平成２４年度　岸本国際交流奨学金による海外活動報告書

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O.K (Male)

渡航先及び受入機関名：ケニア共和国（ナイロビ・キスム）
JICA ニャンザ州保健マネジメント強化プロジェクト
NPO チャイルドドクター
長崎熱帯医学研究所ケニア拠点

海外活動機関：平成２４年８月２２日～平成２４年９月４日

＜スケジュール＞

８月２２日　チャイルドドクター見学とスラム見学
８月２６日　JICA ニャンザ州保健マネジメント強化プロジェクト
～　ショートインターンシップ
８月３１日
９月３日　孤児院見学
９月４日　熱帯医学研究所見学

＜目的＞

ケニアにおける国際医療支援の現場を見学し体験することで、発展途上国における保健水準、母子保健、感染症対策・予防の現状を知るとともに、将来国際協力支援に医療従事者として参加するために必要なことを知り国際感覚を養い、今後国際協力に関わるきっかけをつくる。

＜活動内容＞

チャイルドドクターではチャイルドドクターの活動を教えていただくとともに、チャイルドドクターの紹介をうけて、シティコットンスラムとコートレンゴ孤児院・ママンギナ孤児院を見学させていただいた。
JICA ニャンザ州保健マネジメントプログラムショートインターンシップでは Kenya Medical Training College との交流、ポリオキャンペーンへの参加、Case Story Taking をおこなった。
熱帯医学研究所では、ラボの見学と研究内容について教わった。

＜成果＞

・　チャイルドドクターの理念と実際の活動

現在、ケニアでは下痢・マラリア・肺炎などで亡くなってしまう子供の数が多く、　病気になってもお金がなく病院にかかれない子どもがたくさんいる。そのような子供たちに対して、一人月額１０００円の支援を行い、日本の支援者とケニアの子どものつながりをつくり１対１の支援の形をつくる活動を行なっている（重症疾患をもった子どもや障害をもった子どもに対しては複数対１の形になることもある)。これはただ単にお金を渡すだけといった一般的によくある支援でなく、お互いに必要とされ頼り頼られる支援であるといった点が特徴的である。途上国ではライフラインや保健関係など様々なものが不足し生きていく上で不便な状況が存在する。しかし、不便だからこそ人と人とが頼りあう社会があり、そのなかで自分が役に立っているという自分の必要性を感じることができる。これは先進国では便利な社会が作られてきたなかで犠牲になったもののように感じられる。金銭的な援助によって子供たちが健康状況を改善できるといったメリットがあるだけでなく、子ども達との手紙の交換を通じて援助する側も自分にとって大切な存在ができ、自分の必要性を感じ自分が元気になれるようなお金の使い方ができる、そのような支援の形を目指している。

実際の活動としては、大きく分けてスポンサー活動と医療保健活動にわかれる。スポンサー活動では上でも述べたように月々１０００円の支援者を日本から募るとともに、年齢や生活環境を基準に支援が必要な子どもを選定し（貧困地域に居住、慢性疾患・特定疾患をもつ、孤児院入居している子どもたちは優先的に選定される)、支援を開始する。支援されている子どもは無料で治療を受けることができる。子どもと支援者の交流は手紙を通じて一ヶ月に一回程度行われる（ボランティアの翻訳家もおられます)。また報告会やニュースレター等をしないかわりにメディアにとりあげてもらうことで広告のかわりにしていることや、支援者は開始後９０日間までは支援金を振り込むことなく無料で通常と同様の支援を体験できる無料体験期間がある、などマーケティングを NPO に組み込むことでより効果的効率的にスポンサー活動を行なっている。現在約３２００人の支援者がいる。医療保健活動では実際にクリニックでの患者の診察・治療だけでなく、HIV 患者の専門的な診察・治療や、病気の罹患率を下げるための予防やクリニックへのかかり方など地域での啓蒙活動も行なっている。クリニックには日本人の小児科医（公文先生）とケニア人のクリニカルオフィサーがいて治療にあたっている（クリニカルオフィサーとは三年で習得できるケニア国内においてのみ限られた範囲で医療行為ができる資格であり、ケニアにおける医療人材の海外流出を防ぐために作られた資格である)。HIV 患者の診察料・薬代は無料である。

・　スラムについて

チャイルドドクターが支援しているスラムの一つであるシティコットンスラムに訪問させていただき、支援する子どもの確認の仕事に同行させていただいた。シティコットンスラムはケニアの国内線専用の空港であるウィルソン空港のすぐ横に存在し、さらにすぐ横には高級住宅街が並ぶ。スラムとは主に地方から出稼ぎに来た極貧層の人たちが密集して暮らしている地区であり、上下水道・電気などのライフラインなどや道路・ゴミ捨て場なども整備されていないため衛生状況は悪い状態にある。トイレもあるが、使用するのに一回３シリングかかるので殆どの人は使わず垂れ流しの状況である。家はトタン張りの家が多く広さは６畳ほどであり、床は土晒しである。１世帯の子どもの数はばらつきがあるが多いとこでは６人の子どもがいた。収入源はだいたい日雇い労働であり一家の月収は６０００～８０００シリング（もちろんそれを下回る家庭もある)、家賃が月額２５００シリング、子どもが小学校に行く場合月額５００シリングかかる（１シリング≒０．９２円)。なかには家賃を支払うことができない家庭があり、そのような家庭は家のドアを強制撤去され家を追い出され、行く宛もないので空いたスペースにビニールで家をたてて暮らすことを余儀なくされている。スラムの中で商売も行われており、果物・魚などの食料や生活必需品などが売買されていた。その中でも服は古着が多く一枚１０円ぐらいで売られているが、その多くは海外から途上国支援として先進国から送られた服が多いらしく、それが逆にケニアにおける服の製造業を減らしているという悲しい実態も存在する。スラムには子どもが多く、皆生き生きとしていて笑顔が絶えない。一方大人の、特に男性は元気がないようにみえる人が多いように見えた。これは、子どもは家庭内で炊事や店番など自分の役割をもつことで自分の存在の必要性を感じることができ、また自分自身の夢をもっているが、大きくなり自分の置かれている環境を理解するにつれて夢が実現できないことを知り、また家庭内での居場所がなくなってくるからである。

最近、ケニア政府によってナイロビにある巨大スラムの強制撤去が次々に行われている。現在ケニアは急激な経済成長期であり、有り余る外資が投資機会を求めてケニアに流れ込んできているため建設ラッシュに湧いている。外資はケニア政府の大統領周辺に賄賂を提供して建設許可を求め、ケニア政府としても経済成長に貢献するため受け入れざるを得ない。そこでケニア政府はもともと不法占拠であるスラムを強制撤去することでその土地を作ろうとしている。経済成長を理由にスラムを強制撤去すると当然国内からも海外からも反感を買うため、「スラム内に潜むテロ組織を排除するため」という名目で撤去を敢行している。当然スラムの人たちは何も保障されていないため行く先もなく、不法占拠しているため反抗することも出来ず、また別のスラムに流れ込むという状況である。チャイルドドクターではこの強制撤去により行方不明となった支援を受けている子ども達を探すことに尽力している。

