American Red Cross / Cambodian Red Cross

FINAL EVALUATION REPORT

Integrated Child Health Project

Siem Reap Province, Cambodia
(Districts of Pouk, Angkor Chum & Varin)

October 1, 2004 – September 30, 2008

Funded by the United States Agency for International Development
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ACKNOWLEDGMENTS

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Cover photo, Red Cross volunteer facilitates learning by doing hand washing practice session with school children, taken by Liz Andrews, VSO volunteer

A. ACRONYMS

ANC	Antenatal Care
ARC	American Red Cross
ARI	Acute Respiratory Infection
BCC	Behavior Change Communication
CBSS	Community-based Surveillance System
CC	Commune Counsel
CGM	Care Group Model
CRC	Cambodian Red Cross
CS	Child Survival
CP	Community Participation
DTK	Diarrhea Treatment Kit
FO	Field Officer
HMIS	Health Management Information System
ICH	Integrated Child Health
IEC	Information, Education, Communication
IR	Intermediate Result
KPC	Knowledge, Practice, and Coverage
LLIN	Long-lasting Insecticide-treated Mosquito Net
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MoH	Ministry of Health
NGO	Non-Governmental Organization
OD	Operational Health District (of the Ministry of Health)
ORS	Oral Rehydration Solution
PHD	Provincial Health Department
PSI	Population Services International
RACHA	Reproductive and Child Health Alliance (local NGO)
RCV	Red Cross Volunteer
RCVL	Red Cross Volunteer Leader
SO	Strategic Objective
TBA	Traditional Birth Attendant
TOT	Training of Trainers
TT	Tetanus-Toxoid
U5	Children Under Five Year of Age
USAID	United States Agency for International Development
VHSG	Village Health Support Group
VL	Village Leader
WFP	World Food Programme
WHO	World Health Organization

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B. EXECUTIVE SUMMARY

Background: From October 1, 2004 to September 30, 2008 the American Red Cross (ARC), in partnership with the Cambodian Red Cross (CRC), implemented a $2 million Integrated Child Health Project (ICH) in Siem Reap Province of Cambodia. ARC was the prime recipient of the grant and provided substantial and substantive technical support in the areas of management, logistics, training, monitoring and evaluation, documentation and reporting, BCC development and quality assurance. CRC was responsible for operational management and field implementation. The ICH project was located in the Angkor Chum Operational Health District, which encompasses the administrative districts of Pouk, Angkor Chum, and Varin. The estimated population of the target area is 213,749 (2004), including 43,610 children under five years of age (U5) and 52,744 women of reproductive age.

At the time of the proposal, Cambodia had one of the highest rates of child morbidity and mortality in Southeast (SE) Asia, with an infant mortality rate of 93 per 1,000 live births and an under-five mortality rate of 122 per 1,000 live births. Decades of civil war, foreign occupation and genocide resulted in neglected and often inefficient structures of civil service, including the health system. Up until the mid-1990s, community-based health promotion and mobilization were virtually non-existent.

Project Design: The ICH project's goal was to reduce child morbidity and mortality in a sustainable fashion in the administrative districts of Pouk, Angkor Chum, and Varin. The project's strategic framework defined four Strategic Objectives*: (1) Improved Nutritional Status of Children Under Two; (2) Improved Immunization Rates; (3) Enhanced Community Prevention & Management of the Sick Child;* and *(4) Improved Partner Project Management Capacity*. Achievement of these objectives was defined through 12 Intermediate Results (IR) including: improved care of pregnant women; increased early and exclusive breastfeeding; improved appropriate use of complementary food; improved routine immunization rates; improved Vitamin A coverage; improved community participation in immunization; improved home management; early identification and referral for danger signs; improved malaria prevention and treatment; improved coordination with health community; an improved CRC project management, policies and skills; and improved CRC volunteer network.

Central to the ICH strategy was the recruitment, training and support of an expanded network of nearly 2,000 Red Cross Volunteers (RCVs), whose purpose was to educate and promote healthy behaviors and care-seeking by mothers of children under five in 254 target villages. The strategy was modeled on World Relief's Care Group Model (CGM). Under the ICH project, each village had up to 12 RCVs, which composed the equivalent of a care group. Each group had a leader referred to as the Red Cross Volunteer Leader (RCVL). RCVs were responsible for making monthly visits to approximately 20 households within their community to monitor vital information and coach mothers on health lessons learned in the group training sessions. Each month, household information would be collected by the RCVLs and submitted to both ARC/CRC and health centers as a means of monitoring community health.

Results: In total, the ICH project defined, monitored and evaluated the program through 25 separate indicators linked to the four Strategic Objectives and 12 Intermediate Results. Overall, the ICH project demonstrated significant improvements in 14 out of the 25 indicators (56%) and met or exceeded targets in 10 indicators (40%) over the life of the project.

Significant improvements were observed with regard to care-seeking, breastfeeding, child immunization, diarrhea treatment and bednet use. The number of women attending health centers for antenatal care increased by almost 30%, while 43% more women were giving birth in the presence of a skilled attendant by the end of the project. Care-seeking for children with severe diarrhea, ARI and fever increased by an average of 37%. Children under six months who were breastfed within the first hour and who exclusively breastfed both showed significant increases. Full immunization rates more than doubled during the project period. Children with diarrhea who were treated with ORS more than doubled while, at the same time, an almost equally large decrease in the use of herbal medicines, IVs, injections and pills/syrups was observed. Finally, by the end of the project, at least one quarter of children were sleeping under LLINs who previously had not. Some indicators which showed little or no improvement were morbidity, tetanus-toxoid (TT) vaccinations and certain aspects of maternal knowledge.

The project defined a specific objective related to building the capacity of the CRC. From the evaluation, it was clear that there were marked improvements in capacity and confidence in abilities that stem from undertaking this project and the collaboration between ARC and CRC. The partnership was not without its challenges, some of which were serious. However, leadership on both sides worked hard to overcome these differences while fostering trust and a healthy environment for collaboration. This was the largest project CRC had ever undertaken, with a volunteer base bigger than in any other part of the country.

Conclusions and Recommendations: The final evaluation process was highly participatory, engaging, among others, ARC and CRC staff and volunteers, and Provincial and District MoH staff. The great majority of the conclusions and recommendations presented in the last section of the report represent the collective assessment of the 20+ team members. In general, the teams found a highly committed cadre of volunteers recognized and valued by both the mothers who received their support as well as the MoH community liaisons and health center staff that saw RCVs as a critical tool for outreach and education.

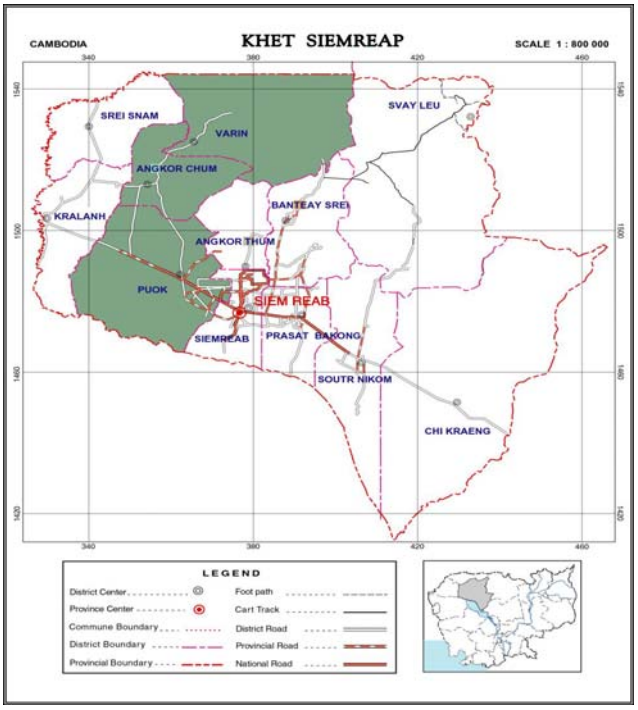
Team recommendations focused primarily on mechanisms and strategies to sustain volunteer operations once ARC completes its work. CRC has proposed a reorganization of project management involving sub-branch offices and Commune Councils (CCs) with the aim of providing an effective support and supervisory structure for RCVs and RCVLs. Supervisory spot checks and checklists were proposed to improve quality, and replacement of non-active volunteers was recommended in order to maintain a ratio of one volunteer for every 20 mothers. The MoH has offered to provide the technical support and training previously coordinated by ARC. In addition, the External Evaluator has made recommendations to improve the community-based surveillance system and referral process.

C. ASSESSMENT OF RESULTS AND IMPACT OF THE PROJECT

1. Results of Technical Approach

a. Project Overview

Background: From October 1, 2004, to September 30, 2008, the American Red Cross (ARC), in partnership with the Cambodian Red Cross (CRC), implemented a $2 million Integrated Child Health Project (ICH) in Siem Reap Province of Cambodia. ARC was the prime recipient of the grant and provided substantial and substantive technical support in the areas of management, logistics, training, monitoring and evaluation, documentation and reporting, BCC development and quality assurance. CRC was responsible for field implementation. The ICH project was located in the Angkor Chum Operational Health District, which encompasses the administrative districts of Pouk, Angkor Chum, and Varin (see map). The estimated population of the target area is 213,749 (2004), including 43,610 children under five years of age (U5) and 52,744 women of reproductive age.



Map of Project Area

At the time of the proposal, Cambodia had one of the highest rates of child morbidity and mortality in Southeast (SE) Asia, with an infant mortality rate of 93 per 1,000 live births and an under-five mortality rate of 122 per 1,000 live births (*note: Cambodia continues to have the highest U5 mortality rate in SE Asia*)[1]. Decades of civil war, foreign occupation and genocide resulted in neglected and often inefficient structures of civil service, including the health system. Up until the mid-1990s, community-based health promotion and mobilization were virtually non-existent. As a result, Cambodians lacked adequate an understanding of appropriate prevention, care and treatment and often turned to local remedies or drug sellers to address ailments. While child mortality declined in most developing countries during the 1990s, the U5 mortality rate in Cambodia increased by 17%. ARI, diarrheal disease, malaria, and vaccine-preventable diseases are the major causes of child death, with malnutrition as the primary co-factor.[2]

[1] UNICEF: *State of the World's Children.* 2008.
[2] ARC Detailed Implementation Plan, Sim Reap Province Cambodia. July 15, 2005.

