要課題である。不妊症の治療法として、ARTが途上国でも行われているが、高額な費用、不十分な規制などの問題がある。途上国、先進国がともに途上国の不妊症の問題の大きさを正しく認識し、その実情調査を進め、実態に合った対策を立案することが望ましい。そして、国際間の協力により、ARTの費用削減やガイドライン策定、人々への教育などを進め、不妊症の問題解決を図っていくことが重要である。

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[Review Article]

**Infertility and Assisted Reproductive Technology in Developing Countries**

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**Abstract**

Infertility in developing countries is important but neglected, while the issues of population growth control have been paid much attention. Female infertility rates in African countries were about 30 percent, which were three times higher than those of industrialized countries.

It was reported that the most common cause of infertility was tubal dysfunction due to sexually transmitted infections, unhygienic delivery management, and unsafe abortion. The second common causes were male factors, which had been underestimated in developing countries. Thus, women were always blamed and often abused by their husbands and in-laws. Furthermore, infertile couples suffered from social discrimination and economic disadvantages.

Infertilities were often treated without appropriate examinations of both husbands and wives. Inexpensive treatments were commonly applied: e.g., treatment of sexually transmitted infections, encouraging timing intercourse, hormonal therapies. Assisted reproductive technology (ART) would be effective in developing countries where main causes of infertility were tubal dysfunction and male factors. ART has been performed in urban areas in some developing countries. However, it is difficult to promote ART in developing countries, because of high costs and lack of sufficient technical and ethical regulations.

To decrease the burden of infertility in developing countries, first, both developing and industrialized countries have to recognize the significance of the issue. Then, it is needed to evaluate accurate rates of infertility, causes of infertility, and effectiveness of current treatment, so that the countries could develop prioritized strategies and interventions.

Infertility rates could be decreased with relatively low cost through building a system of proper diagnosis and treatment. International assistance might be required to negotiate the drug prices and to establish technical and ethical review mechanisms, which are the prerequisites of promoting ART. It is also important to provide people with knowledge and information regarding infertility, their causes and treatment.

**Keywords:** assisted reproductive technology (ART), infertility, regulation, developing countries, costs

**Title:** Strengthening community participation at health centers in rural Cambodia:  
Role of local non-governmental organizations (NGOs)

**Abstract**

Cambodia's health policy emphasizes community participation to improve health services. This study identifies factors facilitating community participation in health center management in rural Cambodia, focusing on roles of local NGOs. We conducted a questionnaire survey of 50 local NGOs regarding their understanding of new health systems and policies and NGO collaboration with health centers. Eight local NGOs and their partner health centers were selected for further field survey. Using an assessment tool developed by the authors, structured interviews were conducted with 35 stakeholders to measure the level of community participation in the management of health centers through health committees mandated for each health center by the new health policy. Roles and approaches of the eight NGOs were examined. Levels of community participation at the health centers varied and were associated with roles of the partner NGOs. Critical roles of NGOs in facilitating community participation were found to include: nurturing a base through community organizing and capacity building, and encouraging the community to apply community experiences in health; regularly communicating with, monitoring and providing management support to health centers; and linking local actors for health. To take such roles effectively, long-term

commitments to specific localities and small financial inputs were found to be advantageous characteristics for NGOs. Local NGOs, even those without health expertise and with limited resources, can effectively promote and facilitate community participation in health center management. Such roles of local NGOs are critically important for sustainable health development and therefore should be further recognized and supported.

## Introduction

In Cambodia, community participation was very limited for many years, beginning in 1975, due to the genocidal Khmer Rouge regime, prolonged internal conflicts, and strict government control during the post-conflict period. After the persistent regional conflict ceased in 1998, the first commune elections were held in 2002, and efforts to establish a base for decentralization have been underway (Rusten *et al.*, 2004; Blunt & Turner 2005).

In 2002, following pilot efforts involving community participation in health, a mechanism for community participation in health center management and activities was officially incorporated in the new national health policy, as one of the key components for the improvement of public health services. The policy mandated two committees, Health Center Management Committee (HCMC) and Village Health Support Group (VHSG), as the mainstays of community participation. The HCMC was to make decisions about the health center's services and management, while the VHSG was to exchange information and provide feedback between community members and the health center. The VHSG was to be composed of one health center chief or staff member and two community representatives from each village; and the HCMC of a health center chief and two staff members, four to six community representatives selected from VHSG, and one representative from each commune council in the catchment area (Inter-Ministerial Committee on Primary Health Care, 2002; Ministry of Health, 2003).