・　孤児院について

一軒目：Cottolengo Centre

一軒目はイタリア系が資本のキリスト教系孤児院に訪問させていただいた。ここは原則として HIV に感染した子どもを受け入れている。外国が支援しているため資金が比較的あり、非常に綺麗な所であった。生後２ヶ月から受け入れており現在７５人の子どもがいる。４歳まではシスターが主に面倒をみるが、４歳からは寮で生活し自分たちで洗濯などをこなす。常駐の医師はおらず、定期的に訪問するに留まっているが、ARV などの治療薬は充実していた。学校は小学校４年生ぐらいから、精神的に安定し自分で薬がきちんと飲める子どもがボーディングスクールに通うが、それ以外の子は孤児院でシスターに勉強を教えてもらい（先生を孤児院に呼ぶとお金がかかるためである)、訓練され社会へと出ていく事ができる。ここは HIV 感染者専用ということもあり特別な問題を抱えることもある。その一つとして、子ども自身の HIV 感染の認識である。おおきくなるにつれて自分が孤児であることやなぜ薬を飲まなければならないのかといった自分の状況を受け入れることが出来ずパニックになる子どもがいるが、そういう子どもに対してはシスターが「自分が守ってあげる」といった姿勢で親身に相談に乗り、納得させる。それでも精神的に追い詰められている子どもは、スタッフの家で一時的にひきとり家庭を感じさせてあげたり、医師にみてもらったりする。また、一緒に暮らしていた仲間が死んでしまった際にも細心の注意を払わなければならない。大きい子は HIV と死の関連を理解できるため、仲間の死をみると取り乱すことも多い。また学校の問題もある。本当は敷地内に学校を作りたいのだが、学校を作るとなると外部からも生徒を呼ばなければならない。しかし、まだまだ HIV 感染者に対する差別は残っており、わざわざ HIV 感染者のいる学校なんかに行きたくないという人が多いため、開校できる状況ではないそうだ。

二軒目：Mama Ngina Kenyatta Children’s Home

二軒目は初代ケニア大統領婦人である Ngina Kenyaatta が 1969 年に創設した孤児院に訪問させていただいた。ここは病院（子どもが生まれて亡くなったり逃げたり）や社会的・経済的理由で道えん端や警察の前に捨てられた子供たちが、警察からの連絡をうけて受け入れられている。一軒目の孤児院と違い、国の child welfare と国からの少ない援助により運営されているため資金難に苦しんでいる。そのため感染症の薬やスペシャリストを呼ぶお金や光熱費がなく受入人数が増えることにより感染症が蔓延し亡くなってしまうこともある。現在は３０人のスタッフとボランティアがおり、約１００人の子どもを受け入れている（そのうち１歳以下は２５人)。法律では１８歳までいることができるが１８歳以降も必要であれば自立できるようサポートしている。亡くなる子どもの年齢を尋ねて見たところ、infant が一番亡くなる率が高いという回答が帰ってきた。それは家族歴などがわからないため遺伝的疾患を見逃してしまうこと

があることからであるらしい。また風邪が一気に広まることによる下痢が原因になることもある。マラリアはナイロビでは少ない。亡くなったときは、宗教によってかわってくるが、病院で亡くなったときは、他の子どものストレスにならないように他の孤児院に移ったとか養子になってひきとられたなど真実を伝えないこともある。Cottolengo Centre と比べると、清潔さや管理の点で劣っているように思えた。（もちろんスタッフの方は一生懸命働いていらっしゃる）

・ Kenya Medical Training College との交流

Kenya Medical Training College Kisumu Campus は１９５３年に看護学校として設立され、現在では Nursing・Environmental Health Sciences・Medical Laboratory Sciences・Clinical Medicine・Medical Imaging Sciences・The Business Unit などを教えている。全寮制で夏季休暇中であったため実家に帰っている生徒が多い中、わざわざ１０人程度もの生徒が集まってくれて、半日だけであったが自己紹介・キャンパスの見学・日本の大学生活の紹介・SEMAH の紹介など情報交換することができた。

・ ポリオキャンペーンへの参加

ポリオキャンペーンのラウンド２が８月２５日～２９日で開催されており、そのうちの一日に参加し、ワクチン接種者（CHW）と CHEW によるチームに同行した。各チームは担当の村々をまわってすべての家庭を訪問し、５歳未満の子どもがいるかの確認、ワクチンの説明・接種、Tally Seat への記入、接種が完了した子どもの右手の小指にマジックで印をつける、家庭訪問した家にチョークで印をつける、ポリオの疑わしいケースがあるかの確認、ギニアウォーム（足から侵入する虫）のケースがあるかの確認、のすべてをしなければならないが、これらをきちんと正しくできているかのチェックを私達が同行し行った。強い日差しの中、朝の９時頃から夕方の４時頃まで歩き続け、一日に１００軒くらいまわり５０人ほどの子どもに接種した。CHW は村の家庭構成や場所を熟知しているため、次々と休むこともなく各家庭をまわり効率良くワクチン接種してまわるだけでなく、村の人々の健康状態などを対話を通して把握していた。これだけ一生懸命効率良くまわっているのにも関わらず、政府は一日２００人以上の子どもに接種するという無理な目安を設けている。さらに、現状としては麻疹のほうが流行っているため麻疹のワクチン接種の方を優先すべきなのに、WHO によりポリオ撲滅宣言がだされたためそれを達成するためポリオワクチンの接種を頻繁におこない、かえってポリオに感染している可能性もあり（ポリオワクチンは弱毒性のため）、また麻疹の感染率は下げることができていない。CHW・CHEW のひたむきな努力と現場と行政の認識の差が垣間見えたような気がした。ワクチン接種の仕方としては概ね正しくできていた印象だった。しかし、後に JICA の先生に尋ねたところ、本当は５歳かどうかのチェック（片手で頭上をこえて対側の耳が触れるか）と、近く

のマーケットなどで接種漏れの子どもがいるかの確認をしなければならなかったようだ。

・ Case Story Taking

パイロット県である Kisumu West 県において比較的良い活動を行なっている Community Unit や Dispensary を訪問し、そこで働いている CHEW や CHW に活動内容やその結果などについてインタビューし、文章にまとめ JICA に提出した。この活動には 3 日間費やした。一日目は JICA オフィスで DHIS2 というサイトで保健施設の保険情報を調べ、それをもとにインタビューの内容の作成を行った。その質問内容は**別紙 1** を参照。二日目と三日目は実際にインタビューを行った。二日目は Sunga CU/Dispensary に、三日目は Nduru Kadero CU/Dispensary に訪問させていただいた。インタビューの結果は**別紙 2** を参照。