Objectives: The Integrated Child Health (ICH) project's goal was to reduce child morbidity and mortality in a sustainable fashion in the administrative districts of Pouk, Angkor Chum, and Varin. The project's strategic framework defined four Strategic Objectives (SOs) derived through 12 Intermediate Results (IRs):

Table 1: **ICH Strategic Framework**

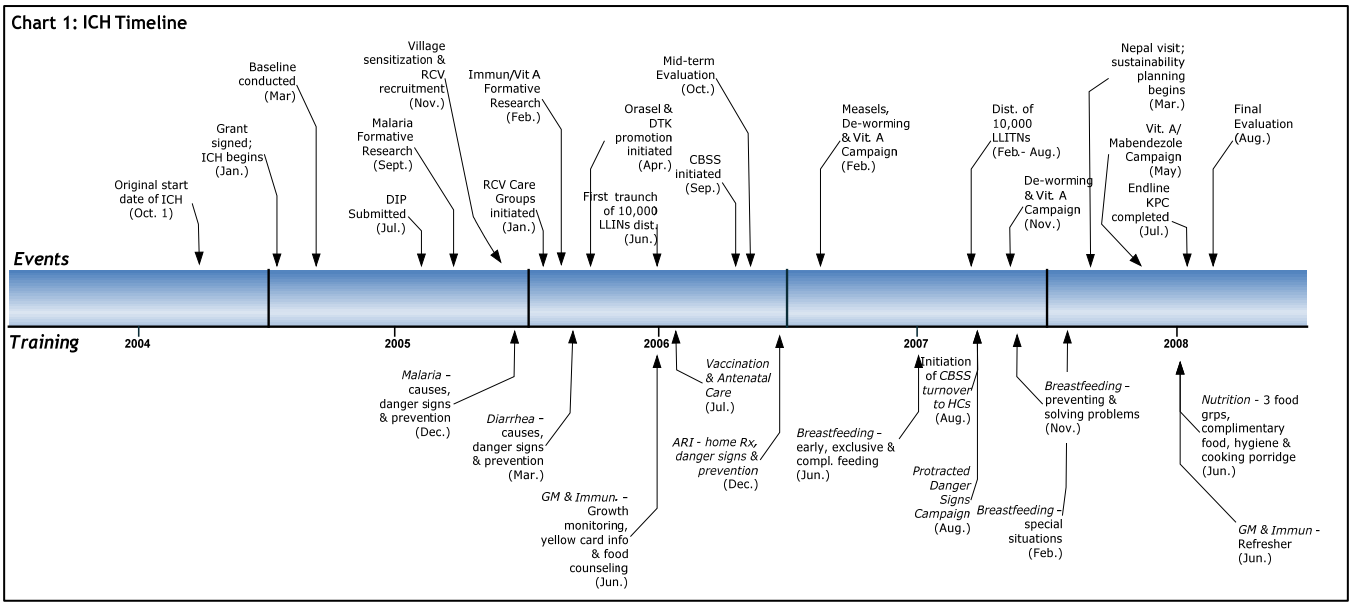
Goal: *Reduced child morbidity and mortality in a sustainable fashion in Angkor Chum OD*	
SO 1: Improved nutritional status of children under two.	**IR 1.1:** Improved care of pregnant women **IR 1.2:** Increased early and exclusive breastfeeding **IR 1.3:** Improved appropriate use of complementary food
SO 2: Improved immunization rates	**IR 2.1:** Improved routine immunization rates **IR 2.2:** Improved Vitamin A coverage **IR 2.3:** Improved community participation in immunization
SO 3: Enhanced Community Prevention & Management of the Sick Child	**IR 3.1:** Improved home management **IR 3.2:** Early identification and referral for danger signs **IR 3.3:** Improved malaria prevention and treatment
SO 4: Improved Partner Project Management Capacity	**IR 4.1:** Improved coordination with health community **IR 4.2:** Improved CRC project mgmt. policies and skills **IR 4.3:** Improved CRC volunteer network

Strategic Approach: Central to the ICH strategy was the recruitment, training and support of an expanded network of nearly 2,000 Red Cross Volunteers (RCVs) whose purpose was to educate and promote healthy behaviors and care-seeking by mothers of children under five in 254 target villages. The strategy was modeled on World Relief's Care Group Model (CGM), designed in 1995 by Dr. Pieter Ernst for its child survival project in Mozambique. The principal approach of CGM is to provide comprehensive coverage of health education and information among the target group through trained peers (i.e. mothers in their neighborhood) which make routine household visits. Under the ICH project, each village had up to 12 RCVs, which composed the equivalent of a care group. Each group had a leader referred to as the Red Cross Volunteer Leader (RCVL). RCVs were responsible for making monthly visits to approximately 20 households within their community. Visits would be used to monitor vital information and coach mothers on health lessons learned in the group training sessions. The RCVs would then meet at least once a month with their RCVL to report back and receive additional lessons and instruction. Often, a CRC Field Officer (FO), the Village Leader (VL) and the health center's community-based volunteer liaison (referred to as the Village Health Support Group member – VSHG), would also attend these monthly meetings.

Timeframe: Even though this was a four-year project, the overall timeline for implementation was abridged, and community exposure to specific activities and messages varied in length due to a staggered training schedule. The project was scheduled to begin October 1, 2004, but an agreement was not signed until January 2005. The signing of the award was delayed by ARC, primarily due to

a change in strategy within the International Services Department (*for more information, see Annex 1: Project Management Evaluation*). In terms of the actual intervention period, the ICH should be viewed as a three-year project dating from the completion of the Detailed Implementation Plan to the completion of the final KPC survey. Given this delay, ARC and CRC worked to accelerate key activities, including the village sensitization, recruitment and orientation of RCVs. This process, which typically takes six to nine months, was completed in three months.[3] Trainings were spread out over the project period, with some core messages introduced early in the project and others debuting much later (*for more information, see Annex 2: ICH Project Training Schedule*). Nutrition training, for example, was just beginning at the time the final evaluation was being conducted. The following timeline shows how trainings were staggered and the starting points for key events.

The timeline above is not an exhaustive list of all the events and trainings that occurred during the project period, but it generally reflects the timing of introduction of activities and IEC



communication within the communities. (*Not listed are the various behavior change communication, management and other non-technical trainings provided as part of the project*.) Community activities and trainings began in earnest in early 2006, when the RCV Groups were established. The earliest trainings focused on the recognition of danger signs for malaria, diarrhea and ARI, along with the importance of vaccinations and antenatal care – thus these are the topics that had the longest exposure within the communities. All of these trainings occurred at the village level beginning in late 2005 and extended through 2006. Mosquito net re-treatment activities were undertaken in early 2006, and distribution of Long-Lasting Insecticide-treated Nets (LLINs) was initiated in June of 2006. These activities helped to reinforce malaria messaging and prevention practices. In 2007, through its support for integrated campaigns (measles/vaccination/vitamin A, and mebendazole), the project helped to support SO2, reinforced messages discussed during the mid-term review and served as an opportunity to strengthen relationships among key stakeholders at all levels.

[3] Following the *Care Group Difference: A Guide to Mobilizing Community-Based Volunteer Health Educators*, this process should take six months (Mozambique) to nine months (Cambodia)

Village level training for breastfeeding, a major component of the project, did not begin until June 2007, which meant it had only one year of introduction prior to the final evaluation. Training was extensive, with three separate modules occurring back-to-back covering early and exclusive breastfeeding, preventing and solving breastfeeding problems, and a course on special breastfeeding situations. (*All breastfeeding trainings and related activities are described in detail in Annex 3: "Activity Report 9: Only the Breast: Development and Implementation of a Strategy to Promote Optimal Breastfeeding Behaviors in a Child Survival Project."*)

Budget vs. Expenditure: The overall USAID-funded budget for the project was $1.5 million, with an additional $500,096 budgeted as ARC cost-share. A sub-grant, representing roughly 22% of the budget, was allocated to CRC for their personnel and associated costs. As of October 31, 2008, ARC/CRC had expended $1,857,164 in USAID and cost-share funding and has exceeded their cost-share commitment by more than $73,000 (bringing the total cost-share amount to $573,254). Of the cost-share amount, 64% ($367,174) was cash and 36% ($206,080) came from in-kind contributions (with ARC providing $165,266 and CRC donating $40,814 to the project).

b. Results by Intervention

In total, the ICH project defined, monitored and evaluated the program through 25 separate indicators grouped under the four SOs and 12 IRs (*for more information, see Annex 4: Full Monitoring and Evaluation Table*). Some initial indicators were dropped after the mid-term evaluation based on the recommendation of the Mid-Term Evaluator. In addition to selecting indicators that reflected the project's objectives, ARC/CRC tried to incorporate measures that aligned with the Cambodia MoH's Health Management Information System (HMIS), the priority country indicators (also known as the *Cambodian Child Survival Score Card*) and the Rapid Catch indicators (*for more information, see Annex 5: Rapid Catch Table*).

The baseline and endline KPC surveys were undertaken to measure changes in knowledge and practices over the life of the project. Progress was monitored using periodic LQAS surveys, structured monitoring checklists, regular mother interviews at the health centers, the community-based surveillance system, and monthly achievement and quarterly narrative reports. It is important to note that the baseline and endline surveys occurred at different times of the year. The baseline was conducted in March (dry season) while the endline was conducted in July (wet season). This would have limited impact on behavior and knowledge, but can significantly affect morbidity.

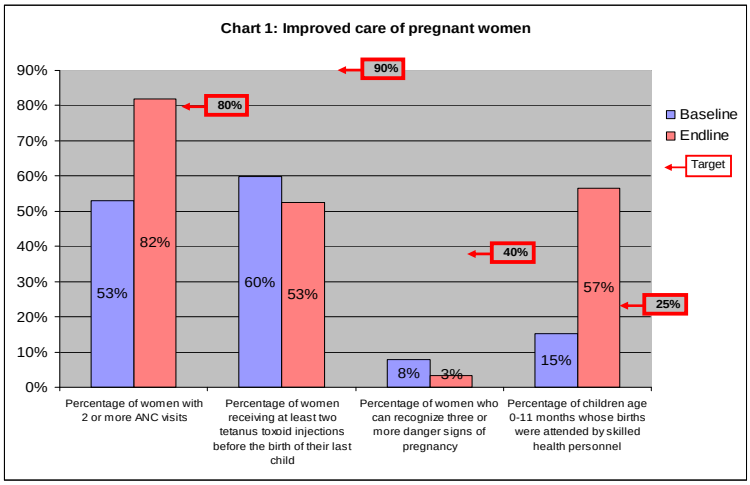
In addition to assessing the KPC data, the final evaluation team conducted its own field assessment (focus-group & key informant interviews) in 32 villages. During the field assessment, the evaluation team interviewed approximately 244 mothers, 160 RCVs, 32 Village Health Support Group (VHSG) members, 32 VLs, 16 FOs, and 16 Health Center midwives and directors. In addition, the external evaluator interviewed ARC, CRC, and MoH staff at the national, provincial, district and commune levels (*for more information, see Annex 6: List of Persons Interviewed and Contacted and Annex 7: Evaluation Assessment Methodology*).

Overall, the ICH project demonstrated significant improvements in 14 out of the 25 indicators (56%) and met or exceeded targets in 10 indicators (40%) over the life of the project.

Strategic Objective 1: Improved Nutritional Status of Children Under Two

ARC/CRC focused on three areas under this objective: improving care of pregnant women, increasing early and exclusive breastfeeding, and improving appropriate use of complementary foods. Results under SO1 were mixed, with some strong improvements in some of the targeted behaviors, but limited results associated with knowledge of pregnancy danger signs, TT vaccinations and complementary feeding. **Of the nine indicators under this objective, three showed significant improvements and four met or surpassed their targets (one was not measured at endline).**

IR1.1 Improved Care of Pregnant Women: Under care for pregnant women ARC/CRC sought to improve antenatal care, births delivered by skilled attendants, TT vaccination coverage and knowledge of pregnancy danger signs. Those indicators related to healthcare-seeking (both for ANC visits and for giving birth) showed significant improvements: a 29% increase of women receiving two or more ANC visits and a remarkable 43% increase in women giving birth by a skilled attendant. TT vaccination and danger sign knowledge did not improve (Table 1).



