



Flexible, easy to use, low cost: **mobile phone-based surveys** **can have it all**

Rapid Mobile Phone-based (RAMP) survey

with support of

 Norwegian **Red Cross**

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 International Federation
of Red Cross and Red Crescent Societies



Strategy 2020 voices the collective determination of the IFRC to move forward in tackling the major challenges that confront humanity in the next decade. Informed by the needs and vulnerabilities of the diverse communities with whom we work, as well as the basic rights and freedoms to which all are entitled, this strategy seeks to benefit all who look to Red Cross Red Crescent to help to build a more humane, dignified, and peaceful world.

Over the next ten years, the collective focus of the IFRC will be on achieving the following strategic aims:

1. Save lives, protect livelihoods, and strengthen recovery from disasters and crises
 2. Enable healthy and safe living
 3. Promote social inclusion and a culture of non-violence and peace
-

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Presenting the Rapid Mobile Phone-based (RAMP) survey

On the second day of the pilot RAMP survey that took place in Cross River State, Nigeria, Rose¹ was just finishing a lunch of yam and stew when David Samuel Effiong and Theresa Agba, Nigerian Red Cross Society volunteers who had been trained as RAMP survey interviewers, arrived to conduct a survey in her village. Both were carrying mobile phones. Rose's household was one of ten chosen at random for the team that day. She answered the survey questions put to her gently but briskly by David, who paused only long enough between questions to key the replies into his phone.

At a second household, Agnes answered questions on behalf of her family, this time put to her by Theresa. David moved on to a third household, Theresa to a fourth, and so on until the ten households had all been interviewed.

At the end of the day, David and Theresa returned to base and, using the mobile phone network, immediately uploaded to the internet all the data that had been collected on their mobile phones during the day. No more having to wait weeks or months for the results of the survey. The programme manager could expect preliminary findings to be ready a matter of hours after uploading.

This speed, together with the simplicity of the methodology and the flexibility in terms of the kinds of information collected, is of enormous benefit to programme managers and decision-makers. All humanitarian work relies on data, but really effective work relies on good current data. In the public health arena, survey data probably make up about half the information needed. Asking questions and observing a representative group of people is often the only way to find out how best to respond in order to improve lives, protect health and well-being and contribute to social and economic development.

Historically, surveys have been conducted by interviewers using pencils and clipboards. Collection and analysis of the data then often takes months, which in many situations in which humanitarian organizations work is too long.

1. Only the first names of interviewees are given to preserve confidentiality.



Theresa Agba and David Effiong, Nigerian Red Cross Society volunteers, conduct a survey in Rose's village. David enters Rose's replies into his mobile phone

Benoit Matisha-Carpentier/IFRC

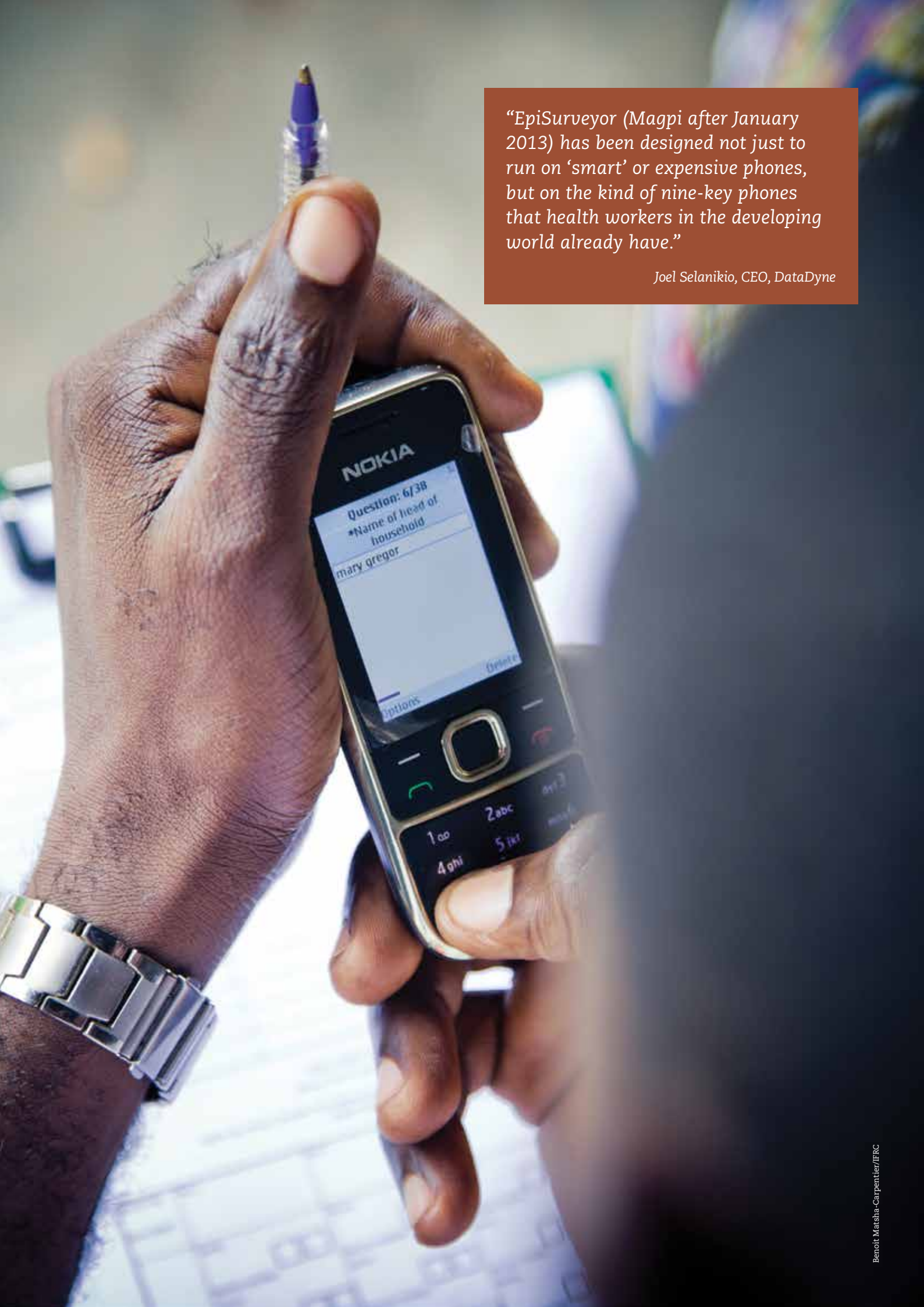
Empowering National Societies, NGOs, and government departments to collect survey data