＜感想＞

「貧困」「不幸」「不衛生」、ケニアに行くまではアフリカの国に対してこのようなイメージを持っていた。それはテレビ、インターネット、本などいろいろなメディアによって作られたイメージだった。しかし今回、実際にケニアに行き「本物」のアフリカをみることで、自分の抱いていたイメージは自分の知識からくる「決めつけ」であったことを知ることとなった。JICA の杉下先生がおっしゃっていた「お金がなければなにもできない日本のほうがよっぽどか貧しいのではないか」という言葉が印象的だった。ポリオキャンペーンで田舎の村々をまわらせていただいたが、そこに住んでいる村の人は食べ物から住居からすべて自給自足の生活をしていてお金はほとんどもっていない。パソコンもない、インターネットもできない、車もない、きれいなベッドもない。先進国の目から見ると到底幸せになる条件はそろっていない。しかし、村の人達はみんな笑顔でその環境に溶け込んでいた。とても幸せそうだった。「幸せ」とはなんだろうか、わからなくなった。先進国のように物のあふれた世界では、物が幸せの基準となっているが、村の人達の幸せの基準はまったく別のものだった。どちらがいいとは言えないが、少なくとも先進国は発展する上で様々なものを捨ててきたように思える。

だからといって国際協力が必要でないわけではない。保健において満足な治療を受けることができず苦しんでいる人たちがいることも現実だった。ただ、国際協力についても自分の考えが間違っていた。国際協力・支援というとどうしても先進国が途上国に対してなにかを「してあげる」といった図式ができがちであり、実際に現場を見るまでは自分も少なからずそう思っていた。しかし、今回様々な支援の形を見せていただいたが、どれも先進国から途上国に対する一方的な支援ではなかった。先生の言葉に「現地の人を本当に救えるのは現地の人しかいない。解決の答えは与えられるものではなく、自分の中にある。だからアフリカの人におしつけるのではなく、答えをだすのをサポートすることが国際協力である。」というものがあった。また、

途上国への支援となると先進国は優れていて途上国は劣っているといった考え・思い込みが邪魔して先進国が途上国から学び得ることなんかないと考えがちだがそんなことは決してない。ただ一方的に支援するのは途上国を「operation」しているだけかもしれない。それをいかに「co-operation」の形にしていくか、互いのいいところ悪いところを隠すことなく示しあい、対話を通じて相手のいいところを学び自分の悪いところを反省する、そういった姿勢が先進国と途上国が共に発展し幸せになるために重要になってくるのではないだろうか。

いろいろわかったように書いたが、実際に国際協力に関わっているわけではないのでまだまだ表面的なことしかみえてないだろうし、まだまだ物事の裏には隠された本質があるだろう。ただ、今回実際に自分の目で現場をみることができたことで、いろいろなことに気づくことができ、自分の固定された視点を崩すことができたと思う。これは決して日本の机上の勉強では得ることはできなかっただろう。人は見たいように世界をみているだけであるが、だからこそ自分の目で現場をみなければならない。自分の目でみて感じたことが全てであり真実以外の何物でもない。これからもっともっといろんな現場をみて、真実を知り、多角的な視点を持ち物事の裏に隠された本質まで見たいと思うようになった。

最後になりますが、貴重な経験を得る機会をいただけた、JICA の方々、チャイルドドクターの方々、長崎熱帯医学研究所の方々、そしてケニアの方々、また今回資金的な援助をいただけたことに心から感謝申し上げます。皆様の支援を無駄にすることなく、今回感じたことを心に留めて、将来国際協力に関われるようより一層成長していきたいと思います。

別紙１

Interview Questions

General:

- What is your role in the dispensary? (**IDENTITY**)
  - Schedule
- What motivates you to work as a CHW/CHEW/CHC worker? (**MOTIVATION**)
  - Even if you are not being paid
- What has given you the most trouble as a CHW/CHEW/CHC worker? Concerns? Wishes? (**CHALLENGES**)
  - Have you ever wanted to quit? If so, why did you decide to continue working as a volunteer CHW?
- Where do you see yourself being/working 10 years from now? (**FUTURE**)

Dispensaries: JICA:

- Sign posts, ID cards, buckets → impact?

Other:

- Causes of infant/child death?
- Are there children with mental/physical disabilities? How do you manage such patients?
- Which types of malaria affect patients the most?
- Even though children rub their eyes a lot, it seems like the number of eye infections is low. Why do you think this is the case?
- In your opinion, what is the meaning of “happiness”?

Sunga CU/dispensary:

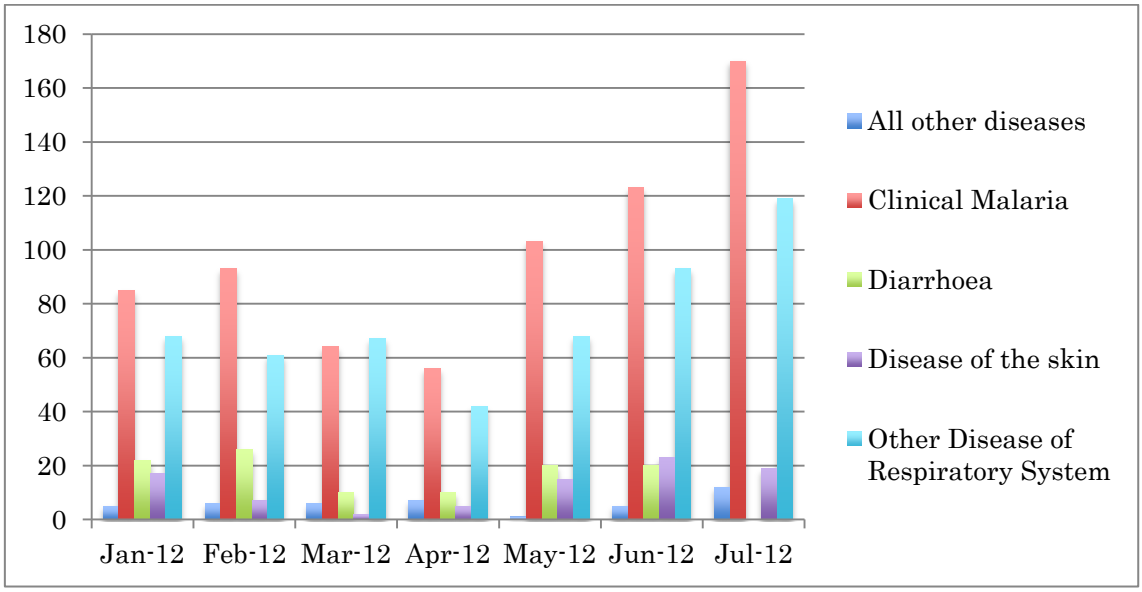
- What is/are the underlying cause(s) of malaria?
- Skin diseases? Treatment?