ANC promotion and pregnancy danger signs were a core initiative by the project starting mid-year in 2006 with village-based training completed by October 2007. In addition to RCV home visits focused on antenatal care, ARC/CRC conducted 47 edutainment sessions on the subject attended by 4,381 participants. To further encourage ANC attendance and health center delivery, long-lasting insecticide treated nets (LLINs) were provided by the project to all 16 health centers to give to every woman that came in for an ANC visit or delivery – obviously an added incentive to attend. At health centers which had high ANC visit rates, the operational health district director decided to withhold distribution of the LLIN until they returned for delivery. In total, 2,489 women received nets through the project under this initiative. During the field assessment, almost all women interviewed stated that they had ANC visits during pregnancy and expressed that the primary purpose was to protect their child against illness. When asked where they learned about the importance of ANC visits, most mothers responded that RCVs told them. At some health centers, RACHA, a local NGO, with support from the World Food Programme (WFP), provided a supplemental package of maize meal to women attending ANC visits – an additional incentive. However, this support started prior to 2006, and a number of the health centers did not report a significant upsurge in attendance until 2006. The supplemental food program still operates in some, but not all, health centers. Where it has stopped, attendance has dropped off somewhat.

The dramatic increase in births attended by skilled health workers is likely due to a confluence of factors including the project's activities. As with promotion of antenatal care, RCVs were also taught to educate mothers on the benefits of health center delivery. At baseline, 85% of women in

the target communities reported that their last birth occurred at home – in most cases attended by a traditional birth attendant (TBA). In the three administrative districts targeted by the project, most villages are within 5kms from a health center and transportation (primarily bicycles and motorbikes) is readily available. Thus, access is good, and promotion of health center delivery is a sound strategy. To further increase access, ARC/CRC helped 206 villages establish a fund to be used for emergency transport, since the cost of transport was identified as the primary barrier to health center care-seeking.[4] However, the fund was underutilized as the project participants discovered that most villagers *are* able to cover the cost of transport on their own. This suggests that transportation issues may have been more of a psychological barrier rather than an actual financial barrier to care-seeking at the health center.

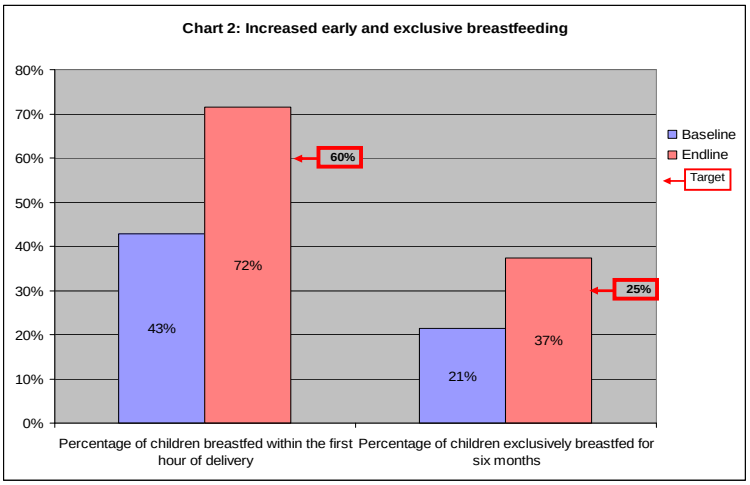
In addition to health promotion through the project, several coordinated actions by the Operational District (OD) likely contributed significantly to increased attendance. For one, the OD Director instructed health center staff to be available evenings and weekends in the event of an emergency (including pregnancies). He also established an incentive program for health center midwives and TBAs: each midwife received 60,000 riel (approximately $15, which the midwife typically divided amongst all health staff) for each delivery assisted at the health center. Of that amount, 10,000 riel was given to a village TBA for each woman that they brought to the health center for delivery. The program is not permanent. However, staff at one health center said they plan to continue providing midwives with the 10,000 riel incentive through their own funds even after the incentive they receive from the OD ceases. Concurrently, there has been a crackdown on TBAs delivering in the village. The OD Director has been proactive about stopping this practice by warning, and in some cases fining, TBAs who continue to support deliveries.

The percentage of women who had received at least two TT vaccinations did not change significantly from baseline to endline and did not meet the 90% target (it was actually a non-significant 7% decrease). It is unclear why this was the case given the substantial increase in antenatal care. Careful review of the data and the sequence of questions asked in the KPC about TT suggest that the result is reliable. In addition, a separate survey contracted by the Belgian Technical Cooperation Agency in the area showed similar results. Quixotically, virtually all women interviewed during the field investigation claimed they had received 3-5 TT shots. It is important to note that a certain bias existed in the field investigation, as women interviewed were organized by the FOs responsible for that community and those in the focus group were among women who lived closest to the main road in the village. Yet, most health staff, VLs, and VHSGs also found the result surprising. Stockouts of TT were not a problem and most health centers offered TT vaccinations during monthly outreach visits. Late notice and arrival by health center staff during outreach visits was a common criticism by mothers which may partially help to explain the result. Women interviewed stated that during planting and harvest seasons they must often go to the field early in the morning or sometimes stay for days and therefore cannot wait for health center staff – especially if they arrive late. Another problem may be in TT given at the health center. At one health center, the director said that they had just begun linking ANC visits and TT vaccinations – prior to this they only gave it during outreach. This did not appear to be the case in the other health centers visited. Given the puzzling and juxtaposing results from the endline and subsequent inquiries, the issue really should be further explored to verify, help explain and respond appropriately.

[4] Based on formative research conducted at the start of the project as well as other related research in Cambodia.

Finally, women who could recognize three or more danger signs of pregnancy also showed no significant change – only 3% of women (5% at baseline) were able to articulate three or more danger signs. This was also puzzling given the project focus. The ICH project focused extensively on recognition of pregnancy danger signs: a protracted campaign was developed and implemented to improve danger sign recognition and related care-seeking at the health center. Didactic materials, including job aids, puzzle games, stickers and t-shirts, were developed with simple color-coded graphics to reinforce this key information. Health centers also received danger sign mobiles with the same graphics to display in waiting areas in the clinic. (*This activity is described in detail in Annex 8: "Activity Report 7: Applying a Behavior Change Communication Approach: A protracted campaign to improve recognition of danger signs and associated health center care-seeking."*)

Moreover, while knowledge of pregnancy danger signs was low, care-seeking for ANC and deliveries actually increased. A similar trend was found related to danger signs and care-seeking for child illnesses such as pneumonia, diarrhea, and malaria. The incongruity of these results suggests that perhaps the general message was getting across (i.e., "when something seems abnormal or wrong, go to the health center to get help"). However, a clear and memorable message about specific danger signs may not have been received with sufficient quality and consistency. Noteworthy is the fact that there were a total of 16 danger signs for the four conditions (pregnancy, diarrhea, ARI, and malaria). To address the issue of too much information, danger signs were broken down by condition and taught separately. Additionally, mothers' reminder materials were developed with only pictures and printed on stickers for all 35,000 households following the *Guidelines for Developing Home-based Reminder Materials: Helping Families Save Sick Children*. Despite these efforts, a number of RCVs expressed concerns that they were not confident that they were able to capture and transfer all that they had learned during training. Many RCVs are illiterate and therefore must rely on memory and the IEC graphics to convey the message. Another explanation may exist for the poor response on child danger signs and is discussed under Section IR3.1.



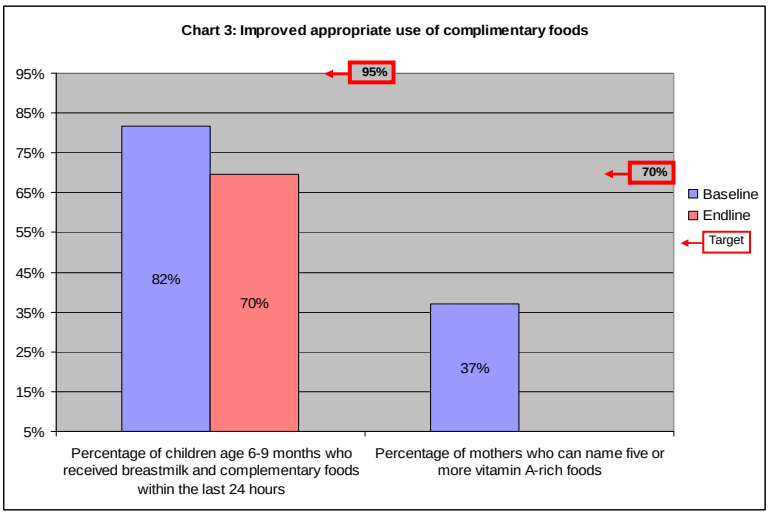
IR1.2 Increased Early and Exclusive Breastfeeding: This was perhaps one of the project's most successful interventions, in spite of the late initiation of field activities (village promotion began in August 2007). As Table 2 indicates, targets for both early and exclusive breastfeeding were surpassed. It was also evident from the field investigation that breastfeeding messages were clearly received by mothers and that RCVs felt quite comfortable promoting the material. The increase in exclusive breastfeeding was statistically significant. The rapid catch indicator (child exclusively breastfed in the last 24 hours) showed even greater improvement with a baseline of 38% compared to 85% at endline.

In preparation for the breastfeeding promotion intervention, ARC/CRC held consultative meetings with UNICEF, RACHA, the National Nutrition Program, the National Center for Health Promotion, and the Infant and Young Child Feeding Working Group, as well as Provincial Health Department

(PHD) and Operational District (OD) technical staff, to develop a simple three-module training curriculum and plan. The first module focused on the three-key breastfeeding messages[5] to all women of reproductive age with a special focus on pre-natal and new birth visits; the second module focused on preventing and solving problems and setting up breastfeeding support groups; and the third module focused on feeding in special situations, complementary feeding, rewarding model mothers, and discouraging bottle feeding and promoting Lactation Amenorrhea Method. Training on all three modules was given within a seven-month period and was jointly provided to health center midwives and FOs. In turn, they provided a training of trainers (TOT) to one VHSG, TBA, and RCVL from each of the 254 villages. RCVLs, TBAs, and VHSGs then worked together to provide training and materials to their respective RCVs. (*For more information on breastfeeding activities in this project, see Annex 3.*)

There are a number of likely factors that contributed to the successful results on breastfeeding. First, while each module was distinct, the principal messages were cross-cutting, which meant trainees actually received at least *three* formal training opportunities reinforced by numerous complimentary activities implemented over an extended period, thus reinforcing learning and the internalization of key messages. By comparison, most other technical trainings within the project were only reviewed as refreshers when linked to new topics. Second, this was the only technical training in which health center staff (midwives) also participated, thereby ensuring that the same message received in the village was also being reinforced at the health center. Finally, given the fact that significantly more women were delivering at health centers in the presence of skilled attendants rather than at home with TBAs, these women were more likely to receive encouragement to breastfeed within an hour after delivery by the health center midwife. The high level of midwife involvement in the implementation of the breastfeeding strategy was a prime factor in this result on early breastfeeding, as was the increased profile of the importance of improved breastfeeding practices.