Using modern technology that is generally available to all, the International Federation of Red Cross and Red Crescent Societies (IFRC) has been working on low cost easy-to-use methodology to help Red Cross Red Crescent National Societies, NGOs, government departments and their partners to conceptualize a survey, prepare their own questionnaire(s) according to needs, conduct the survey, analyse the data rapidly and provide results very quickly.

The Rapid Mobile Phone-based (RAMP) survey methodology is sufficiently flexible that it can be used for a range of tasks in many fields. To date it has been used to pilot malaria surveys, but other programmes, such as HIV/AIDS, water and sanitation (WatSan) or disaster management could clearly make use of the ability to conduct scientifically rigorous surveys in the field with rapid and reliable results. A short training period is sufficient for volunteers to feel confident about undertaking the surveys and capturing data on their mobile phones.

“RAMP was developed to allow organizations to make their own decisions about what is important to them and about what their information needs are, rather than what we at IFRC think is important.”

Jason Peat, Senior Health Officer, IFRC in Geneva



“EpiSurveyor (Magpi after January 2013) has been designed not just to run on ‘smart’ or expensive phones, but on the kind of nine-key phones that health workers in the developing world already have.”

Joel Selanikio, CEO, DataDyne

Trying RAMP out in Africa

Pilot testing of RAMP took place in three countries in Africa in 2011, Kenya, Namibia and Nigeria², and a follow-up survey was conducted in Namibia at the beginning of 2012. What made the surveys possible was the existence of mobile phone networks covering most of the continent.

This is a commercial realm in which Africa seems to be way ahead of most of the world: charges for data using the continent's increasingly ubiquitous second-generation mobile phone networks are cheap and getting cheaper.

The extraordinarily rapid spread of first-generation mobile telephony in Africa is a development legend; it was in Africa in 2001 that mobile phones first outnumbered fixed lines. By the end of 2010, over 40 per cent of the entire population of the continent was expected to have a mobile phone. Africa may still lag behind the rest of the world in general mobile phone and internet penetration, but according to the International Telecommunication Union, mobile telephony is now firmly entrenched as the predominant mode of telephony in almost every African nation.

The three technical revolutions – the internet and the two waves of cheap wireless telephony that have now made communications truly *mobile* – may be about to engender a fourth. In the humanitarian world, the potential now exists for the gathering of data in the field to become vastly quicker and cheaper. The RAMP developers seized on this potential, using a freely-accessible software application that allows data to be collected during a survey on a mobile phone and then made rapidly available for analysis and reporting.

The Red Cross Red Crescent has been at the forefront of the innovative use of technology for data collection and the RAMP pilots carried out in 2011 and 2012 are actually the culmination of nearly a decade of work in this area. "The Red Cross did the first survey in Africa using handheld PDAs [personal digital assistants] in 2002," says Mark Grabowsky, now Deputy Director of the US National Vaccine Program Office, who took part in those early trials in Ghana.

As an example, the IFRC has used handheld computers for every evaluation of malaria bed net³ campaigns over the last eleven years. Each effort has resulted in an improvement of the tools and the early hiccups that beset every new technological innovation have been overcome.



Woman using PDA (Personal Digital Assistant) for data collection in Indonesia.

A RAMP survey in action

Interviewers conducting RAMP surveys in the field use a simple questionnaire application on their mobile phones to gather, store and upload survey results, either instantly or at the end of each day, to the internet. At the download point (anywhere in the world), the data are displayed in a web-based database and can be exported into other software programs for further processing and analysis.

For the pilot malaria surveys, a freely-accessible software application, EpiSurveyor⁴, developed by Data-

2. In date order of trials.

3. For simplicity here, bed nets or nets mean (long-lasting) insecticide-treated nets (LLIN/ITN) unless otherwise specified.

4. To be called Magpi after January 2013.

Dyne, a not-for-profit organization, was used. Joel Selanikio, innovator, physician and CEO of DataDyne delights in pointing out that all mobile phones in the world today, even the cheapest, have more computing power than the lunar module did when it landed in the Sea of Tranquillity on the moon in 1969.

There is no country where data charges have proved an obstacle to EpiSurveyor. Data can be sent at any time over the mobile network, or through freely available wireless internet provision in hotels and cyber cafes, rather than using the mobile phone signal in the field.

In the pilot projects, the interviewer scrolled through questions on his or her mobile phone. Questions were “closed end”, that is they needed a simple yes or no, an integer, or a choice of tick-box options, rather than narrative testimony. Data were then uploaded immediately, or certainly at the end of each day of the survey.

Why malaria for the RAMP pilots?

There are many public health problems in Africa that could have been chosen. However, malaria was selected to test the RAMP tools, largely because it is an exacting test-bed, where data gathering is relatively complex.

Africa’s malaria burden is also some 80 per cent of humanity’s, as any colour-coded prevalence map of the world instantly highlights. One of the RAMP pilot countries, Nigeria, had more people recently dying from malaria every year than in the next four most-seriously affected countries put together: the Democratic Republic of Congo, Ethiopia, Tanzania and Uganda⁵. In 2010, an estimated 655,000 persons died of malaria of which 86 per cent were children under five years of age. Over 90 per cent of malaria deaths occurred in the WHO African region⁶.