Langi Kawino CU/dispensary:

- What is/are the underlying cause(s) of malaria?
- How do you manage defaulters?

DATA

Sunga



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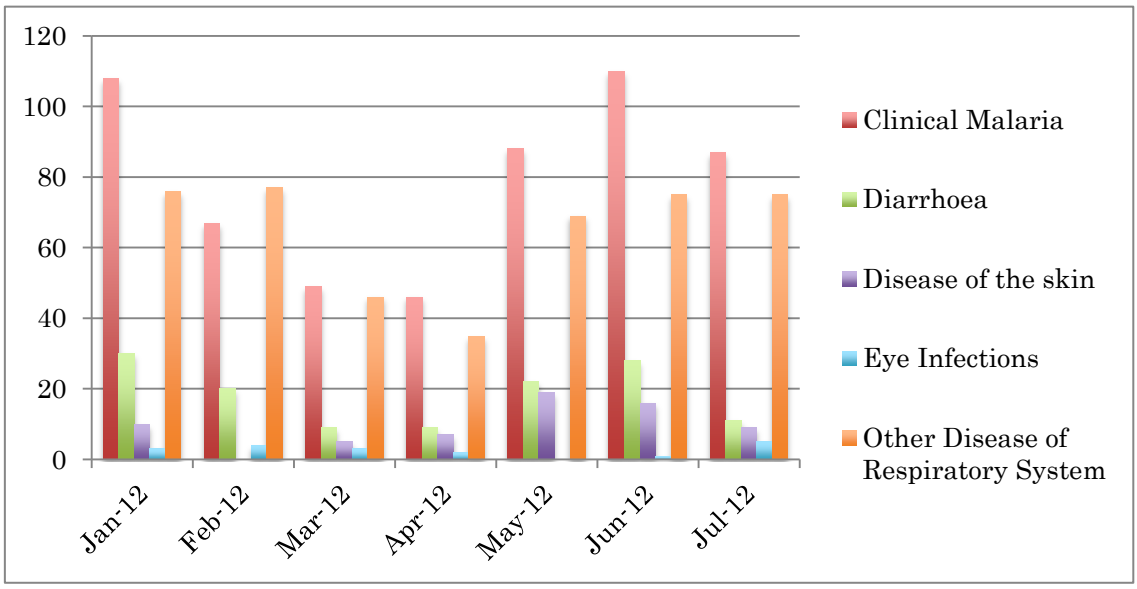

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17 September 2012

Case Story Taking Report for JICA
—Interviews at Sunga and Nduru Kadero dispensaries—
(30~31 August 2012)

This report summarizes our findings from interviews performed with community health workers (CHWs) and community health extension workers (CHEWs) at the Sunga and Nduru Kadero community units (CUs)/dispensaries. At Sunga, we were able to interview two CHEWs and five CHWs (one CHW did the talking on behalf of the others), whereas at Nduru Kadero, we interviewed one CHEW and four CHWs.
The first section of the report consists of a summary of the interviews, where the answers at each dispensary have been categorized based on the topic of discussion. The second section analyses the status quo based on our findings and attempts to offer suggestions that may ameliorate the health care system as it pertains to the CUs/dispensaries.

NB 1: As our group was assigned the CUs/dispensaries that were located the farthest on both days, we were unable to go to the field. As such, all of the information included in this report was gathered during interviews performed with community health workers (CHWs) and community health extension workers (CHEWs) at the corresponding dispensaries.

NB 2: While the answers provided by the CHWs and CHEWs to our queries have been accurately reproduced in this report, linguistic barriers may have led to questionable data and/or misinterpretations of answers given by the interviewees.

Characteristics of the CU/dispensary

Sunga: The CU was started in 2011 and covers 11 villages (5451 people). There are 11 CHWs and 2 CHEWs (one is a nurse, and the other is a former laboratory technician who became a CHEW) working for the CU/dispensary.

Nduru Kadero: There are 2 community units and 1 dispensary, with 1 CHEW and 8 CHWs.

Behind the current dispensary, a building for antenatal care is under construction, as a staff member of the dispensary recently won a UN award worth $10,000.

The roles of CHWs/CHEWs

Sunga

- The nurse CHEW is the lone nurse working at the dispensary. She works from 8:00 to 17:00, and she sees patients, makes diagnoses, and writes prescriptions. In terms of antenatal healthcare, she creates individual bath plans for expectant mothers and discourages them from delivering their babies at home, so as to minimize the risk of birth-related complications. Additionally, the nurse helps track down and treat defaulters who have not returned for scheduled consultations.
- The second CHEW, who used to be a laboratory technician, is in charge of two main tasks: health education on diseases such as TB and HIV/AIDS, and defaulter tracing, e.g. to ensure that immunizations have been performed properly.
- The CHWs check the general health of the villagers, as well as the situation regarding sanitation, e.g. dish racks and toilets. For children under the age of 5, the CHWs also monitor improvements in their health. If they find children who are very sick, the CHWs refer these children to the appropriate facility. In essence, their role is not the treatment of patients but rather the referral of patients who require care. Yet, the CHWs do receive two weeks of first aid training and are capable of treating certain conditions, e.g. dehydration due to diarrhea. Each CHW is assigned 70+ households.

Nduru Kadero

- The CHEW whom we interviewed was a field CHEW and a public health officer. He explained that the dispensary and CUs were in charge of the following: defaulter tracing; latrine coverage; school health (deworming of children with Unibazole tablets, 1 every 3 months); updating the CU chalkboard with data; high-impact interventions (e.g. the promotion of exclusive breastfeeding and hand-washing); ANC (e.g. use of mosquito nets and vaccine cases, distribution of nutrition handouts/leaflets that are written in Luo); treatment of diarrhea using oral hydration salts.

  As the CHEW of the dispensary, he is in charge of defaulter tracing and referral

forms for patients who require advanced medical care. He also keeps a permanent register for immunizations and identifies defaulters every Monday morning. CHWs are assigned to these defaulters to ensure that the patients receive the appropriate care. In order to trace the defaulters, the CHEW uses monitoring and evaluation (M&E) tools and submits reports to Mr. Kawakatsu once a month.