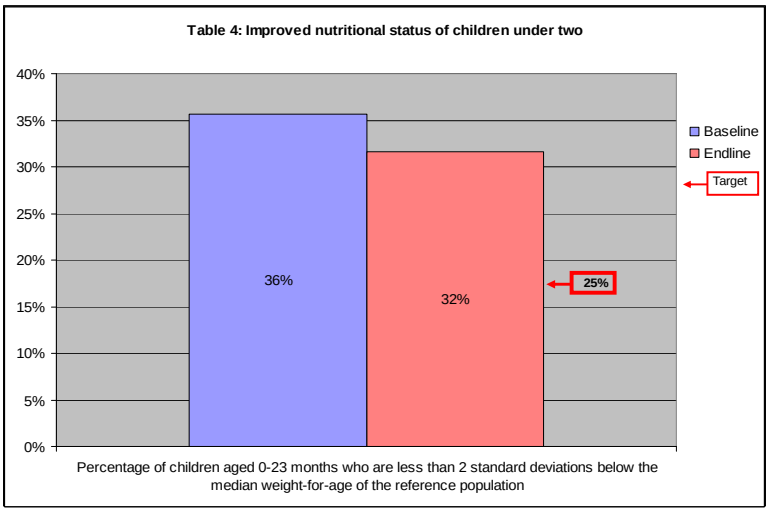
IR1.3 Improved Appropriate Use of Complementary Foods: Children 6-9 months who received complementary food within the last 24 hours actually showed a (non-significant) trend downward. The sample size for this particular indicator was quite small, which may be why no significant change was observed. The second indicator (the percent of mothers who can name five or more vitamin A-rich foods) was added based on recommendations from the mid-term evaluation. The 37% is based on an LQAS conducted in 2007. Unfortunately, the question was overlooked in preparing the endline survey, so no final data exists for this indicator. Given that RCVs were just receiving



[5] The three key breastfeeding messages are: (1) breastfeed within one hour of delivery, (2) exclusive breastfeeding for children under six months, and (3) continued breastfeeding with complementary feeding after six months.

training on nutrition when the final evaluation began, significant improvements in knowledge among mothers would not be expected (although some education on vitamin A foods was introduced during bi-annual vitamin A campaigns prior to the mid-term evaluation). It would also seem that the indicator is somewhat ambitious (how many educated and literate people could list 5 vitamin A rich foods?) and may not necessarily be connected to actual feeding practices. The *Guide for Monitoring Child Health Programs* provides several nutrition indicators that may have been more reflective of actual practice.[6]

SO1: Improved Nutritional Status for Children Under Two: Ultimately, the IRs of improved care of pregnant women, breastfeeding and complementary feeding were designed to improve nutritional status of children. As Table 4 indicates, the target was not achieved, nor was the improvement statistically significant. On the other hand, the decrease in underweight children of 4%, if accurate, would fall within the expected range of change (1.5-2.5 percentage points per year) based on a standard package of activities and sufficient intensity, which is defined as one community mobilizer for every 10-20 houses.[7] In this case, the target may have been overly ambitious.



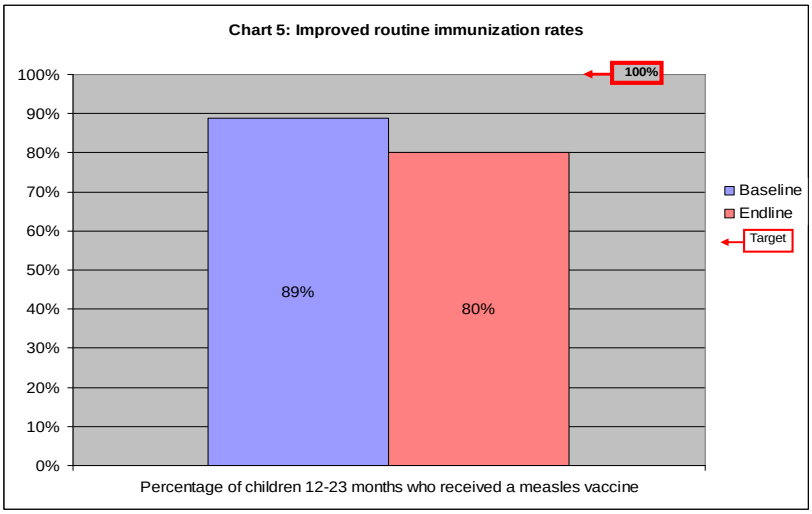
Strategic Objective 2: Improved Immunization Rates

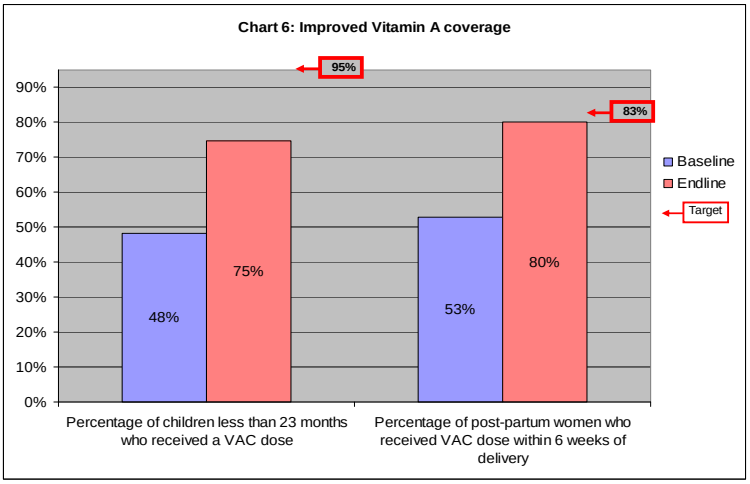
ARC/CRC focused on three areas under this objective: improved routine immunization rates, improved vitamin A coverage and improved community participation in immunization. Vitamin A was included under the immunization SO rather than nutrition as vitamin A supplementation is conducted jointly with bi-annual vaccination campaigns. Improvements in immunization and vitamin A coverage were achieved, although the planned targets were missed. **Of the 4 indicators under this objective, 3 showed highly significant improvements.**

Given a general stagnation in vaccination coverage from 2004-2005, ARC/CRC began its immunization intervention by conducting formative research that would be the basis for development of a communication strategy. Conducted in February 2006, the study found that, in addition to formulating key messages, good scheduling and planning on the part of the health center and effective mobilization by the community were critical to achieving coverage. The Care Group Model was an effective mechanism for community mobilization and promotion as it reached every household with infants. RCVs were also able to quickly advise mothers of upcoming outreach and vaccination campaigns – something that was not feasible when only the VLs and VHSGs were coordinating community participation.

[6] Gage, Anastasia J., et.al. *Guide for Monitoring Child Health Programs*, coordinated by USAID, WHO and MEASURE Evaluation. September, 2005.
[7] Ibid.

IR2.1 Improved Routine Immunization Rates: Chart 5 shows measles vaccine which uses data shown on vaccination cards or, when cards were not available, verbal recall. There was a 9% difference (drop), which was not statistically significant. However, when only considering women that had cards, there was a dramatic increase in measles vaccination (49% BL; 73% EL). As the card data is significantly more reliable than recall, this chart likely misrepresents actual gains made.





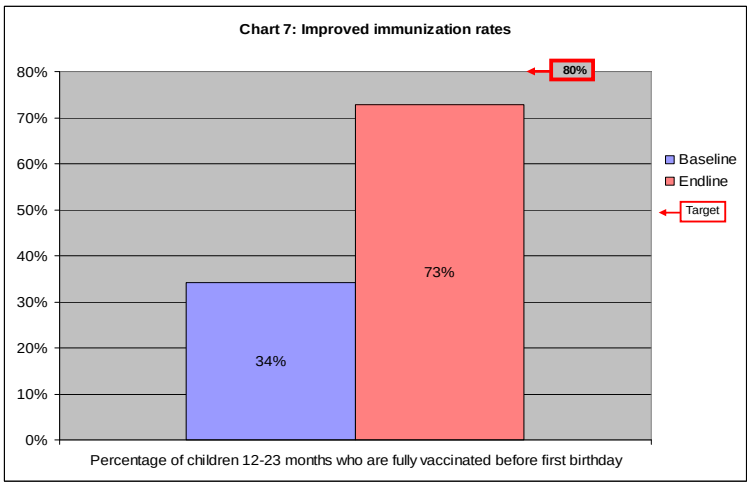
IR2.2. Improved Vitamin A Coverage: Substantial improvements were observed in vitamin A coverage for both children and women. While neither reached their target, each saw an almost 30% increase. Vitamin A coverage is based solely on what was recorded on vaccination cards. vitamin A was distributed during outreach visits and campaigns as well as at health centers. Post-partum women, who had not previously received a dose would be given one during the campaign. The increase is most likely attributable to improved mobilization. The volunteer-to-household ratio allowed for effective dissemination of information on the importance of vitamin A, coupled with the capacity to get the message out on upcoming outreach visits and campaigns during which vitamin A was distributed.

IR2.3 Improved Community Participation in Immunization: In addition to participation in vaccinations during regular outreach, volunteers participated in major measles, mebendazole, and vitamin A campaigns between February and March 2007. This was the first integrated campaign to receive project-wide, coordinated support from RCVs in the Operational District of Angkor Chum. Prior to the campaign, RCVs informed mothers about the planned outreach. During the campaign, their task included greeting the mothers and children, distributing IEC materials, checking yellow cards, administering vitamin A and mebendazole, holding children for vaccination, providing water to children, observing ingestion of mebendazole (ICH's research found this to be neglected in past campaigns), keeping records and consoling crying children. Not all RCVs participated. At least one RCV participated in 76% of the 254 villages for that campaign; only 48% had two or more RCVs providing support. Participation was positively correlated with participation of the VL and/or VHSG. In 85% of those villages where a VL was present, there was RCV or RCVL

participation. In 78% of villages where the VHSG was present, RCVs or RCVLs participated. This suggests the importance of village leadership in motivating RCVs and encouraging participation.

Official campaign statistics indicated 98% coverage of measles and vitamin A and 100% coverage of mebendazole based on target population estimates. For more detailed information on the project support of the integrated measles campaign. (*For more information, see Annex 9: "Activity Report 4: Volunteer Participation and Mebendazole Consumption During an Integrated Measles Campaign."*) Lessons learned from the measles campaign were used to develop IEC and training, with the aim of improving coordination and support for subsequent bi-annual vaccination/vitamin A/mebendazole campaigns. These campaigns were monitored using an observation checklist focusing on RCV participation and mebendazole consumption at random vaccination sites. These efforts yielded improvements in both the November 2007 and May 2008 campaigns: on each occasion, 88% of all villages had at least one RCV providing support. Likewise, the number of villages with two or more RCVs increased to 69% in November 2007 and then to 74% in May 2008. Villages observed with five or more RCVs providing support increased from 10% to 33% over the three campaigns.

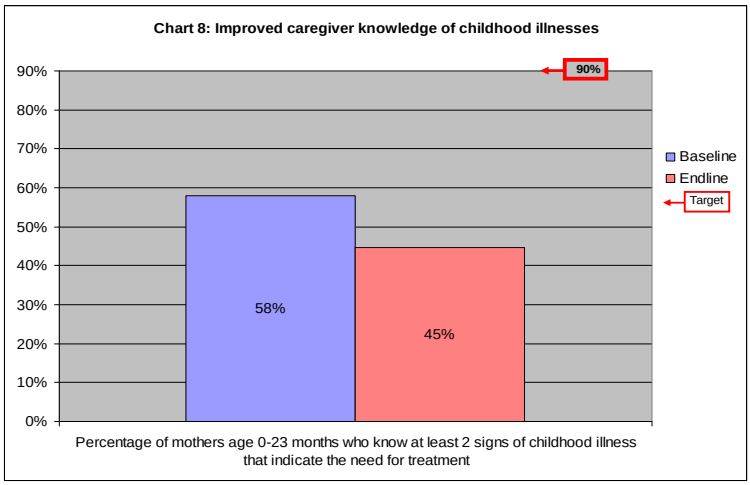
SO2: Improved Immunization Rates: As Chart 7 indicates, full immunization rates more than doubled during the project life. This was the result of a coordinated effort among ARC/CRC, the Operational District, health centers, VHSGs and RCVs. Not only were mothers better informed about outreach visits, they placed more importance on vaccinations. This was evident from the fact that significantly more mothers actually had the vaccination cards in their possession at the endline compared to the baseline (58.2% baseline; 77.1% endline). Mothers had always been given vaccination cards, but it appears that they are more valued now than before. It should be noted that the project also supplied each mother a plastic enclosure for their yellow cards which helped preserve the card and helped mothers keep their cards in better condition.