The mortality rate, particularly in children under five years of age, is another good reason to choose malaria for the trial. Sufficient good data are required to inform humanitarian programmes so that the effort to defeat malaria succeeds. The RAMP surveys were intended to provide, firstly, estimates on access to and usage of bed

“With malaria deaths in Africa having fallen significantly since 2000, the return on our investment to end malaria deaths has been greater than any I have experienced in the business world. But one child dies every minute from malaria – and that is one child and one minute too many.”

*Ray Chambers, UN Secretary General’s
Special Envoy for Malaria*

nets, as well as information about factors like treatment of children with fever and the use of indoor residual spraying.

In the three countries selected for RAMP pilot surveys in 2011, different types of malaria programmes were either under way or recently completed, providing real-time, real-life substance for the RAMP pilots. In no sense, however, was this an easy option. Mac Otten, a paediatrician and epidemiologist who helped the IFRC pilot RAMP in Africa emphasizes, “A typical malaria survey is more complicated than, for example, diarrhoea in children. We’re asking questions about households, about individual behaviours and about nets. And they’re all linked because we’re asking, who is sleeping under that net? Keeping track of it all is quite demanding for the interviewers”.



Rob Few/IFRC

5. Roll Back Malaria. The Global Malaria Action Plan, 2008.

6. WHO. World Malaria Report 2011 Fact Sheet.

The internationally-supported drive to defeat malaria in Africa has been broadly threefold:

- 1) Mass distribution of bed nets, alongside education to encourage all household members to sleep under their nets all year, not just in the rainy season. Distribution is often combined with hang-up campaigns, designed to show people how to use and maintain nets properly, including when they sleep outside part of the year.
- 2) Treatment strategies, particularly the artemisinin combination therapy (ACT) drugs that originated in centuries-old Chinese herbal medicine and are replacing the older anti-malarials to which resistance has developed. Education about the importance of completing treatment is also given.
- 3) Insecticide spraying of interior walls of homes where mosquitos rest, called indoor residual spraying (IRS). This has community-wide protective value, as it reduces the number of vectors in the area.



The RAMP surveys were carefully designed to be representative of the whole population in the study area, and timed so that interviewees were likely to be at home, not, for example away working in the fields at harvest time or attending religious festivals.

Clearly it is no quicker to carry a mobile phone door-to-door than a clipboard, or to mark a tick box with a pencil than “check” an electronic version. But what the 2011 and 2012 African RAMP surveys established conclusively was the *speed* at which analytical results could be obtained once the data were received.

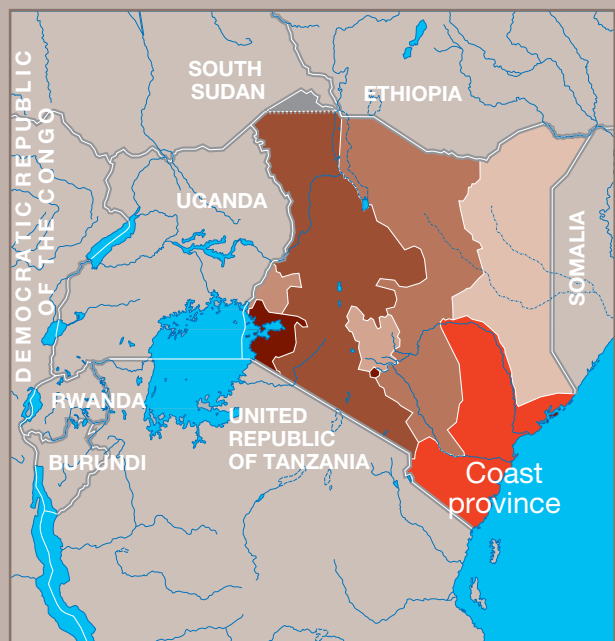
“We were producing preliminary results within 24 hours and a full draft report within three days, as opposed to three months with pencils and clipboards.”

Mac Otten, RAMP developer, IFRC

Malindi district, Kenya

Community-based care

The first pilot RAMP project took place in Kenya in January 2011 in Malindi district, Coast Province. It coincided with the dry season, when it is easier to move around. Malindi, on Kenya’s Indian Ocean coast is remote and with difficult terrain, high poverty rates and little access to public health facilities. Since travel to a health clinic can be long and difficult in many communities, public health experts are recognizing that a growing array of interventions can be delivered effectively in the community by trained community health volunteers. These range from simple messages about hand-washing and the use of bed nets to relatively complex communication like the prevention of mother-to-child transmission of HIV and case management of childhood malaria and pneumonia⁷.



A study of community health workers managing multiple childhood illnesses in Kenya’s Nyanza province showed some 90 per cent of the cases of malaria – the most common problem – were adequately treated⁸, even if other illnesses were not. Elsewhere in Africa, research has demonstrated a significant fall in childhood deaths from malaria when mothers were taught by local health workers to give anti-malarial medications promptly, and to ensure that their children completed the dose.

Home management of malaria (HMM)

HMM was intended to benefit nearly 70,000 rural people living in remote parts of Malindi, the most inaccessible of which are a two and a half hour drive away from the main town in the dry season. The primary objective was to provide prompt ACT for the treatment of suspected cases of malaria in children under five through trained community-based Kenya Red Cross Society volunteers.

7. Haines, A et al. ‘Achieving child survival goals: potential contribution of community health workers’ in *The Lancet*, 23 June 2007. See: www.ncbi.nlm.nih.gov/pubmed/17586307

8. Kelly J et al. ‘Community health worker performance in the management of multiple childhood illnesses: Siaya district, Kenya, 1997–2001’ in *American Journal of Public Health*, 2001. See: www.ncbi.nlm.nih.gov/pubmed/11574324



Jumma Kiti / mother / Kombeni village

“What I like best about the project is that it has reduced the distance we have to go to reach the health service. The children seem to get sick at night and usually at the same time, and it is two hours’ journey to the health facility. I would have to carry both, one on my shoulders and one in my arms. I still carry them this way but only to the volunteer’s house. I am so happy about this project and hope it will continue for a long time.”