- Each CHW is in charge of 500 households and their two main assignments are the referral of patients who require care, and the education of villagers for the prevention of diseases such as malaria. The second task involves informing people of the importance of receiving vaccinations at the dispensary (e.g. diphtheria, measles, polio), as well as getting in touch with expectant mothers.
- One CHW was a security guard who served in the military from 1971~1981 as a prison warden. She stays active to remain fit, and intervenes when trouble arises at the dispensary, e.g. when sick patients become angry and cause trouble. She claimed that she was born in 1905 and that she was 55 years old (??).

Motivations for becoming CHWs/CHEWs

Sunga

- The nurse CHEW feels proud of her work through a sense of achievement.
- The second CHEW has a passion for community work, and she also feels a sense of achievement in her work. For instance, when she sees orphans who are malnourished, she can help them get food support, thereby helping save and improve the orphans' lives.
- The CHWs have a strong wish to improve the health of the community. They wish to change the environment such that patients can receive appropriate healthcare.

Nduru Kadero

- The CHEW decided to work as a CHEW after reading JICA's work plan. He feels that his job allows him to be challenged, e.g. by learning how to identify danger signs during the birth of a child.
- The CHWs have a strong wish to help their own community.

Examples of accomplishments by CHEWs and CHWs

Sunga

- Thanks to the referrals by CHWs, more patients have received healthcare services.
- The incidence of diarrhea has decreased through health talks, which included the encouragement of patients to rehydrate properly. Additionally, a support group was formed to encourage exclusive breast-feeding by mothers.

  Of note, there are numerous benefits to exclusive breastfeeding, including:
  - Nutrients needed for the babies to stay healthy and grow
  - Protection against diarrhea and acute respiratory infections
  - Stimulation of the infant's immune system and response to vaccinations

  (Source: UNICEF, Breastfeeding: Foundation for a Healthy Future, 1999. The article is available at: http://www.unicef.org/publications/files/pub_brochure_en.pdf)
- The incidence of malaria has decreased through the distribution of mosquito nets.
- The creation of an HIV/AIDS support group has raised awareness of the disease in the community.

Nduru Kadero

- "Dialogue days," which are day-long information sessions, have helped raise awareness and educate villagers on diseases such as malaria and HIV/AIDS. Nevertheless, the CHEW mentioned that it was difficult to keep villagers at the sessions, e.g. the elderly who cannot remain due to physical discomfort.

Challenges on the job

Sunga

- The nurse CHEW feels overworked. As the only nurse at the dispensary, she needs to manage immunizations, expectant mothers, prescriptions, and patient treatment.
- The second CHEW was formerly a laboratory technician and she switched to fieldwork last year. Since there are no schools for CHEWs, she struggled to adapt to her new work environment during the first month, but now she loves her job. The CHEW also mentioned that the weather is a big challenge: on rainy days, she would appreciate having equipment such as raincoats, rain boots, and umbrellas.
- The CHWs also mentioned that the rainy season was a major challenge, *viz.* to walk from one household to the next without equipment such as raincoats and rain boots. Additionally, they said that finding people was sometimes very difficult, and

that even if they found a particular person, s/he may refuse to talk by claiming to be busy. Some patients requiring treatment may also refuse to be referred.

- Other challenges faced at the dispensary included the lack of laboratory services to perform tests on patients, the difficulty of decreasing the number of defaulters, and the challenge of helping malnourished patients since the food program at Chulaimbo is located far away from the Sunga dispensary.

Nduru Kadero

- Lots of people (especially orphans) ask for help or require care, but the CHWs do not have sufficient tools to address patients' needs.
- There is a lack of certain equipment, e.g. bags to carry folders/paperwork, rubber boots to walk in rainy conditions.
- CHWs do not receive any income for their work, but they would like to be able to get soap, paraffin or buy things for their children.
- There are no opportunities for career advancement.

Impact of JICA's involvement on the CU/dispensary's activities

Sunga

- The CHWs'/CHEWs' work became easier, e.g. because defaulters are on a registry.
- JICA's network enables collaborations with other field workers.
- Thanks to the blue signposts provided by JICA, no one gets lost, and more people are aware of the dispensary's existence and location. As a result, there has been a significant increase in the number of patients who visit the dispensary (Fig. 1).

Fig. 1 A JICA signpost directing patients to the Sunga Dispensary

- The training and updates provided by JICA for CHWs, CHEWs has helped them become more efficient and effective with their work.
- The ID badges provided by JICA allow CHWs to easily identify other workers' names and identities (e.g. CHW, CHEW). In addition, the badges facilitate communication with community members: some people are very hostile and don't like talking to strangers, but they still respect "the badge."
- The dustbins provided by JICA have allowed for the proper separation of different kinds of trash (e.g. burnable trash, medical waste), as well as for its proper disposal (via burning of full boxes in pits that are dug a certain distance away from the dispensary).

Nduru Kadero

- The workers believe that JICA has a firm understanding of the community.
- There has been an increase in latrine coverage (currently, there are 36 households with latrines).
- JICA helped promote hand-washing.
- Signposts increased the number of patients who visit the dispensary.
- Waste disposal boxes provided by JICA have allowed for the proper separation and disposal of various types of waste (black for general waste, yellow for medical waste, red for blood and items contaminated by patients' blood). (Fig. 2)

- The provision of motorcycles has facilitated commutation for CHWs and CHEWs.

Children's health

Sunga: The main conditions that affect children are malaria, pneumonia, and malnutrition. In terms of malnutrition, the second CHEW mentioned that in some cases, this issue was not due to poverty, but to ignorance. For example, a household may have plenty of hens that provide eggs for the family. Yet, because the parents do not know that eggs contain many valuable nutrients, they end up selling the eggs instead of feeding them to their children.

Nduru Kadero: The main conditions that affect children are diarrhea, pneumonia, and malaria.

Fig. 2 A pit behind the Nduru Kadero dispensary for proper waste disposal (burning)

The management of malaria

Sunga

- *Education of villagers*. CHWs teach the community that mosquitos are responsible for the disease. Nevertheless, many people choose to believe traditional interpretations on what causes malaria. For instance, some believe that the excessive consumption of sugar canes or mangoes causes malaria. Others may believe that rain is the main cause, since children start shivering and spike a fever after getting drenched on a rainy day.
- *Distribution of mosquito nets and instruction of villagers on how to use them*. Expectant mothers receive nets, and once they give birth, they receive more nets. CHWs inform villagers on how to use mosquito nets properly.

Nduru Kadero

- *Education of villagers*. CHWs discourage people from living in bushy areas and teach them where and how (*viz.* burning) to dispose of solid waste. CHWs also engage in health talks when a patient is diagnosed with malaria.
- *Distribution of mosquito nets*. As with the Sunga dispensary, nets are distributed to villagers, but the CHEW noted that many nets are very old and probably need to be replaced by newer ones.