Positive roles of community participation have been discussed as a key element of



primary health care (Kahssay & Baum, 1996; Zakus & Lysack, 1998; Kahssay & Oakley, 1999). In the case of Cambodia, previous studies of pilot projects reported positive relationships between functioning community participation through health committees and increases in the volume of service delivery and utilization of health services (Annear, 1999; MEDiCAM, 2000; Ministry of Health, 2000; Feenstra, 2001; Wilkinson *et al.*, 2001). Beginning in the late 1990s, community participation structures gradually had been established in the majority of health centers, and the new policy in 2002 was based on review of those earlier experiences.

However, the functionality and sustainability of the committees have come into question, because such committees have only nominal existence at many health centers (Beloe, 2004; MEDiCAM, 2007). The Cambodian Ministry of Health's efforts to activate the committees were very limited, due to financial constraints (Ministry of Health, 2004; 2005). Most of the efforts related to local health committees in Cambodia involved international aid agencies or NGOs with intensive financial and technical inputs, and issues of sustainability are common after such projects phase out.

In such situations, area-focused local NGOs have the potential to overcome the difficulties in community participation and sustainability, given their long-term commitments to specific localities and communities. Local NGOs in Cambodia started only in late 1991 (Mysliwicz, 1994; Bennett & Benson, 1995), although from the mid-1990s their numbers rapidly increased (NGO Forum on Cambodia, 2006). While

about 2,000 organizations were registered with the government as “local NGOs and associations” as of 2004, a directory of local NGOs in the development sector contained profiles of only about 200 organizations (Cooperation Committee for Cambodia, 2003). Activities of small-scale local NGOs in the provinces have not been well known or recognized due to their isolated activities, often without contact with government agencies or other NGOs, and to the unavailability of detailed documentation of their work.

A health sector NGO network, MEDiCAM, was organized in 1989. Its members were almost all international NGOs although a limited number of local NGOs around the capital city joined later. Only after 2003 did the network actively seek to include small-scale local NGOs in distant provinces (MEDiCAM, 2004). Previous studies of local NGOs and associations in Cambodia (Kao, 1999; Yonekura, 1999; Mansfield *et al.*, 2001; Richardson, 2001; Kusakabe *et al.*, 2002; Ngin, 2002) have not focused on local NGOs in the health sector. Similarly, in studies and reviews of factors influencing community participation in health in other countries (Stone, 1992; Woelk, 1992; Sepehri & Pettigrew, 1996; Zakus & Lysack, 1998; Morgan, 2001; Uzochukwu *et al.*, 2004), the role of local NGOs has not been highlighted.

This paper aims: (1) to identify factors that contribute to community participation in health center management through HCMC and VHSG in rural areas of Cambodia, focusing on the roles of local NGOs involved in the process, and (2) to highlight the

significance and potential of local NGO involvement for health development in Cambodia.

## Methods

The subjects of this research were local NGOs in the health sector, which we defined as “voluntary organizations, established and headed by Cambodians living in Cambodia and holding its management and decision making power, engaged in various health activities as core activities of their development work”. To be included in the study, local NGOs also could not be directly engaged in any specific political party or religious promotion activities on an organizational basis, and could not be parts or subsidiaries of government agencies or international NGOs. Hereafter, the word “NGO” indicates local NGOs meeting the above definition and criteria, unless otherwise indicated in the text (e.g. in discussing “international NGOs”).

First, self-administered questionnaire forms were distributed and collected between December 2003 and April 2004 through the MEDiCAM network during its regional network meetings. The majority were small-scale local NGOs, operating in provinces far from the capital city, which had only recently joined the network or were temporarily participating. Out of 80 forms distributed by MEDiCAM, 50 NGOs from 13 provinces responded. The questions covered each organization’s brief profile, knowledge of the new national health systems and policies (including the policy-mandated community

participation mechanism at health centers), activities with or regarding health centers, and working relationships with government administrations and with other aid organizations. Responses were analyzed using SPSS11.5J. Additional information was collected during the same period through participant observation in various NGO meetings and training activities as well as through interviews with four coordinators of local NGO support programs regarding situations and issues related to local NGOs.