**Nelson Kahindi / nurse /
Masheheni Health Facility**

"I have been here at the facility for ten years. We cover a large area with a population of 27,972 and people travel up to 15 kilometres for treatment. In the past, I remember the area outside under the trees was overflowing with people everywhere, sick with malaria. I referred two children a day with severe symptoms to the district hospital. But now, the workload has come down.

Compared to what I have seen these many years until now, HMM has drastically changed the trend. People would once come to my house throughout the night, but no more. I can sleep! We would see an average of more than 100 patients per day before and now 50 patients is a high workload.

I thank God the serious cases of malaria are no longer here. The community will bear witness to how things have changed, but I can also prove it by showing my records."



The RAMP survey in Malindi

In this context, in January 2011, thirty villages were randomly selected as the “primary sampling units” to provide a picture of the entire population of rural Malindi. Villages were mapped and segmented into units using natural boundaries (e.g. field edges). One segment was randomly chosen from which households would be interviewed, and ten households were chosen at random in that randomly-chosen segment – standard statistical methodology. Data were collected on people normally sleeping in the household. A household is usually defined as “sharing a cooking pot” in African terms.

Three questionnaires were designed using Epi-Surveyor (Magpi after January 2013) loaded on to Nokia⁹ mobile phones: household details, a roster of bed nets and a persons roster, based on a template originally developed by the Roll Back Malaria partnership and reviewed by technical experts from the Kenyan health ministry.

Red Cross volunteers were trained as interviewers. All were educated to at least secondary level and many had previous experience of conducting survey interviews. Six teams of Kenya Red Cross Society volunteers, under the supervision of Kenyan health ministry staff, uploaded their data instantly or at the end of the day at the latest when they returned to Malindi town.

RAMP is fundamentally a monitoring and evaluation tool, whether it is used to assess the depth and nature of a problem before an operation, or the humanitarian impact after one. Either way, it is possibly no surprise that one of its most enthusiastic supporters in Kenya now is Kiilu Kioko, head of the Kenya Red Cross Society’s monitoring and evaluation (M&E) department.

“We want to roll RAMP surveys out in other programmes, areas like WatSan and disaster management. We have most of the hardware we need. Then we move into preparing the questionnaires. In the original training for Malindi we included M&E staff from all the regions across the country, so now we have a lot of know-how too. We’re ready to use the tool. We’re ready to roll.”

Kiilu Kioko, Head of M&E, Kenya Red Cross Society

➤ What was learnt (nine key indicators) in Malindi

1. Households owning at least one net (ITN/LLIN)	78%
2. People who had access to a net ¹⁰	68%
3. People (all ages) who slept under a net last night	55%
4. Under-fives who slept under a net last night	65%
5. Nets used last night	87%
6. Nets hung last night	86%
7. Febrile under-fives in last two weeks given ACT	77%
8. Febrile under-fives in last two weeks given ACT within 24 hours	69%
9. Febrile under-fives in last two weeks blood-tested for malaria ¹¹	14%

9. Nokia 2700, 2730, E63 and E71 models.

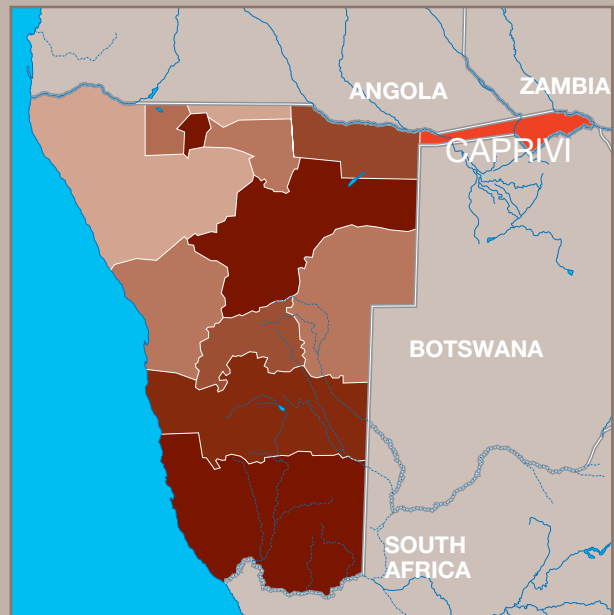
10. “Access” was defined as the population that could have been covered by the nets present in a household at the time of the survey; it was not taken as confirmation of actual use.

11. The latest target is that 100 per cent of under-fives should be properly tested before treatment.

Caprivi Strip, Namibia I

The first RAMP survey in Caprivi Strip

Difficult terrain was among a number of challenges that were encountered in Namibia's north-eastern Caprivi Strip, the country's hottest region, by the team conducting the pilot RAMP survey; other challenges ranged from broken bicycles to elephants. The survey, however, was done on budget and on time, with results providing a powerful argument for stepping up malaria work in the region to bring it into line with the spectacular gains that have been made countrywide. Malaria cases and deaths from malaria have been decreasing rapidly in most of the country since 2001. The gains have been linked to scaling up the coverage of interventions targeting high-risk populations. Indoor residual spraying has also been consistently implemented since 2001.



The backdrop to the survey was the Namibia Red Cross (NRC) "Communities Fighting Malaria" (CFM) project. The NRC branch in Katima Mulilo, the main town, is running CFM in four districts: Kongola, Katima Rural, Kabbe and Linyanti, and by the end of 2011 it was on track to reach its target of 12,700 households (60,000 people) with malaria education centred on bed net use. The only difficulty – precise information that the RAMP survey provided – is that many houses do not have nets.

The RAMP survey that took place in May 2011 provided hard data to show that there was a serious shortage of nets. The number of households that actually have them and hence the proportion of people who are able to sleep under one, is well below the other two countries where RAMP surveys were conducted.

Villagers in Nfooma, just to the south of Katima Mulilo, were still clearing up after the destructive Zambezi River floods that seemed to have become an annual occurrence. Beauty Mapenzi's husband was building a new home for them and their three children higher up the bank while she carried on with her part-time work as a local CFM facilitator.