The management of patients who refuse treatment or referrals due to traditional beliefs/values

Sunga: The CHWs believe that the community is generally trusting and open-minded. Yet, if they encounter people who refuse treatment of referrals to medical facilities, the CHWs try to change the patients' minds through frequent visitations. Through dialogue, the CHWs convince patients who need treatment for their ailments/injuries that they should seek help for their condition.

Nduru Kadero: As with the Sunga dispensary, the CHWs at Nduru Kadero attempt to convince uncooperative patients to seek medical attention through frequent visitations. In cases where dialogue is insufficient, CHWs and CHEWs may need to resort to the law. In particular, if a patient exhibits symptoms of a contagious disease such as TB, the police may be summoned to force the patient to get treated.

The management of patients with physical and mental disabilities

Sunga: There are few patients with disabilities but, if found, they are referred to hospitals that can handle disabilities. These hospitals bring mobile clinics once a month to the households with such patients.

Nduru Kadero: There are many patients with disabilities, and the Association for the Physically Disabled of Kenya (APDK) deals with such patients. As with the Sunga dispensary, mobilizers come from far away, and only once a month. If such patients arrive at the Nduru Kadero dispensary, they are treated in the same way as other patients. The type of intervention will be determined based on the patient's clinical history and, if necessary, the patient is referred to the appropriate healthcare provider.

Reporting of data to higher authorities

Sunga: Reports are submitted by exclusively through the submission of paperwork. While reporting using computers and the internet would be preferable, the staff at Sunga dispensary are computer-illiterate. The nurse CHEW would be willing to learn, but she does not know how she could fit in a training session given her busy schedule.

Nduru Kadero: Reports are mostly submitted through paperwork, but SMS is occasionally used.

On "happiness"

We asked CHWs and CHEWs what they thought constituted "happiness."

Sunga

- Health, which leads to longevity.
- A stress-free life.
- For patients: recovering from their ailments/injuries, and being served on time.

Nduru Kadero

- A state of physical, mental, and social well-being.
- Meeting one's expectations.
- Longevity: living long enough to see one's grandchildren.
- Meeting new people.

Other queries

Using DHIS2, we noticed that, in addition to malaria, diarrhea and respiratory illnesses, there were a significant number of children under the age of five in Sunga who were affected by skin conditions (Fig. 3). As such, we asked about the most common skin ailments, and found out that they were: rashes, ringworms, septic spots, chicken pox, and fungal skin infections.

Our main findings have been summarized in Table 1.

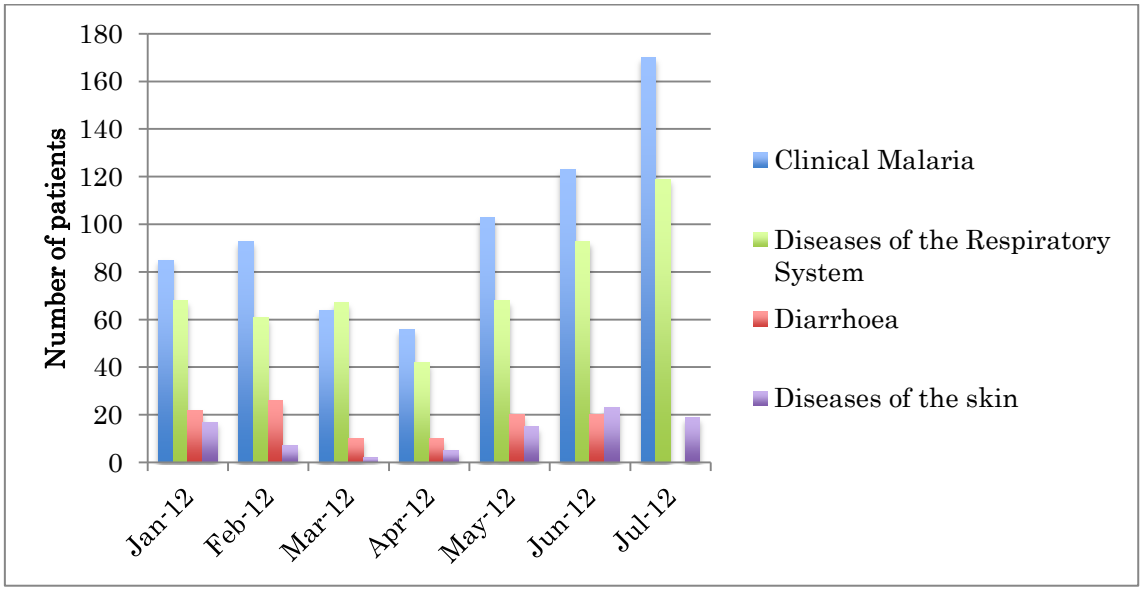

Fig. 3 Major ailments affecting children under the age of five in Sunga (2012). NB. The number of diarrhea cases for July 2012 was not recorded in the database.

Table 1 Summary of interviews conducted at the Sunga and Nduru Kadero dispensaries

Topic	Sunga CU/dispensary	Nduru Kadero CU/dispensary
Characteristics of the CU/dispensary	Started in 2011, covers 11 villages (5451 people). Staff: 11 CHWs and 2 CHEWs (one nurse, one former laboratory technician who became a CHEW).	2 community units and 1 dispensary. Staff: 1 CHEW and 8 CHWs. A building for antenatal care is under construction.
Roles of workers	● Nurse CHEW: Lone nurse at the dispensary. Works from 8:00 to 17:00. Sees patients, makes diagnoses, writes prescriptions. Antenatal healthcare: individual bath plans for expectant mothers, discourages them from delivering their babies at home. Helps track down and treat defaulters. ● CHEW (formerly a laboratory technician): health education on diseases such as TB and HIV/AIDS, defaulter tracing. ● CHWs: check the general health of the villagers, as well as the situation regarding sanitation, e.g. dish racks and toilets. Children <5 years of age: monitor improvements in their health. For	Overview: ● Defaulter tracing ● Latrine coverage ● School health ➢ Deworm children with tablets (Unibazole, 1 every 3 months) ● Chalkboard for CU ● High-impact interventions ➢ Promotion of exclusive breastfeeding ➢ Promotion of hand-washing ● Antenatal care ➢ Mosquito nets ➢ Vaccine case ➢ Nutrition handouts/leaflets (in Luo)

	children who are very sick, the CHWs refer these children to the appropriate facility. Their main role is the referral of patients who require care, but they can treat certain conditions, e.g. dehydration due to diarrhea. Each CHW is assigned 70+ households.	● Treatment of diarrhea using oral hydration salts ● CHEW of the dispensary: defaulter tracing and referral forms for patients who require advanced medical care.; keeps a permanent register for immunizations and identifies defaulters. Assigns CHWs to defaulters. ● Each CHW is in charge of 500 households. Two main assignments: referral of patients who require care, and education of villagers for the prevention of diseases (e.g. malaria). ➢ One CHW: a security guard who intervenes when trouble arises at the dispensary.
Motivations	● Nurse CHEW: feels proud of her work through a sense of achievement. ● Second CHEW: a passion for community work, and she also feels a sense of achievement in her work. ● CHWs: a strong wish to improve the health of the community.	● CHEW: decided to work as a CHEW after reading JICA's work plan. He feels that his job allows him to be challenged. ● CHWs: a strong wish to help their own community.
Examples of accomplishments	● Referrals by CHWs → more patients have received healthcare services.	● "Dialogue days" (day-long information sessions) have helped raise awareness and educate