Strategic Objective 3:
Enhanced Community Prevention and Management of the Sick Child

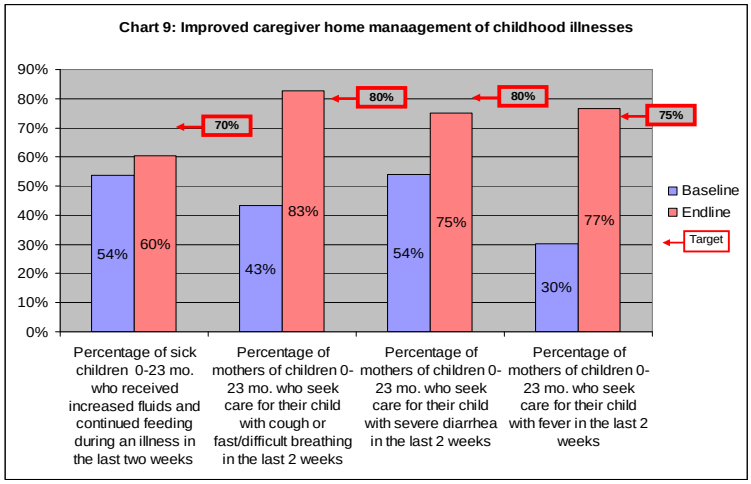
Under SO3, ARC/CRC focused on three areas: improved caregiver knowledge, improved caregiver home management of child illnesses, and improved prevention and treatment of child illnesses. As under SO1, the results for knowledge were limited, yet most behaviors showed solid improvements. Additionally, morbidity did not decrease as a result of interventions. **Of the 11 indicators, under this objective, 5 showed significant improvements and 3 met or exceeded their targets.**

IR3.1 Improved Caregiver Knowledge of Childhood Illnesses: As Chart 8 shows, there was no improvement in caregiver knowledge (there was a non-significant decrease). Recognition of danger signs for diarrhea, ARI and malaria was a major project intervention. RCVs received disease-specific trainings on the danger signs within the first year of implementation, which meant communities had more exposure to these messages than any other. These initial trainings were followed-up with a protracted campaign to improve danger sign recognition and related health center care-seeking practice. This campaign used a variety of IEC materials to reinforce danger sign messaging (see Section IR1.1). Therefore, it was expected that this result would show significant improvement.



One possible explanation for this result is the disconnect between the IEC messages and specificity of the KPC survey question. To reduce the possibility of information overload from memorizing a total of 16 separate danger signs for the four target conditions (pregnancy, diarrhea, ARI, and malaria), danger signs were grouped and presented by disease. However, the KPC used open ended, non-disease specific questions about childhood danger signs. The evaluation team surmised that this could have possibly confused some mothers, as they had been trained to identify danger signs in relation to specific illnesses (e.g. ARI, diarrhea, and malaria). During the field investigation, the evaluation teams asked mothers about general danger signs and then asked about disease-specific danger signs. As in the survey, general knowledge on danger signs seemed to be weak, but most teams found that mothers were more easily able to respond when asked about disease-specific danger signs, giving support to the argument that the KPC question was not specific enough. Still, mothers from one-third of the villages had trouble even when asked about disease-specific signs. Generally, rural communities had more trouble than the semi-urban ones. From this assessment, it seems that if the baseline survey question was asked with greater specificity, better results may have been recorded. Anticipating this as a potential issue, the endline survey included a supplemental module to explore knowledge and practice related to danger signs and associated care-seeking behavior in greater detail. Unfortunately, there is no baseline from which to make a direct comparison. However, results from this module also show that mothers were more easily able to name danger signs when asked about specific illnesses.

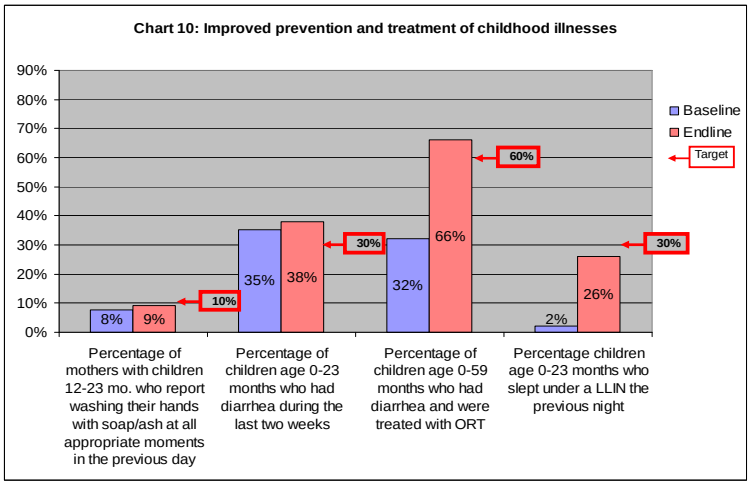
Therefore, it is believed that at least some mothers now think about danger signs in a compartmentalized way. This hypothesis is also supported by the fact that there have been highly significant increases since the baseline in health center and hospital care-seeking for children with danger signs since the baseline. However, the field assessment also discovered some challenges in transferring knowledge which will be discussed in greater detail in Section C.2. – Cross-Cutting Results.



IR3.2 Improved Caregiver Home Management of Childhood Illnesses: Despite the seeming lack of improvements for danger sign knowledge, highly significant improvements for appropriate care-seeking behaviors were found. All three care-seeking indicators showed significant improvement (Chart 9). This lends credence to the idea that even if mothers could not recall danger signs when asked a general question about it, they *"knew it when they saw it."* Most of the indicators under this result have more to do with care-seeking rather than home management. During the field investigation, mothers were asked what they learned from RCVs. In almost all cases, their first response was "danger signs and the importance of going to the health center." The impact of this message can be seen in the results, which show a 25% increase of mothers seeking care (at a health facility) for severe diarrhea, a 40% increase in care-seeking for ARI and a 47% increase for those seeking care for fever. It should be noted that the original baseline data was recalibrated as it included care-seeking for *any* diarrhea, ARI or fever, whereas caregivers were only instructed to seek care when their child's presents signs of *severe* illness. Therefore, both baseline and endline data presented here reflect only care-seeking for those children presenting danger signs.

This result is further corroborated by OD service statistics which show a major and sustained increase in the number of children under five years of age brought to the 16 health centers: 17,088 in 2005; 31,210 in 2006; and 33,929 in 2007.

The one behavior under this result that was not associated with care-seeking (increasing fluids and continued feeding during illness) did not improve significantly. It is not clear why performance was poor for this result other than the fact that it was not emphasized as much as identification of danger signs and care-seeking.



IR3.3 Improved Prevention and Treatment of Childhood Illnesses: Two out of four indicators under this result performed well (Chart 10): treatment with ORT (ORS & *Orasel*®) and children sleeping under LLINs. Hand washing showed no real improvement. The project's BCC team completed a hand washing barriers and benefits assessment in June 2006. They also designed a participatory community activity which took place from September through December 2006 in 47 villages with 5,623 participants and which followed-up RCV home visits and promotions which occurred in March 2006. In addition to mothers, the intervention focused on

school children, who were not included in the survey. The target for hand washing was actually adjusted downward (from 80%) on the advice of the mid-term evaluator. In addition, the original baseline was adjusted upward from 3% to 8% after the discovery of a tabulation error.

Related to disease prevalence, diarrhea showed no improvement (reduction). ARI and malaria (not shown in graph) were also static. However, it is important to reiterate that the baseline was conducted in the dry season while the endline was conducted during the wet season. As such, the comparison is really quite irrelevant since wet season prevalence for all three diseases can be significantly higher. Any comparison of climate-affected disease prevalence should be done within the same season.

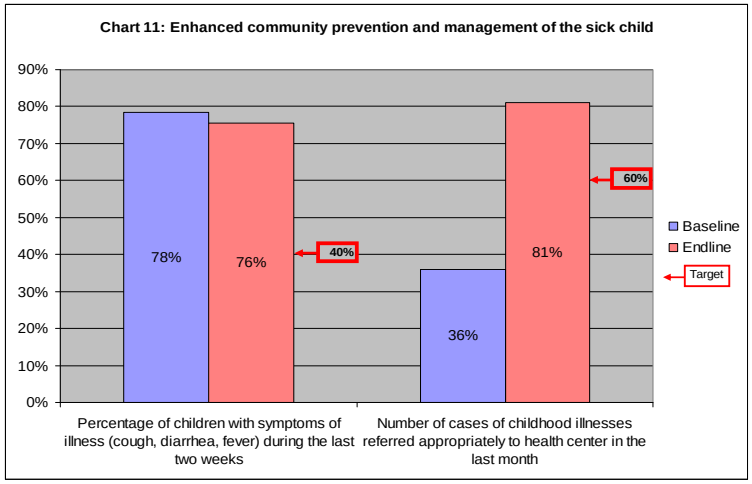
The third indicator, the proportion of children that were treated with ORT, doubled between the baseline and endline and surpassed the LOP target of 60%. Data here was derived from monthly community surveillance reports; however, the KPC survey also indicated about a 20% increase in the use of *Orasel*® (ORS remained static). Orasel is the Population Services International (PSI)/Cambodia brand name for the Diarrhea Treatment Kit (DTK), which is a low-osmolarity rehydration sachet bundled with water soluble zinc tablets to reduce diarrheal severity and duration. The increase in the use of *Orasel*® is offset by an almost equally large decrease in the use of herbal medicines, IVs, injections and pills/syrups. In addition to promotion, a large part of the increase can be attributable to an increase in availability. In April 2006, the ICH project began introducing the DTKs. More than 200 committees were set-up and trained on social marketing in order to manage product and sale of DTKs (and LLINs). DTKs were procured from PSI and sold, following their guidelines, for 1,500 riel (36 cents). Of that amount, 300 riel was given to the volunteer as an incentive for bringing the client to the RCVL. The remaining money was kept and managed through a village committee for emergency transport and other health activities. At the time this report was written, 2,350 packets of *Orasel*® have been sold by the project. *Orasel*® is also sold by village drug sellers through RACHA. Currently, there is enough stock for approximately 12 months beyond the project period. However, there is no plan at this point to replenish the stock once it has been exhausted.