Beauty, 35, and her neighbour and colleague, Sharon, 29, who has a three-year-old son, Mwemba, explained that the main obstacle they faced was more the shortage of nets locally than any lack of receptiveness to key messages about using them. The women estimated that only around half the households in Nfooma had nets. Many of the nets that exist, they added, were from past flood relief efforts, not any malaria prevention campaign. However, at least many pregnant women, mothers and young children have access to nets thanks to government distributions.

In nearby Sifuha, a larger village, France Inoke, 32, another CFM volunteer, agreed the fight against malaria was hamstrung by the shortage of nets. Many new cases of malaria had emerged since the floods. "People will use nets" he says, "but if they don't have one, and we don't get any from the NRC, all we can do is advise them to buy a net at the social market¹²."

12. A charitable store in Katima Mulilo.

Namibia Red Cross is an important source of nets for the people of Sifuha, a relatively inaccessible village several kilometres off-road in the bush. Mosquito nets can be bought in Katima Mulilo for 30 Namibian dollars (about US\$ 4.50), but in the rural Caprivi Strip, villagers live almost entirely cash-free on what they grow, catch and barter.

“We need more nets”, said NRC branch secretary Polly Helmut. “If we can be given the nets, we have the volunteers to distribute them.”

Namibia is certainly on course to eliminate malaria altogether early this century, and it continues to work toward the ambitious vision of a malaria-free Namibia by 2020. Domestic factors like good health infrastructure – all rural health clinics in Namibia have both ACT drugs and Rapid Diagnostic Test (RDT) equipment – and a strong National Vector-borne Diseases Control Programme – combine with the internationally-supported strategies to put the disease behind them.



Sharon, 29, a Namibia Red Cross facilitator for the Communities Fighting Malaria programme in Nfooma village, to the south of Katima Mulilo, in the Caprivi Strip. Sharon explains that the main obstacle they face is much more the shortage of nets locally than any lack of receptiveness to key messages about using them.

➤ What was learnt in Caprivi Strip

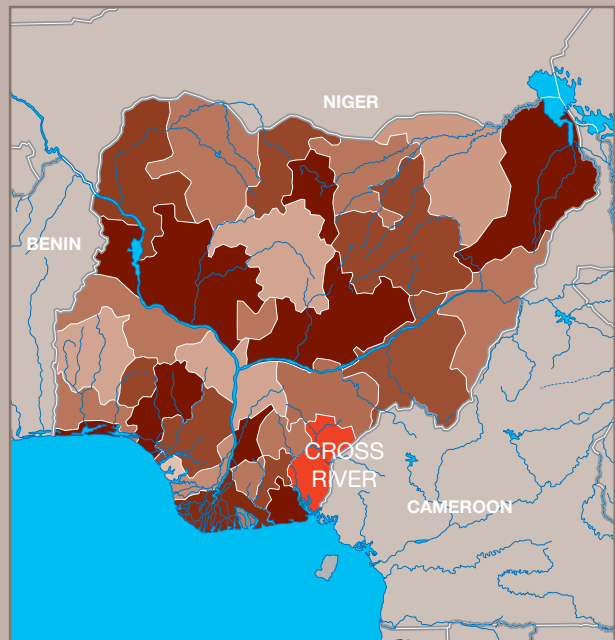
1. Households owning at least one net (ITN/LLIN)	59%
2. People who had access to a net ¹³	44%
3. People (all ages) who slept under a net last night	38%
4. Under-fives who slept under a net last night	42%
5. Nets used last night.....	86%
6. Nets hung last night	82%
7. Febrile under-fives in last two weeks given ACT	71%
8. Febrile under-fives in last two weeks given ACT within 24 hours.....	61%
9. Febrile under-fives in last two weeks blood-tested for malaria	31%

13. “Access” was defined as the population that could have been covered by the nets present in a household at the time of the survey; it was not taken as confirmation of actual use.

Cross River State, Nigeria

In Cross River State, a mass distribution of bed nets took place in 2008, but three years later, inevitably, many are full of holes and at the end of their useful life. Rose, a 22 year-old mother of two, keeps hers as a back-up, but was glad when Nigerian Red Cross Society (NRCS) volunteers came by with a new one in February 2010 in the first phase of the USAID-funded distribution and hang-up campaign intended to move the state towards universal coverage.

Rose gets a bout of malaria herself about once a year – some bad, some mild. “The worst symptom is the dizziness,” she says, “but the children, thankfully, are both clear, and likely to stay that way now the whole family sleeps under nets”.



The RAMP survey in Cross River State

The pilot RAMP survey took place in June/July 2011. One part of the current malaria survey is designed to provide a picture of family circumstances. Rose’s answers showed that she had electricity in her house, along with a television, radio, fridge, fan and flush toilet but no car and no animals. She cooked with firewood, but had to buy and fetch drinking water at a cost of five naira (about three US cents) for 20 litres. The nearest hospital was only a kilometre away, but there had been no malaria education in the last six months. David entered all the data into his mobile phone where they were stored for uploading at the end of the day.

At the house of 32-year old Agnes, Theresa heard that her son had recently come down with a fever, but because it was only mild, she did not take him to be tested for malaria. She should have done so, of course, but as far as she knew, the boy was clear.

Agnes’ house was spacious with solid walls and ceilings and several large rooms, but it immediately highlighted a problem that often occurs. There are no obvious points from which to hang a net. She had improvised, hanging her net longitudinally over the main bed on a cord nailed to the walls. The Red Cross hang-up campaign that followed the mass net distribution had included what were essentially tips on how to hang nets, as well as the importance of keeping them up and maintaining them well.

The next day, when David and Theresa reached Etikpe village, or in RAMP survey terminology “cluster 17”, they found it divided into two. The village straddles the main road to Calabar; the western side is the domain of Chief Felix Asho, the other of Chief Raymond Atef. “Mosquitoes stop us sleeping,” says Chief Atef, “but people who have nets can protect themselves now”. Villagers blame the nearby river for creating the moist conditions in which mosquitoes thrive.