	• Decrease in the incidence of diarrhea • Formation of a support group to encourage exclusive breast-feeding by mothers. • Decrease in the incidence of malaria through the distribution of mosquito nets. • Creation of an HIV/AIDS support group to raise awareness of the disease.	villagers on diseases such as malaria and HIV/AIDS.

Challenges/Hardships	• Nurse CHEW: the only nurse at the dispensary, feels overworked.
	• Second CHEW
	  ➢ Experienced difficulties switching from lab work to fieldwork
	  ➢ Rainy weather
	• CHWs
	  ➢ Rainy season is a major challenge without equipment such as raincoats and rain boots.
	  ➢ Finding people sometimes very difficult. Even if the person is found, s/he may refuse to talk by claiming to be busy. Some patients requiring treatment may also
		• Lots of people (especially orphans) ask for help or require care, but the CHWs do not have sufficient tools to address patients' needs.
		• A lack of certain equipment, e.g. bags to carry folders/paperwork, rubber boots to walk in rainy conditions.
		• Lack of income for CHWs.
		• No opportunities for career advancement.
		• Difficulty in keeping villagers engaged in information sessions.

	refuse to be referred. ● The lack of laboratory services to perform tests on patients ● The difficulty of decreasing the number of defaulters ● The challenge of helping malnourished patients since the food program at Chulaimbo is located far away from the Sunga dispensary.	
Impact of JICA SEMAH	● Work became easier (e.g. defaulters on registry) ● Enables collaborations with field workers ● Sign posts: no one gets lost, easier to find the dispensary, more patients visit the dispensary ● Training of CHWs, CHEWs increased effectiveness and efficiency of community workers ● ID badges: allow CHWs to easily identify other workers' names and identities (e.g. CHW, CHEW). Badges also facilitate communication with community members: people respect "the badge." ● Dustbins have enabled the proper separation of	● Community workers believe that JICA has a firm understanding of the community. ● An increase in latrine coverage (currently, 36 households with latrines). ● JICA helped promote hand-washing. ● Signposts increased the number of patients who visit the dispensary. ● Waste disposal boxes provided by JICA have allowed for the proper separation and disposal of various types of waste. ● The provision of motorcycles has facilitated commutation for CHWs and CHEWs.

	different kinds of trash (e.g. burnable trash, medical waste), as well as for its proper disposal (via burning of full boxes in pits that are dug a certain distance away from the dispensary).	
Children's health	The main conditions that affect children: ● Malaria ● Pneumonia ● Malnutrition	The main conditions that affect children: ● Diarrhea ● Pneumonia ● Malaria.
Malaria	● Teach community that mosquitos are responsible ● Traditional interpretations on causes of malaria ➢ Rain → children shiver after getting drenched ➢ Too much chewing of sugar canes ➢ Eating lots of mangos ● Mosquito Nets ➢ CHWs instruct people on how to use the nets ➢ ANC: expectant mothers get nets ➢ Nets are also distributed when the mothers give birth	● Discourage people from living in bushy areas ● Teach people where and how (*viz.* burning) to dispose of solid waste ● CHWs also engage in health talks when a patient is diagnosed with malaria ● Distribution of mosquito nets

Patients who refuse treatment/referral	● Dialogue: CHWs try to change the patients' minds through frequent visitations.	● Dialogue: CHWs attempt to convince uncooperative patients to seek medical attention through frequent visitations. ● In cases where dialogue is insufficient, CHWs and CHEWs may need to resort to the law (police involvement).
Patients with disabilities	Few patients with disabilities but, if found, they are referred to hospitals that can handle disabilities. These hospitals bring mobile clinics once a month to the households with such patients.	Many patients with disabilities, and the Association for the Physically Disabled of Kenya (APDK) deals with such patients. Mobilizers come from far away, once a month. If such patients arrive at the Nduru Kadero dispensary, they are treated in the same way as other patients. The type of intervention is determined based on the patient's clinical history. If necessary, the patient is referred to the appropriate healthcare provider.
Reports	● Submitted by paper ● Computer-illiterate ➢ Busy schedule; no time to learn	● Mostly submitted through paperwork ● SMS occasionally used
On happiness	● Health, which leads to longevity. ● A stress-free life. ● For patients	● A state of physical, mental, and social well-being. ● Meeting one's expectations. ● Longevity: living long enough to see one's

	➢ Recovering from their ailments/injuries ➢ Being served on time	grandchildren. ● Meeting new people.

Discussion

Overall, the CHWs and CHEWs whom we interviewed seemed highly motivated to serve their community. Even in the face of hardship, none of them felt the wish to quit their activities, and they could all see themselves continuing in the same line of work 10 years into the future. Nonetheless, there appeared to be two areas where improvements could be made to maintain, and possibly elevate, the workers' morale and motivation:

- *The provision of basic equipment for fieldwork*. In both dispensaries, CHWs mentioned that they did not have bags to carry paperwork, nor equipment to deal with rain (e.g. rain boots, raincoats), especially during the rainy season. Judging from our experience walking with CHWs and CHEWs during the polio campaign, moving from one household to another in heavy rain while wearing sandals or sneakers would be quite a miserable experience. Most of the paths are made of dirt and there are numerous holes where puddles can form. Additionally, it would be difficult to keep paperwork dry, and getting drenched in the rain may cause some workers to become sick. If JICA cannot provide the equipment directly to the CHWs/CHEWs, it may be worth helping the community workers to secure their own funding to buy raincoats and rain boots.
- *Remuneration for CHWs*. In spite of significant time commitment, CHWs operate on a purely voluntary basis; they do not receive any form of salary. While the CHWs understand these work conditions, some feel guilty for being unable to bring anything back to their families at the end of the day. Provision of a base salary, and perhaps a performance-based assessment and remuneration of CHWs, may lead to an increased motivational drive that will benefit the community as a whole.
- *Opportunities for career advancement*. CHWs and CHEWs are dedicated to their communities, yet they are rarely able to attain higher positions in the framework of healthcare management. This problem stems not only from a lack of positions available for promotions, but also due to the inability to receive higher education (e.g. matriculation into a Master's program), which would strengthen their credentials to apply for better jobs. The distribution of certificates for workers who have undergone training, as well as the creation of more leadership positions within the community's healthcare system, may help to ameliorate this situation. (Opportunities to pursue higher education may lead some workers to get their degree and pursue a completely

different profession, but this kind of scenario may be averted through contracts that force people to commit to community healthcare before they are allowed to go to school.)