Finally, as a result of the project, there was at least a 24% increase in the number of children sleeping under LLINs. It is quite likely that the actual percentage is higher, as some women may have responded negatively to the question if they weren't sure if the nets they possessed were *LLINs.* Some had received their nets over two years ago. What is known is that the ICH project has retreated 2,362 nets and distributed 20,000 LLINs during the life of the project (see inset for distribution breakdown). That is equal to half of the total number of children under 5 and 57% of all households in the project area. ARC mobilized the donation of 20,000 LLINs from two different groups: World Swim Against Malaria (now the Against Malaria Foundation) and the Norwegian Red Cross (with international transportation supplied by the International Federation of Red Cross and Red Crescent Societies) for both donations. Simple IEC (a sticker and short contract) was developed with the National Malaria Center, PHD, and OD to educate beneficiaries on proper net use and care. Role plays were also used to help communicate and reinforce key messages (*For more information, see Annex 10: "Activity Report 6: Malaria No More: 10,000*

LLIN Distribution

4,127	vulnerable families in high-risk malaria communities (free);
5,064	Pregnant women during antenatal visits (free);
2,450	10 per village given to poorest of the poor (free);
2,504	RCVs, RCVLs, VHSGs, VLs, health center staff and CC leaders (free);
5,885	General distribution via Social Marketing Committees in 206 villages (sold)
20,000	**Total**

Long-lasting Insecticide-treated Mosquito Nets.") Distribution of nets was not done evenly throughout all 254 villages, but allocated based on need. The first distribution was to families with children under 5 in 57 malaria-endemic villages; the second was to pregnant women via antenatal visits (all the women that received nets were asked to sign a 'contract' that said that they would use the net for themselves and their new baby and also would not use the net for fishing); the third was to the community-identified poorest of the poor; and the fourth was to key opinion leaders. The remaining (5,885) were sold via social marketing committees that had been set up in the 206 villages.



SO3: Enhanced Community Prevention and Management of the Sick Child: The overall focus of SO3 activities was on prevention of childhood illness (via mosquito nets distribution, hand washing practices, etc.) and care-seeking once a child becomes sick. Chart 10 above shows the prevalence of diarrhea alone, while Chart 11 shows an aggregate of children with one or more symptoms associated with childhood illness. As with diarrhea alone, there is little change between the baseline and endline statistics. Once again, however, it is difficult to ascertain actual change since the surveys were taken in two entirely different seasons. With such a significant increase in exclusive breastfeeding, as well as extensive mosquito net distribution, it is difficult to imagine that there would not be a decrease in prevalence. The second result on appropriate referral is based on data from the community-based surveillance system (CBSS) with a baseline from February 2007 (which was the first time the project staff felt comfortable with the quality of the data being gathered) and endline of August 2008. This is a substantial increase, which is indicative of the health promotion and comprehensive coverage from the RCV groups and corresponds well with the increase in care-seeking already noted.

Strategic Objective 4: Improved Partner Management Capacity

ARC/CRC focused on three areas under this objective: improved coordination within the health community, improved CRC project management and skills and an improved CRC volunteer network. Since project staff were advised at mid-term to reduce the number of indicators, unfortunately SO4 was left with only one indicator to measure success of the entire host of interventions. In the future, this evaluator would recommend that every SO and IR have at least one indicator in order to measure the progress of that result.

IR4.1 Improved Coordination Within the Health Community: The field investigation revealed that there was substantive coordination between CRC and the Ministry of Health under this project. The most extensive coordination occurred at the village level. VHSGs from each village were interviewed during the 32 site visits; they asserted that they coordinated closely with the RCVs – this was also substantiated by the RCVLs and RCVs. VHSGs would meet at least once a month with RCV groups and more frequently when outreach or other special health events were occurring.

It was apparent that VHSGs truly valued the RCVs' role. As part of the final evaluation, VLs and VHSGs were asked if they considered that there were too many RCVs. All VHSGs responded that the number of volunteers was not excessive and that, if anything, they could use more. As the principal role of the VHSG is to communicate information to and from the health center, RCVs have proven to be a critical element in helping to fulfill that role. Through the RCV group, VHSGs have a quick and effective means of informing the village of outreach activities, changes in health center policies/services and other crucial information. In addition, RCVLs collect information from each volunteer on household-level data (death, births, illness, antenatal visits, etc.), which is collated into a two-page CBSS form. This form is then collected by the VHSGs and provided to the health centers during monthly health center management committee meetings.

All 16 health centers were visited during the field investigation portion of the final evaluation, and interviews were conducted with both midwives and health center directors. All were clearly aware of the presence, role and contribution of the RCVs. As the care-seeking indicators imply, health centers have seen a significant increase in patient visits. Almost all health centers attributed this increase, in large part, to the work of the RCVs. Health center staff appeared to genuinely value the work of the RCVs. In most of the health centers, the mobiles and other IEC materials produced by the project on maternal and child danger signs were visible in the waiting areas. Health center coordination with villages is done through the VHSGs, so there is little direct contact between RCVs and health center staff. However, the recent series of breastfeeding trainings were conducted by the health center midwives and CRC FOs at the health centers and included RCVLs, TBAs and VHSGs as trainees. In addition, RCVs collaborated directly with health center staff during the vaccination, vitamin A and mebendazole campaigns.

Coordination between the CRC Siem Reap Branch Office and the Angkor Chum OD and Provincial Health Offices was more limited, but the project clearly has created a number of avenues for joint collaboration. Examples include vaccination campaigns; dengue fever campaigns; health center LLIN distribution to pregnant women and women who come to the health center for childbirth; joint curriculum and IEC development; PHD and OD joint facilitation of all technical trainings; and community-based surveillance system (CBSS) reporting to the health centers and subsequently to the OD, PHD, and MoH. (It should be noted that the CRC Siem Reap Branch donated $500 of its own resources to support associated costs of the PHD/OD.) These activities have all strengthened coordination between CRC Siem Reap Branch management staff and officials from the Provincial and OD health offices. The Provincial Health and OD Directors, when interviewed, also expressed great interest and appreciation for the work of the volunteers. Both attributed improvements in care-seeking in part to the RCVs' work. Indicative of MoH's interest in the project was their involvement during the field investigation. There were four staff from the OD that participated during the entire seven days of the evaluation, and the provincial office sent a representative who participated for part of that time. Given the MoH's initial reticence of having large numbers of RCVs involved in health activities, which they saw as potentially duplicative of VHSG work, their positive response to RCV role is a strong indication of the value of the project and the closeness with which the project coordinated with the MoH at the provincial, health district, health center and village levels.

At the national level, ARC/CRC participated in MEDICAM (a network for health NGOs in Cambodia), and, perhaps most significantly, ARC facilitated an effort to revise the *National Community Participation (CP) Policy for Health.* A draft CP policy was completed in July 2008 and is ready for signature by the Minister of Health. ARC, with funding from the CORE Group and

USAID, led the effort to organize Ministerial staff, NGOs and other stakeholders such as USAID, WHO, UNICEF and BASICs in the revision of the policy. Several workshops that encompassed a broad spectrum of stakeholders, including volunteers, contributed to the policy revision process (*for more information, see Annex 11: CP Policy Process*).

IR4.2 Improved CRC Project Management and Skills: Efforts to increase management capacity of CRC Siem Reap Branch staff were mired by a number of complications and challenges associated with the ARC/CRC partnership. Clarity on roles, responsibilities and authority between ARC and CRC was problematic during the first year of implementation, hampering quality assurance efforts and heightening sensitivities regarding field work. Depending on one's perspective, support from ARC could be considered capacity/skill building or, intrusions on the operating authority of CRC. (*For more information, see Annex 1.*) Due to efforts by both ARC and CRC, these challenges were largely overcome. By the end of the project, the collaboration between ARC and the CRC Siem Reap Branch was strong and effective. Much of the credit for improvement in the relationship goes to the CRC Secretary General, the CRC Siem Reap Branch Director and the ARC Technical Field Representative.

Capacity- and skill-building are almost intrinsic parts of any child survival project where partners work together to solve problems and implement innovative programming. In the case of CRC, this project was their first experience managing such a large cadre of volunteers. Additionally, the project was ambitiously complex, especially considering the condensed three-year implementation timeframe, the large number of interventions and the high indicator targets. There were concerns and reservations about managing such a large number of volunteers and, even now, some concerns continue to surface about how to sustain this level of activity once the CSHGP funding ends (*see Section 2h: Sustainability*). However, throughout the project, CRC was able to prove to itself that it was both feasible and, as the survey results suggest, valuable to maintain the high volunteer–to-household ratio. Currently, the intent of the CRC is to maintain the current level of volunteers once the project ends. ARC plans to provide internal funds to help CRC maintain the RCV network for an as-yet-undetermined period of time.

A critical skill that CRC developed through this project was related to human resources. Difficult experiences with problematic Program Managers, as well as other staff, have made the Siem Reap Branch leadership more appreciative of the importance of hiring qualified staff. In terms of fiscal management, CRC has grown as well. Under the project, CRC Siem Reap provided financial reports directly to ARC's Financial Manager located in Phnom Penh. Each month, CRC had to report on both expenditure of USAID funds as well as any cash and in-kind cost-share. ARC's Financial Manager would review the document and then provide a detailed request for adjustments or errors to be corrected. Initially, the adjustment report amounted to two pages of items that required correction. By the end of the project, the Financial Manager's adjustment report usually had one or two minor items that required adjustment or clarification.

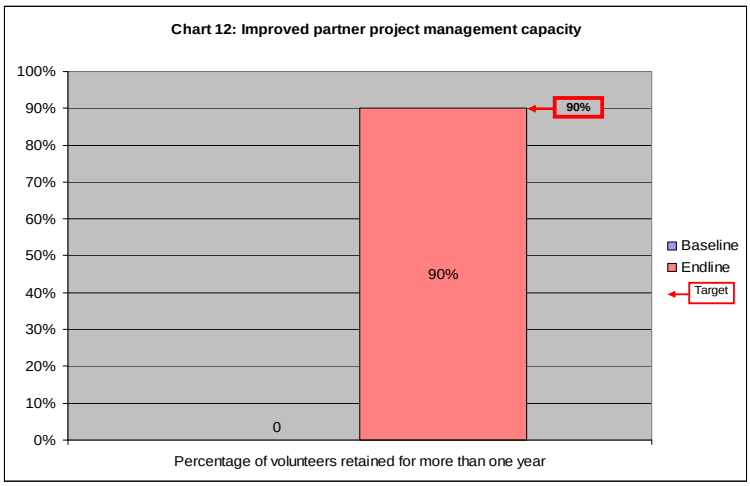
Beyond the daily interaction and training the project required, formal skill and management capacity-building workshops facilitated by ARC were limited. In 2005, ARC used a capacity-building assessment tool that looked at issues of governance, financial management, strategic planning, monitoring and evaluation, service delivery and partnerships. However, that tool was not used as a concerted plan for capacity-building. In spite of this, there were several activities undertaken which invariably strengthened the capacity and skills of the CRC Branch, project management and staff. These included:

- Mobilizing financial and technical resources from a private donor to establish a new income generating activity. The purpose of this activity is to develop the CRC Siem Reap Branch's financial capacity for continuing key project activities after the conclusion of USAID funding.
- Mobilizing financial resources to complete a study tour to look at practical sustainability of two former child survival projects in Nepal. The study tour was funded by VSO and undertaken with the PHD and OD to focus on joint planning for practical sustainability; (*for more information, see Annex 12: "Activity Report 8. The Final Ascent: A Study Tour to Develop a Sustainability Action Plan for Community Health Volunteers"*)
- USAID Rules and Regulations Training Course (CRC Project Manager)
- Monitoring and Evaluation Training Short Course (CRC Project Manager)
- Community Health Management Training Short Course (CRC Project and Field Managers)
- Exchange and learning visits to the World Relief Child Survival project in Kampong Cham (CRC Project and Field Managers)
- UNICEF Child Survival Regional Workshop (CRC National Health Director)
- BASICS Child Survival Lessons Learned Workshop (CRC Branch Director)
- Project and Volunteer Management Training Course (all project staff)
- Financial Managers Training Course (CRC Finance Officer)
- Communication Skills, Facilitator Skills and Adult Learning Processes (all project staff)
- Refresher Course on the Fundamental Principles of the International Red Cross and Red Crescent Movement
- Behavior change communication and the stages of change model (*For more information, see Annex 13: "Activity Report 5. Embracing a Behavior Change Communication Approach: A Practical Training to Operationalize Behavior Change Communication on a Community-based Child Survival Project."*)

IR4.3 Improved CRC Volunteer Network: As already noted, this was the first time that CRC recruited, trained, managed and supervised such a large number of volunteers – roughly amounting to 40% of all CRC volunteers in the country. Traditionally, CRC's project approach has been focused on one or two volunteers per village in a limited number of villages and primarily engaged only one activity such as first aid, HIV/AIDS, etc. Under the ICH project, CRC facilitated the recruitment of 1,958 RCVs who received continual training and supervision and were tasked with visiting 15-20 households each month to educate mothers on key child survival messages. The retention data shown in Chart 12, based on monthly achievement reports, suggest a high level of commitment and motivation on the part of volunteers. While the field investigation teams generally found motivation to be high, it was also clear that 90% may be an over-reporting of the number of volunteers who were actually active. Generally, the level of volunteers who were considered to be active (based on our focus group discussions with those stakeholders interviewed) is believed to be around 80%, and in some communities it was as low as 50%. Those interviewed defined "non-active" as being either absent from the community, not visiting households, not attending meetings, or having dropped out and having not yet been replaced. It is not clear why some volunteers remain active while others drop out. However, the fact that staff members on the field investigation team were surprised to find low levels of activity points to some potential challenges with the system of supervision. This is discussed in greater in *Section C.2: Cross-Cutting Results.* (*For more information, see also Annex 1.*)

In addition to inactive volunteers, many volunteers were struggling to meet their commitment of 20 household visits per month. This was especially true during planting and harvesting seasons, when mothers in their coverage areas were frequently away from home, and their own farming duties limited the time that they had to make household visits. The RCVs interviewed met an average of 50-70% of their commitments the previous month and, when asked, stated that 10-15 households would be more reasonable. It is important to note that none of these volunteers received per diem or any other cash incentive for participation. They received an ID card, t-shirts, caps and small refreshments during meetings. Generally, the two most effective motivating factors expressed by the RCVs were helping their community and the personal benefit of the training they receive. As the project continues beyond the grant period without the technical assistance provided by ARC, the continuation of training will be critically important. During the evaluation, the OD made commitments to support the continued training of RCVs as they see them as a valued part of the broader health team in the community. CRC will also have to find ways to keep volunteers engaged by providing a continual environment for learning and growing.

SO4: Improved Partner Management Capacity: Capacity is often difficult to quantify, and even the best of measures fail to capture all of the learning that takes place during a project such as this one. CRC staff clearly felt they had learned a great deal from the experience. ARC's Technical Field Representative was also able to identify several instances that exemplified a positive change in CRC Siem Reap's management capacity, especially over the last 24 months. For instance, the Branch Director, on his own initiative, has begun to develop a strategy for restructuring in order to sustain activities once ARC departs. He also seems more comfortable making decisions without having to defer to CRC/HQ or ARC. Recently, CRC Siem Reap Branch management detected unexplained irregularities with private funds by one of their staff members. They promptly conducted an internal audit and investigation. This resulted in the termination of that individual's employment. These are a few examples of initiatives that exemplify a greater confidence and ability of CRC Siem Reap to manage its programs. The ARC Technical Field Representative also reported that, over the last year of implementation, he was able to reduce his involvement in the day-to-day operations of the project. He attributed this to the overall improved capacity and skill related to the project implementation and evidence-based decision-making from the CRC Siem Reap Branch and project staff. This enabled the ARC Technical Field Representative to focus more time on involvement with the CP Policy revision and supporting the CRC Branch to establish its new income generating project.



2. Cross-Cutting Results

a. Community Mobilization

The project used a modified Care Group Model, or RCV groups, as the principal mechanism for mobilizing communities under this project. In total, 1,958 RCVs were recruited within the 254 target communities. Each RCV group (which, organized by village, roughly equated to 8 volunteers – including a volunteer leader – per group) was selected by community leaders with the following criteria provided by ARC/CRC:

- RCVLs are required to be literate and female;
- RCVs are required to be female as much of their work will focus on ante and post-natal care and breastfeeding.

Each RCV was supposed to assume responsibility for working with approximately 20 target households (those with children under fives years of age and/or women of reproductive age). The volunteer ratio of one volunteer to every 20 households was intended to create a saturation effect within the community. The large number of volunteers recruited for the ICH project has, from time to time, raised some concerns among CRC leadership, as this represents over 40% of all CRC volunteers across Cambodia. As a result of this final evaluation, CRC leadership has seriously committed to maintaining these volunteer levels because they have witnessed the positive results of the broad coverage approach under this project.

It is important to note that the volunteer group model relied primarily on intangible incentives to keep participants motivated. Volunteers were asked to commit to approximately 10 hours of volunteer work per month to prevent them from becoming overwhelmed and burning out. Material incentives included a light snack during village-based training session, a CRC identification badge, and project tee-shirts and scarves, which were provided over the life of the project in order to promote a sense of organizational affiliation and group identity. Each RCV also received a certificate of completion signed by the PHD, OD director, and the administrative district governor following successful completion of each training cycle. Generally speaking, the field investigation teams found the volunteer groups to be intact, functioning and motivated. Not one RCV raised the issue of compensation.

RCV groups met at least once monthly with their RCVL, participated in trainings and engaged in their principal task – household visits to conduct health education and promotion. Some also assisted during the measles, vitamin A and mebendazole campaigns. Based on the focus group inquiry of volunteers, roughly 80% of RCVs were considered active and at least partially meeting their commitments to household visitation. However, this varied from village to village. Both the KPC survey and field investigations found a number of mothers in some of the communities who had never heard of an RCV. This was not common (2 out of 32 communities visited, and in one of these two communities, mothers were able to identify specific activities including home visits from the 'health agency'). This suggests that there were some problem spots. The endline survey also presented some troubling information: only 39% of the survey respondents stated receiving a visit from an RCV in the last month, in spite of the fact that monitoring reports submitted by the care groups themselves stated that 80% of household visits were being completed. Hence, while

management believed 80% of the target population was receiving the health message for that month, it was actually significantly lower. In addition to weakening BCC effectiveness, these findings reveal supervision and monitoring issues which will be discussed in *Section 2d: Health Systems Strengthening*.

When asked, both FOs and health center staff were able to identify communities where volunteers were considered to be active and motivated and other communities where they considered volunteers to be inactive and less motivated. The investigation team never had the opportunity to ask volunteers who had 'dropped out' what their motivation was for doing so. However, even active volunteers did express challenges that may contribute to inactivity or low activity among some volunteers:

1. **Time commitment** – Especially amongst the poorer and more rural volunteers, visiting 20 households per month appeared to be burdensome. Most RCVs queried suggested 10-15 households would be more manageable.

2. **Livelihood and other priorities** – Planting and harvest seasons often require some RCVs, as well as mothers, to leave their home for days, weeks and even months at a time to work in the field. In the case of Angkor Chum district many will go to Thailand to work for periods of time. Logistically, this makes it difficult to meet monthly household visitation quotas. Other priorities, such as child rearing, housework and special events such as festivals or elections, also reduces the time available to conduct visits.

3. **Confidence, capacity and receptivity –** These are challenges that arise during the household visits. As many of the volunteers are illiterate, some lack the confidence in conveying messages to other mothers – especially if those mothers are literate or socio-economically better off than them. Moreover, even though they have aids (IEC storyboards), volunteers may have trouble in effectively using the materials to convey a message. A number of volunteers admitted in interviews to spending only five minutes in each house, which suggests that they are not engaging in meaningful interaction with their clients. Receptivity on the part of some mothers has also been a challenge for some of the same reasons.

As the project moves forward, it will be important to understand the underlying reasons for inactivity among volunteers. Some staff and RCVs have suggested that selecting volunteers that are economically better off or more literate could help. At the same time, this approach would deny less-advantaged women opportunities to serve their community and grow in knowledge. Having a clearer understanding of the barriers may help to generate appropriate solutions. Irrespective, this should not overshadow the excellent work being carried out by the majority of RCVs.

At mid-term, it was concluded that the role of the RCVL had not been fully developed. Mid-term evaluation interviews with the project staff revealed that there was not a consistent understanding of this role and how it differed from the role of the RCV. A contributing factor was that there was no specialized training for RCV leaders. By the final evaluation, this issue was fully resolved in that both RCVs and RCVLs understood the role of the RCVL as the organizer, facilitator and, in some cases, trainer of the RCVs. In the case of breastfeeding, RCVLs were trained along with VHSGs and TBAs as trainers by health center midwives and ICH staff. In turn, RCVLs, VHSGs, and TBAs

were then instructed to train the RCV group in their village (though most RCVs and RCVLs said that they preferred joint training to ensure they all receive the same message). A similar approach was taken in training regarding roles and responsibilities and improving CBSS reporting and analysis, in that the RCVL was trained along with the VHSG and VL by the health center directors and ICH staff. RCVLs were also responsible for filling out the CBSS reports which initiated just prior to the mid-term. The CBSS reporting system was fully established at the time of the final evaluation. Finally, RCVLs were responsible for managing community funds generated through the sale of LLINs and DTKs.

b. Communication for Behavioral Change

The project has conducted two formative research studies for the purpose of refining its communication strategy – one for immunizations and vitamin A and the other focusing on malaria. (*For more information, see Annexes 14 & 15: "Understanding Immunization and Vitamin A Communication in Rural Cambodia: A Formative Research Study (July, 2006);" "Understanding Malaria Prevention and Control in Rural Cambodia: A Formative Research Study (January, 2006)."*) Additionally, two months prior to the mid-term evaluation, the ICH project hired a BCC team. The team was composed of one social marketing officer, one communications officer, one Volunteer Services Overseas (VSO) technical advisor, and one BCC manager.

In June 2006, a two-day introductory BCC training was conducted for FOs as well as for other CRC and ARC staff. In developing IEC materials, the project followed existing MoH guidelines and training materials to the greatest extent possible. Modifications were made in close and ongoing consultation with the PHD and OD technical staff and following pre-testing in the villages. All IEC materials were revised or developed for low-literacy audience using simple color-coded graphics and minimal text. Graphics were repeated on different media including counseling cards, story boards, t-shirts, mobiles, puzzles, stickers, LLIN contracts, and CBSS report and community referral forms. This was done to reinforce understanding and messaging. RCVs felt that the materials, especially the storyboards, were instrumental in helping them deliver messages. As noted, in many cases the RCVs were illiterate so the pictures not only helped the mother understand what was communicated, but also helped the RCV in knowing what to communicate.