The first task for the RAMP survey was to “segment” the village into three, which David, Theresa and their village helpers did: on the western side they created segment A with 56 households, and on the other side of the road, B with 40 and C with 80. From the three segments, they randomly chose one segment taking the segment size into account, using standard survey methodology. The segments were still a little too large, so they went through the same segmentation process with the chosen segment, ending up

with a further three sub-segments with fewer households in each. One of these was randomly chosen. Then they mapped and numbered the houses in the chosen sub-segment and again at random selected ten households to be interviewed for the survey.

It continued each day like this for the survey week. There were thirty clusters, each with ten households interviewed, making 300 interviews providing a representative picture of a population of 1.7 million people. The data generated were uploaded, cleaned and – the truly remarkable part – analysed almost instantly. The last survey information was uploaded at around 18.00h local time on Friday 1 July, and was analysed by a specialist. At nine the next morning the volunteers and local partners gathered to discuss the findings and be debriefed.



Nigerian Red Cross Society volunteers hang a bed net during the distribution and hang-up campaign intended to move Cross River State towards universal coverage.

Benoit Matsha-Carpentier/IFRC

“The survey using mobile phones has been very worthwhile because it has shown our volunteers another dimension of humanitarian work and enabled us to expand our delivery of services. The training has helped us build capacity – no doubt. To the point where we feel we could now conduct this training ourselves in other Nigerian states.”

Elder Bolagi Anani, Chairman of the Cross River State branch of the NRCS

➤ What was learnt in Cross River State

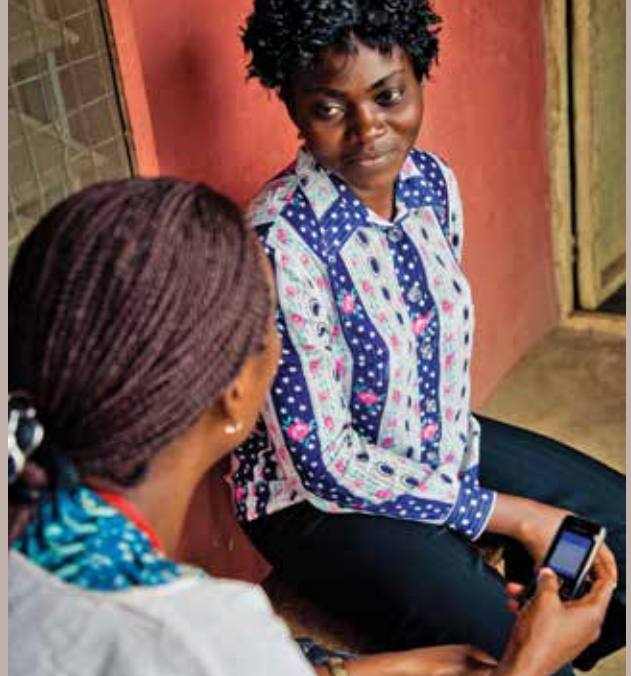
1. Households owning at least one net (ITN/LLIN)	87%
2. People who had access to a net ¹⁴	66%
3. People (all ages) who slept under a net last night	60%
4. Under-fives who slept under a net last night.....	71%
5. Nets used last night.....	84%
6. Nets hung last night	86%
7. Febrile under-fives in last two weeks given ACT	60%
8. Febrile under-fives in last two weeks given ACT within 24 hours.....	24%
9. Febrile under-fives in last two weeks blood-tested for malaria.....	16%

14. “Access” was defined as the population that could have been covered by the nets present in a household at the time of the survey; it was not taken as confirmation of actual use.

RAMP photo sequence: Cross River State, Nigeria



1 Training of the field supervisors and interviewers: an important step to ensure accurate and reliable data are collected and that the roles and responsibilities of the survey team are well understood.



2 As part of the RAMP training, a half day field practice is organised to test what has been learnt in a real field setting.



3 Following training, the field survey team departs for the survey site. The team has been informed which clusters they have been assigned to survey.



4 The field survey team select households to conduct interviews within the cluster using simple random sampling.



5 The interviewers then proceed to the households selected for interviews.



6 After obtaining consent from the respondent, the volunteer conducts the interview with the eligible respondent and keys the data into the mobile phone. Following data collection, data can be sent in real time to a secure server for storage to enable data cleaning to be carried out by the data analyst.

International Federation of Red Cross and Red Crescent Societies
 Malaria Survey, 10 Local Government Areas, Cross River State, Nigeria, June 2011
 Survey conducted from 27 June to 1 July 2011; baseline date: 2 July 2011

	n	%		n	%
Sample domain (pop)	1,699,246		No. sleeping places	860	
No. clusters	30		No. nets	578	67% of sleeping places
No. HH per cluster	10		No. nets observed	576	66% of nets
No. households	300		No. ITNs	573	66% of nets
No. persons (all ages)	1548		No. ITNs hanging	481	84% of ITNs
Average HH size	5.16		ITNs/sleeping places		
No. children <5 y	204	13%	Hanging ITNs/sleeping places		
Sample weight			ITNs/household		
Rural	1097.70		No. persons per sleeping place	1.81	
Within 5 km of facility		87%	Ay. if persons slept under ITN*	1.79	
Total ITNs needed for universal coverage (Based on LRA)	875,900		Estimated mean	1.84	

7 Preliminary analysis tables or a results bulletin are generally available within hours of the end of the last interview. In the four RAMP surveys documented in this report, a full draft RAMP survey report is produced within 72 hours following the survey providing a detailed description of background, methods, and discussion of results.

Caprivi Strip, Namibia II

The 2012 follow-up RAMP survey

In February 2012, Namibia Red Cross (NRC), with the support of the IFRC and other partners carried out a second RAMP malaria survey in the Caprivi region. This served as an endline survey to the first year of the Communities Fighting Malaria (CFM) project, and the baseline to a new cycle of project funding for 2012. The NRC drew in partners to help with expertise in questionnaire review, survey sampling, training and data analysis.