In terms of the facilities and staff, the following would most likely lead to the improved operation of the dispensaries:

- *More staff members*. Although we understand that most, if not all, healthcare facilities in rural areas are understaffed, having only one nurse on site to treat all the patients is undesirable. This situation leads to heavy burden on the nurse, who needs to juggle immunizations, expectant mothers, prescriptions, and patient treatment on a daily basis. Additionally, the lone nurse cannot be in two locations at once. At the Sunga dispensary, when the nurse was called out to help with the polio campaign, none of the patients could receive care or medication.
- *Better means of communicating with the community*. As aforementioned, many patients made long trips to the Sunga dispensary during the polio campaign even when there was nobody available to treat them. One suggestion is the creation of notice boards right next to the blue signposts, where patients can be informed in advance whether they can receive treatment. If many patients are illiterate, color-coded messages may be helpful (e.g. green = open, red = closed).
- *Better management of waste disposal*. While the provision of color-coded dustbins allowed for better separation and management of waste, the pit located behind the Nduru Kadero dispensary appeared to constitute a health hazard. If medical waste contaminated with deadly pathogens were incompletely burned in the pit (which looks like a random hole in the ground), people (especially children) may voluntarily go into the hole or fall into it. Incinerators would be desirable, but if they are unavailable, such waste disposal holes should, at a minimum, be marked off with danger signs or have access blocked using physical objects in order to create a safer environment for staff, patients, and local inhabitants.
- *The creation of laboratory facilities*. Such facilities would require significant resources, both in terms of equipment and personnel, but the presence of one person who could analyze patients' blood and stool samples would expedite patient diagnosis and treatment, especially in cases where patients require specialized facilities and

medication to be cured.

Attempts to educate the community on healthcare and preventable diseases appear to help inform villagers on how to prevent some ailments (e.g. the importance of vaccinations), but not for others (e.g. malnutrition). The following suggestions may help ameliorate the situation:

- *Organization of information sessions on nutrition*. The community would appear to benefit from learning what resources they have to prevent malnourishment of themselves and of their children. As stated by the CHEW at Sunga dispensary, some people are not aware that they have food such as eggs that they could use to supplement their diet. Especially in an environment where food support is not readily available, such an intervention may help prevent children (especially orphans) from starving.
- *The creation of incentives to increase villager participation in information sessions*. As mentioned by the CHEW at Nduru Kadero, half of the challenge involves keeping people from leaving the information sessions. He believes that JICA's support in providing food and drinks at the event would help tackle this issue. It is, however, conceivable that villagers would show up for the free food and drinks, grab some, then disappear. One suggestion is to make the information sessions interactive (as opposed to one person just talking to the villagers for hours), and to play a quiz-type game at the end of the session with prizes for the winners. If the prizes are picked properly, participation of both adults and children in such events would increase, and their motivation to listen would similarly increase.
- *Exploration of alternative approaches to prevent malaria*. Clinical malaria is the most prevalent ailment in children under the age of five (Fig. 3). Although CHWs claim that they have informed villagers that mosquitos are responsible for malaria and that mosquito nets are needed to protect people, not once have we seen a Kenyan person kill a mosquito. Also, judging by the way people we saw people misusing mosquito nets during our polio campaign walk (Fig. 4), we are not convinced that many villagers in rural areas truly understand what malaria is.

  One major issue appears to be that of credibility. Even if one accepted the premise that mosquitos are responsible for malaria, it does not explain why one person would

acquire the disease and another person wouldn't, since mosquitos are everywhere. Especially if

Fig. 4 Villagers use mosquito nets to protect their crops.

the person getting sick was a "good" villager and other "bad" people seemed unaffected, there is a sense of injustice that would be difficult to accept if one believed in a fair deity. Thus, people choose to believe more "traditional" explanations for the illness, e.g. that rain causes malaria.

If the use of a purely biological explanation is ineffective in convincing people that mosquitos are responsible for giving people malaria, one may perhaps use the notion of "traditional" explanations to one's advantage to decrease the number of malaria cases. One could try asking for a well-respected villager's help in creating and spreading a new "traditional" cause of malaria. For example, one could say that evil spirits enter the bodies of random mosquitos at night, and that they spread malaria to children who have no protection. (This story would explain why some mosquitos cause malaria, while others don't.) Furthermore, if older children are told this story and an elder says that it is his/her responsibility to protect his/her little sibling with a mosquito

net, it is likely that the children would use the nets on the little ones even if the parents do not. Judging by the way many children took very good care of their younger siblings during our polio campaign walk (Fig. 5), one would surmise that this kind of intervention would help increase mosquito net usage.

As for patients with physical and mental disabilities, they appeared to be a low priority. Even though some with special needs got referred to specialized facilities, mobile clinics only operate only once a month, and we came across two people during our polio campaign walk who seemed to have been abandoned as "lost cases." While it is evident that other patients with ailments such as malaria and AIDS require more immediate intervention and treatment, the health of those with chronic physical and mental disabilities may require more attention than is currently given to them.

Fig. 5 A boy taking care of his younger sister.

Finally, it was interesting to explore the meaning of happiness with the community workers. We agreed that happiness requires health, which involves a state of physical, mental, and social well-being. There also seemed to be a consensus that longevity is desirable, yet in the minds of the CHWs and CHEWs, the main focus appeared to be the effects that longevity has on one's family. They were concerned that if their lives were cut short, there would be no one to look after their children, and they wished to live long so that they may see their grandchildren. In a developed country such as Japan, one would also expect somebody to express his/her wish to see grandchildren, but there would usually be some mention of one's accomplishments, possessions, and a sense of purpose in this life that goes beyond the mere perpetuation of one's species. Their views illustrate the notion that happiness can

be attained without materialistic gains, just as we saw that many children who lived in the slums and orphanages in Nairobi looked genuinely happy in spite of their terrible living conditions (as seen by us). Another interesting point was one CHW's view that "meeting new people" made her happy. In Japan, especially the most urban areas, many tend to avoid interacting with people they have never met before. This CHW reminds us that meeting and interacting with people of different backgrounds enables us to enlarge our worlds. In short, the community workers' perspectives on happiness make one pause and reconsider what aspects of life are actually important to us.

Acknowledgements

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