Of the 50 NGOs that responded to the questionnaire, eight NGOs in seven provinces were selected for field visits on the basis of having met all of the following criteria:

- (1) had been in contact with health centers in their working areas for more than three years;
- (2) were able to assess the service delivery situations of their partner health centers;
- (3) had worked more than four years (A criterion to ensure some stability of the NGO. A typical NGO project cycle is three years, and some NGOs stop operating after failing in a first project.);
- (4) were working in rural areas; and
- (5) were working in areas in which no large-scale health aid projects were active at the time of survey (a criterion to avoid having the roles and impacts of the NGOs obscured by the presence and activities of such projects).

A team of two researchers visited the selected NGOs in their working areas during three weeks in July and August of 2004. We observed the NGO's activities and carried

out follow-up interviews with the NGO representatives and staff, based on the NGO's responses to the initial questionnaire survey. Additional questions were asked regarding the founding of their NGO and the respondents' views regarding the organization and its roles, strengths and concerns as a local NGO.

In order to measure the level of community participation through HCMC and VHSG at their partner health centers, an assessment tool was developed modifying the framework published by Rifkin *et al.* (1988). Whereas Rifkin's framework was designed to measure the level of community participation in primary health care, we changed and detailed some assessment indicators to fit to our research focus on the community participation through the health committees in specific situations in rural Cambodia (Table 1). Pre-tests were conducted with some local NGO workers. Comments from international NGO workers, NGO networking coordinators, and Ministry of Health personnel were also incorporated in revising the tool.

Although the tool initially was intended to be used only at the level of HCMC, we used it for both HCMC and VHSG, because the meetings of the two committees, which were supposed to be held separately, were in fact held jointly at four of the eight health centers studied. Although in such cases of joint meetings, the interviewees were asked to reply basically with regards to the HCMC, it was difficult or impossible to separate the functions of the two committees.

In parallel with the field visits to the eight NGOs, structured individual interviews

were conducted with 35 stakeholders of the eight health centers, using the assessment tool as a question guide. Other questions were asked regarding their community activities, their ideas of active participation, and changes they observed in the health center services in the past few years, especially after the health committees were created. Interviewees were selected from various positions and roles, four to five persons per health center, including health center chiefs and staff members, health volunteers, local authorities (village chiefs and commune councilors) who were members of HCMC or VHSG, and NGO workers in charge of the relations with health centers. Each interview lasted approximately one hour.

After each interview, researchers entered scores on each indicator in the assessment tool, using pre-established 1-5 scales, based on the responses and information from each interviewee. For some qualitative indicators, for which observations and judgments differed among stakeholders of the same health center, the mean was taken. In case of a large disparity in scores among the stakeholders, the most deviant score was excluded from calculating the mean, after cross checking the validity of the responses with another information source.

Each interviewee was informed before the interview that he or she had the right not to answer any questions and that their names, individual or organizational, would be kept anonymous. This study was not required to undergo ethical reviews, because it was not an epidemiological, clinical or genetic study, and did not collect data which disclose

the personal identity and privacy.

## Results

### *Limited knowledge of local NGOs regarding health systems and policies*

Most of the 50 local NGOs that responded to the initial questionnaire survey did not understand the new health systems and policies well enough to take active roles in promoting community participation. The respondents had insufficient understanding of the new national health systems and policies, of potential collaboration with health centers, and of policy-mandated community participation mechanisms at health centers, regardless of the length of their organizational history or the size of the organization, as shown in Table 2. Key health policies and guidelines were not widely understood, which limited their collaboration with health centers in their working areas. Although some knew that health committees, HCMC and VHSG, had been created in the local health center, few NGOs had been involved with those committees. Many NGOs hesitated to become involved in the committees, especially the HCMC. NGOs without technical expertise in health considered that there was no space for NGOs without health professionals to get involved.

The NGOs responding to the questionnaire survey were active in providing health

education to communities and in training health volunteers. Their volunteers, however, were not necessarily linked to health centers, because many NGOs did not know the newly created mechanisms for community participation. Many NGOs had practical contact with health centers for implementation of specific national programs such as HIV/AIDS and tuberculosis control, because of the availability of donor funds. The NGOs' budgetary and material supports to health centers and their provision of clinical services were very minimal.

#### *Levels of community participation at the selected health centers*

All eight of the selected health centers were in agrarian rural areas, and seven of them were located along internal roads away from the major national roads. Differences in the levels of community participation in health center management through HCMC/VHSG were observed among the eight health centers, as shown in Table 3. Scores for three indicators were summed up under each major aspect and totaled, and the eight health centers were code-named HC-A to HC-H, in order of descending total scores.