Working together, the partners went over the standardized RAMP malaria questionnaires and adapted them to meet their own unique context. The questionnaires needed to align with the nation's strategic planning on malaria prevention and control. New questions were added to measure knowledge about malaria and preventive actions against malaria taken by households, areas of special interest to the NRC and Malaria No More, the main donor for the CFM project.

“It’s great to learn by doing. I now understand most of the basics of the RAMP survey and can lead many parts of the survey. And I’m eager to learn even more.”

Hilma Kambundu, Planning, Monitoring and Reporting officer, Namibia Red Cross



The survey was very much a locally-driven initiative. Technical help was sought from experts at the Central Bureau of Statistics (CBS) for the survey sampling. The 30 primary sampling units were selected from the country's master sample frame used for the national census. In Katima Mulilo, the capital of the region, the RAMP survey coordinators consulted with the Geographical Information Unit of the CBS, and maps provided by the unit were used by the survey teams to guide the fieldwork. In the field, local leaders and villagers helped to map, list and locate households.

“Everything was good, especially collecting data with the phones. It is easy and faster than with forms. I would like the survey to be carried out again after another year.”

Beauty Chikalila, Red Cross volunteer interviewer

NRC programme staff were coached on the RAMP survey by IFRC technical experts. By the end of the four day training, the Red Cross volunteers felt confident about heading out for the field. Data collection went as planned, in spite of vehicles getting stuck in mud on the last day. The teams, however, persevered and interviews were carried out in the six clusters targeted for that day.

“When we first heard about the RAMP survey we thought it was too good to be true. But look! Just days after the fieldwork we already have the survey results and they will help us all decide on actions to take.”

Naemi Heita, Deputy Secretary General, Namibia Red Cross



Joel Selanikio/DataDyne

Within days of the last interview, the NRC called partners together to discuss the preliminary results. Many of the indicators showed an improvement had taken place from the time of the first RAMP survey. Yet, one of the main findings remained: the population has about half of the nets needed for universal coverage.

Staff of the NRC at both headquarters and the branch in the Caprivi region have gained skills and knowledge needed to carry out the RAMP survey. Eighteen NRC volunteers have been trained in using mobile phones to collect data for the malaria survey. Six of these volunteers also served as team supervisors, gaining skills in population-based surveys and the management of teams. In their communities, the volunteers also use the phones to keep in touch with the branch office.

More work needs to be done on capacity-building, but good experience has been gained and will continue to be so as the RAMP surveys are expanded to other areas.

“Since RAMP, our communication with the volunteers in their villages has improved so much. We have some heavy demands on the volunteers for data collection and are thinking about ways to use the phones for helping our routine monitoring.”

*Polly Helmut, Namibia Red Cross
Branch Secretary*

“Over the past year, we gained experience in using the RAMP survey. It’s been good for our work on malaria and we want to see how it can be applied to some of our other areas, like tuberculosis, HIV/AIDS and WatSan.”

Laimi Onesmus, National Health Manager, Namibia Red Cross

➤ What was learnt in Caprivi Region in 2012¹⁵

1. Households owning at least one net (ITN/LLIN)	62%
2. People who had access to a net ¹⁶	50%
3. People (all ages) who slept under a net last night	44%
4. Under-fives who slept under a net last night.....	55%
5. Nets used last night.....	94%
6. Nets hung last night	94%
7. Febrile under-fives in last two weeks given ACT	29%
8. Febrile under-fives in last two weeks given ACT within 24 hours.....	22%
9. Febrile under-fives in last two weeks blood-tested for malaria	25%



15. The time period between the two surveys in Namibia was short, hence the similarities in the results. For the first survey, the RAMP training programme for the interviewers was still in the process of development, which may explain some anomalies in results.

16. “Access” was defined as the population that could have been covered by the nets present in a household at the time of the survey; it was not taken as confirmation of actual use.

Analysing the data

Statistics are useful, but mere numbers do not show the human aspects behind the questions. Analysis of the data gives a number of different pictures. The 2011 pilots showed that in Nigeria and Kenya, good progress had been made towards the goal of universal coverage, but that gaps still remain. Ownership of, and access to, nets was lowest in Caprivi Strip, Namibia, where otherwise great strides towards beating malaria have been made.

The percentage of persons sleeping under a net the night before the survey is an important indicator, measuring a combination of “access” and “use”. People may own a net and may even have hung it up, but it cannot be assumed that they sleep under it. Asking them about who slept under which net provided useful information. Although the level of net use by people of all ages in Kenya (55 per cent) and Nigeria (60 per cent) revealed by the RAMP survey is far from the 100 per cent target, the results represent great progress. Less than 10 per cent was reported in both before the

recent acceleration of malaria control work. In Kenya and Nigeria, two-thirds of children under five years of age had slept under a net the night before the survey.

The RAMP survey showed both the strengths of the malaria programmes and the gaps they have left to cover. In two of the three survey locations, most households are being reached by mass distributions, but sufficient nets are not reaching every household. The surveys indicated that additional qualitative investigations are needed to identify how to reach 100 per cent ownership and access and near 100 per cent use.

Costs of a RAMP survey

The following are the actual in-country costs incurred by the RAMP pilot surveys. In each case, survey teams were trained over a four or five day period, after which interviewers collected data from 300 households over a five day period.