Health centers with higher community participation scores had relatively higher utilization of services, as expressed by the number of outpatient consultations per inhabitant per year (Pearson's correlation coefficient=0.659,  $p=0.075$ ). Most of the interview participants, except those of HC-H, mentioned that feedback from the



community was discussed at their committee meetings and that such information and discussion had improved health center services and staff attitudes towards users. They observed that health center working hours also had become more regular and longer, and that more people came to the health centers for services. Whether HCMC and VHSG were held separately or jointly had no significant influence on the community participation score.

#### *Characteristics of the selected NGOs*

Profiles, roles and approaches of the eight NGOs are summarized in Table 4. Code names of the NGOs correspond to the code names of their respective partner health centers, shown in Table 3. A common characteristic was each of the eight NGOs' strong commitment to the specific geographical area. Seven out of the eight NGOs were founded either by local residents, who were local teachers and social workers in the area, to act upon urgent needs and to improve the living condition of the people, or by returnees from refugee camps who wanted to apply their skills and experiences back in their home villages. Their staff members were living in the serving area as residents, and they were familiar with the local situation and had close local human networks. NGO directors felt that they had decision-making autonomy and could flexibly adjust their work according to the changing local situation.

Staff and budget size of the NGO and having health professionals on staff were not critical factors associated with community participation. In fact, partner health centers of NGOs without health professionals, such as HC-A, B, and D had even higher scores. Even so, most of the NGOs were very much concerned that their small budgets and their lack of technical expertise in health might be obstacles in relating to health centers.

#### *Roles and approaches of the selected NGOs*

All eight NGOs were involved in some form of community organizing and capacity building at the village level, although their objectives and approaches varied. Six NGOs (a, b, d, e, f, h) were employing a general organizing approach such as self-help group formation, starting from the development of savings and credit arrangements and expanding their activities according to the problems and needs that emerged, including health-related ones. NGO-b and NGO-f were each forming groups to deal with a specific infectious disease problem in addition to general groups.

Four NGOs (a, b, d, h) were consciously trying to utilize community development experiences in the health sector. They encouraged their community group leaders to run for election as community representatives of HCMC and VHSG. Many of them were in fact elected and joined the committees. In the case of NGO-b, the majority of HCMC members were community group leaders nurtured by the NGO, and one of them was

chairing the HCMC.

The NGOs' influence on community representatives regarding the perception of "participation" was indicated in the responses to the question regarding key indicators of participation. Commonly mentioned by various stakeholders were: attendance at meetings; following the instructions of health staff or of health education sessions; and using health center services. Those practices were cited most by health center workers and NGO workers who focused on specific infectious disease problems. Community representatives who had many years of community work experiences listed more qualitative indicators, such as raising questions, spending time and labor in spite of the lack of incentives, having more people express opinions, and solidarity among people in attempting to solve problems. Indicators suggested by NGOs and by their partner community representatives were similar.

In spite of the similar profiles and community approaches of the NGOs, the scores of their partner health centers were different. For example, Figure 1-a shows the difference between HC-A and HC-H. NGO-a had regular contact with the health center, observed the election process of the community representatives, and had facilitated the initial committee meetings. They occasionally joined the meetings as observers, and they followed up with the community representatives from distant villages by encouraging them to share obtained information and to discuss issues to bring to future meetings. On the contrary, NGO-h did not have regular contact with the health center

and did not monitor the committees. In the area of HC-H, an international NGO with health expertise had been active in recent years, and HC-H paid attention to the international NGO but essentially ignored the local NGO-h, leading NGO-h to keep at a distance from HC-H.

The significance of incorporating management interventions beyond specific health technical aspects was underscored by the differences observed between HC-C and HC-G, shown in Figure 1-b. Their partner NGOs (c and g) had similar approaches, utilizing their health expertise and focusing on specific infectious disease problems. NGO-c assisted HC-C to strengthen HCMC/VHSG management, by providing assistance in writing job descriptions of members, election of members, and training of community representatives. Members of the HCMC at HC-C were taking turns in moderating meetings and taking minutes. In contrast, NGO-g was concentrating its role in providing basic care and patient referrals, and only health professionals of HC-G were moderating meetings and taking minutes.

Regarding relationships with other local actors, NGO-a, NGO-b, and NGO-d were particularly active in working with village chiefs, village development committees and commune councils by providing training on health issues and on those stakeholders' roles and responsibilities in health and by advocating the inclusion of health in village and commune plans and budgets. NGO-c and NGO-g, focusing on specific infectious disease problems, had very limited contact with commune councils, limited mainly to sending