	Kenya*	Namibia 1	Namibia 2*	Nigeria	Average
Training (4 or 5 days) including two facilitators	US\$ 8,792	US\$ 12,425	US\$ 10,912	US\$ 10,362	US\$ 10,623
Number of trainees	20	18	18	20	
Field survey, including transportation, daily allowances and accommodation	US\$ 6,767**	US\$ 17,134	US\$ 14,531	US\$ 11,229	US\$ 12,415
Number of survey teams	6	6	6	6	
Mobile phones, accessories and air time	US\$ 3,261	US\$ 3,433	US\$ 6,203	US\$ 2,326	US\$ 3,806
Survey administration (and locally hired data manager – Nigeria only)	US\$ 3,355	US\$ 1,782	US\$ 3,247	US\$ 3,943	US\$ 2,243
Total in-country expenditure (US\$)	US\$ 22,175	US\$ 34,774	US\$ 34,893	US\$ 27,860	US\$ 29,087

* In Kenya and the second Namibia pilot, the duration of the training was four days.

** In Kenya, vehicles were provided free of charge.

Note that:

1. Each training (four or five days) included one or two half days of field testing.
2. Duration of the field survey was five days, and expenditure includes daily allowances and accommodation for the team supervisor and interviewers, transport, including fuel, maintenance and drivers, and one additional vehicle for the survey support and monitoring team (SSMT). All costs for the SSMT, such as daily allowances and communication are included.

3. Mobile phones, chargers, power bars and air time expenditure includes provision of one phone for each member of the survey team plus an additional two for the survey coordinator and the data manager.
4. Administration includes finance support, IT support, planning and wrap-up.

RAMP survey development costs have not been included. Any organization running a RAMP survey for the first time might find some additional costs are incurred for technical support and capacity-building.



Mery Turnip/American Red Cross

Expanding RAMP

The RAMP survey methodology has been warmly welcomed by National Societies and IFRC partners in the countries in which it has been piloted. “There’s nothing we cannot do with this”, said the Deputy Director of the Cross River State Planning Commission, which is mandated to gather socio-economic data on the population.

After the pilot test in Malindi, Kenya Red Cross Society put forward a fully-costed proposal to roll RAMP out in its WatSan and disaster management work, or as Kiilu Kioko put it to “automate” M&E at the National Society. Funding was secured and staff were recruited to take on data management and reporting tasks. Mobile phone surveys are now part of the National Society’s evaluation plan.

Naemi Heita, Deputy Secretary General, Namibia Red Cross, which had faced a full-scale flood emergency three years running, said that WatSan was the most obvious area where RAMP could be expanded. When the endline survey of the Communities Fighting Malaria project in Caprivi Strip came due, a second RAMP survey was the chosen methodology.

“As with so many successful modern innovations, what we’ve done is to combine two proven networks

– one human, our volunteers, the other technical – to produce a third completely new service” says Dr. Michael Charles, Programmes Coordinator for Southern Africa Region at the IFRC in Gaborone. “All the Red Cross volunteers in the pilot countries already used mobile phones, but with this they’ve learnt new skills about collecting data and accessing the internet.”

Jason Peat, Senior Health Officer, Malaria emphasizes that from the start, RAMP has been an initiative based on *partnership*. “The IFRC, WHO and DataDyne,” he says, “with the support of eminent epidemiologists, spent several years developing the concept together, including the survey methodology and arrangements for pilots.” The National Societies of the countries where pilots took place joined that partnership, ensuring that the surveys were meeting their own particular needs.


Other Red Cross Red Crescent National Societies are encouraged to consider their needs for data in many programme areas and to investigate the potential of the RAMP survey methodology. The IFRC will work to provide sufficient technical assistance to start the process, with the reassurance that it will listen to the unique requirements of each individual country. The RAMP tool has many advantages and strengths, among these flexibility, scientific rigour, speed, low cost and simplicity.



Fatima Frank/evalú LLC



To support any organization wishing to run a RAMP survey, a toolkit has been developed. It consists of three published volumes and a website. The three volumes contain information on designing and implementing a RAMP survey, together with a training manual which provides a modular training programme for survey interviewers and supervisors. The first volume has detailed information on survey design, and shows how a RAMP survey meets accepted

survey methodology. The implementation guide and training programme use a post LLIN distribution campaign survey as their example, but it would be possible to adapt both to other programme areas. The website is a dynamic resource, containing news and reports from different country RAMP surveys, sample forms and tools, as well as the latest questionnaires and useful links. See www.ifrc.org/ramp.




1
Rapid Mobile Phone-based (RAMP) survey toolkit
Designing a RAMP survey:
technical considerations
October 2012

www.ifrc.org
Saving lives, changing minds.




2
Rapid Mobile Phone-based (RAMP) survey toolkit
Implementing a RAMP survey:
practical field guide
Focusing on a LLIN post-campaign survey
October 2012

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Saving lives, changing minds.



3
Rapid Mobile Phone-based (RAMP) survey toolkit
Training a RAMP survey team:
guide for trainers
Focusing on a LLIN post-campaign survey
October 2012

www.ifrc.org
Saving lives, changing minds.



The Fundamental Principles of the International Red Cross and Red Crescent Movement

Humanity The International Red Cross and Red Crescent Movement, born of a desire to bring assistance without discrimination to the wounded on the battlefield, endeavours, in its international and national capacity, to prevent and alleviate human suffering wherever it may be found. Its purpose is to protect life and health and to ensure respect for the human being. It promotes mutual understanding, friendship, cooperation and lasting peace amongst all peoples.

Impartiality It makes no discrimination as to nationality, race, religious beliefs, class or political opinions. It endeavours to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.

Neutrality In order to enjoy the confidence of all, the Movement may not take sides in hostilities or engage at any time in controversies of a political, racial, religious or ideological nature.

Independence The Movement is independent. The National Societies, while auxiliaries in the humanitarian services of their governments and subject to the laws of their respective countries, must always maintain their autonomy so that they may be able at all times to act in accordance with the principles of the Movement.

Voluntary service It is a voluntary relief movement not prompted in any manner by desire for gain.

Unity There can be only one Red Cross or Red Crescent Society in any one country. It must be open to all. It must carry on its humanitarian work throughout its territory.

Universality The International Red Cross and Red Crescent Movement, in which all societies have equal status and share equal responsibilities and duties in helping each other, is worldwide.

For further information, please visit the RAMP website (www.ifrc.org/ramp) or contact:

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