At the mid-term, the evaluator felt that the project did have some elements of a behavior change strategy in place (i.e. well-designed IEC materials, input from the PHD and operational health district technical project team, etc.), but observed that FOs used only lectures as the delivery method for this information. It was felt that mothers, volunteers, and VLs needed to be engaged in a dialogue to discuss improved health practices and decision-making to achieve behavior change.

Following-up on these recommendations, the project team organized three one-day workshops in October 2006 focused on participatory learning methods and skill-building related to interactive use of IEC materials, community empowerment, group facilitation, demonstrations and role-plays. These training sessions were followed-up with a three-and-a-half day interactive all staff training retreat in April 2007. The training retreat focused on practical skill-building for behavior change communication and introduced the use of diagnostic role-plays, motivational interviewing and other adult learning approaches. The retreat's primary goal was to improve understanding, skill, and

performance of all project staff in order to apply a behavior change approach in their daily work with RCV groups and key community stakeholders.

Training FOs (and some of their supervisors) to engage in role playing, puzzle games and group discussions was not always easy and met with some resistance. However, the BCC Team Leader did monitor field activities and stated that FOs were using some of these methods. The workshop was really a turning point for the project staff. Prior to the retreat, many felt that the BCC team was only responsible for behavior change. The workshop was an opportunity for everyone to realize a bit more that the whole team was responsible and that this is a behavior change project.

One of the challenges encountered was in quality skill transfer from staff to volunteers. While the BCC coordinator trained staff on these methods, many RCV group members still had limited skills in BCC. When interviewed, the BCC Team Leader stated that he believed that the quantity of information getting out was good but that the quality needed improvement. This is reflected in some of the knowledge/behavior data which shows that there was sufficient visitation by RCVs with general messages about danger signs and care-seeking that mothers were responding to. However, the fact that many women could not clearly name danger signs when asked during the endline survey suggests that perhaps the precision and delivery of the message required more attention.

In addition to the home visits, communication strategies included the placement of mobiles at the health centers and the production of t-shirts. T-shirt distribution was coordinated in conjunction with the last two vitamin A campaigns in order to increase awareness. Mass media (radio, TV) was not utilized.

The project also sponsored campaigns for re-treating bed nets with insecticide in the Varin and Angkor Chum Districts and then began implementation of its LLIN distribution. The project introduced an innovative IEC tool for promoting new LLINs in the form of a contract given to families that received one of the nets. In addition to providing information about proper use and care of the LLIN, the contract requires the recipient to sign that he or she will give priority use to pregnant women and children under two years of ages and will not sell the net. As already stated, there was evidence of significant progress in these interventions. LLIN beneficiaries were also provided with a sticker with the priority messages on the use and care of the net.

c. Capacity-building Approach

Local Partner: *See Section 2c: SO4: Improved Partner Project Management Capacity.*

Training: Training was a key element of ARC's technical assistance role. ARC team members included a Senior Technical Training Specialist who was responsible for developing the training curriculum and schedule, facilitating TOT sessions for FOs, monitoring training given by FOs and working with the PHD and OD technical staff to develop the IEC curriculum.

Key trainings included (1) danger signs for pregnancy; (2) prevention and danger signs for malaria, ARI, and diarrhea; (3) vaccination and reading the vaccination card; (4) breastfeeding; (5) nutrition; (6) behavior change and communication/facilitation skills. (*For a complete list of trainings, see Annex 2*). The primary recipients of most of the trainings conducted by ARC were the FOs, who

then transferred that knowledge to the RCVLs. It would then, in cascade fashion, be imparted to the RCVs who would in return impart it to the mothers. All technical health trainings were conducted jointly with provincial and/or OD technical staff as trainers. In some cases, such as roles and responsibilities, breastfeeding, CBSS reporting and analysis, health center staff were trained as trainers.

Pre- and post-tests test were administered over the course of most trainings. As Table 1 indicates, the percentage of those that performed exceptionally well did not increase as a result of the training. About 9% moved from the poor to good category. Those FOs that were performing poorly and those that were at the lower end of the 'good' range were not insignificant. This may also explain why some of the detail about danger signs may not have 'cascaded' all the way down to the mothers.

Table 1: Cumulative training scores

Pre-test		
Poor	**Good**	**Excellent**
20%	46%	34%
Post-test		
Poor	**Good**	**Excellent**
11%	55%	33%

Unlike most other trainings, the breastfeeding master training was given jointly to the FOs and midwives together. In turn, they conducted workshops to train the RCVLs, VHSGs, and TBAs from each of the 254 villages. These women were then responsible for transferring the information to the RCVs. Nuns, pregnant women and other interested mothers were also invited to attend the village-based training sessions. RCVs then completed "breastfeeding-focused" home visits to households in their village. The advantage of this approach was that you had multiple message agents receiving and transmitting the same message to the mother. Moreover, RCVLs were receiving high-quality technical information from the midwife, who was a breastfeeding technical specialist, rather than from the FO. From the breastfeeding results, it appears that this was a sound strategy. However, when asked, many of the RCVLs and RCVs stated that they preferred being trained together in the community. Part of this was a matter of convenience – RCVLs wouldn't have to travel for training. Yet, most said that they also wanted to make sure they (RCVs and RCVLs) were receiving the same training and that nothing was omitted in the cascade. A compromise approach would be to have training of RCVLs along with health center staff but to increase support, supervision and follow-up as they conduct trainings of RCVs within their own community. The Senior Technical Trainer corroborated that supervision and follow-up of RCVLs and RCVs was an area needing improvement. It was also felt that there should have been more refresher trainings to reintroduce and reinforce messages learned earlier in the project.

The staggering of training activities was another important facet to the training. This was done due to organizational constraints, practical issues associated with human resources, logistics and the capacity of RCVs to absorb too much information at once – especially since many were illiterate with little or no health training prior to the project. While this was a practical and probably the only plausible approach, initial delays in start-up meant that some core trainings, such as breastfeeding and nutrition, were not introduced at the community level until late in the project.

d. Health systems strengthening

CRC-MoH Coordination:

A very positive outcome of the project has been the collaboration that has occurred between the MoH at the Provincial and OD levels and the CRC. The ICH project has demonstrated to both organizations that they can work together with defined complementary roles in pursuit of the

common objective of improved health for women and children. In many ways, this collaboration has become systematic.

1. **Curriculum development:** Training and information disseminated by RCVs are produced through joint consultation with MoH policy and existing curriculum serving as the basis.
2. **Campaigns:** Special community health campaigns are coordinated and planned jointly in order to maximize coverage and successful results.
3. **Outreach:** Timing of monthly outreach by health centers is communicated through RCVs to mothers in order to inform and maximize participation.
4. **Information flow:** In addition to outreach, the CRC-MoH connection at the community level is a conduit for flow of critical information and health statistics in both directions and maintained through regular meetings between VHSGs and RCVs/RCVLs.

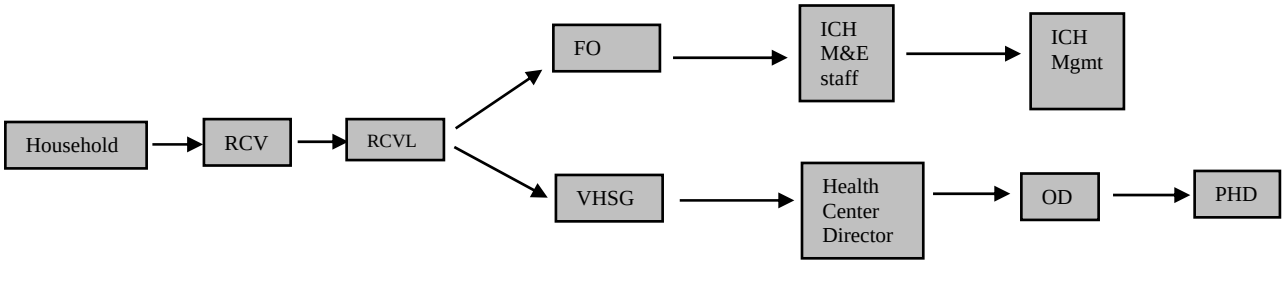
Community-Based Surveillance System and other Community-level data:

The CBSS complements and supports the existing HMIS by providing current household level data relevant to health behaviors and conditions. The CBSS tracks severe diarrhea, presumptive malaria, and symptomatic ARI cases as well as corresponding care-seeking practices and information such as births and deaths. It is a two-page form with pictures and supporting text. The form is completed during a monthly meeting conducted by the RCVL with the RCVs, who are responsible for reporting on the condition of the households they had visited during the last month. The CBSS was designed to empower community health stakeholders with information necessary to recognize their accomplishments as well as to identify areas needing improvement and follow-up.

Development of the CBSS began in early 2006 and was pilot-tested in 77 villages. Following feedback from the pilot testing, the CBSS forms were revised, and implementation was scaled-up to all 254 villages by January 2007. Various stakeholders including the PHD, OD, RACHA and others provided input into the development of the form.

During the field investigation, all RCVLs, VHSGs and Health Center staff interviewed were clearly familiar with the CBSS. Health centers were able to readily produce the submitted forms. Most recently, the health centers were given large whiteboard-type charts with which to aggregate the data for each month. At present, data flows as follows:

Diagram 1: CBSS data flow



Data flowing from the RCVL to the FO is actually three-fold. First was the CBSS form; second was what was referred to as the Matrix Planning and Reporting of RCVs in the Community; and the third form was a summary form documenting stock and sales of LLINs and patient referrals. The Matrix Planning and Reporting form only documents how many households were visited by each RCV and was used for monitoring the monthly percentage of household coverage as well as documenting in-kind contributions to match (volunteer labor). VHSGs only receive the CBSS form, while the other forms were internal to the ICH (ARC/CRC) project staff.

The flow of data was found to be regular and routine. The CBSS forms provide both a purpose and tool for organizing meetings and generating points for discussion. The MoH was pleased with the CBSS concept and appeared to value having this regular source of community-level data. In spite of this, there were some inherent weaknesses in the system that needed correction in order to facilitate information flow and maximize data accuracy and validity.

RCV Recall:

Currently, the data collected in the CBSS as well as the Matrix Planning and Reporting form is completely dependent on the recall of RCVs over the course of one month. Recall is known to be highly unreliable and RCVs themselves have no written form to document visitation or observations at the time of household visits. During the field investigation, RCVs themselves conveyed a lack of confidence in their ability to accurately recall the number of households visited, topics discussed and events observed for each of their 20 households. Moreover, without the reliability of household-level forms for reporting, there appeared to be a tendency to over-report houses visited when comparing KPC data with the Matrix Planning and Reporting form. Accuracy and validity could be improved if RCVs had a mechanism for recording CBSS data during their visits. This would also reduce the tendency to over-report visits. While illiteracy is a barrier to household-level reporting, it is not insurmountable. Experience has shown that even illiterate health workers can manage forms that utilize graphics and hash marks with limited or no text[8, 9]. In the case of the ICH project, many of these graphics already exist and are familiar to the volunteers as they are part of the IEC materials.

As of the writing of this evaluation, ARC/CRC has taken the initiative to develop a household level form that addresses the recall problem presented. The CRC has committed to training all RCVs to introduce the form; each RCV will use the form to record her home visits and related statistics for her households each month. The form is designed for illiterate/low literate populations and has been field tested with RCVs.

Separation of complimentary data:

Currently, the number of households visited per volunteer is collected on the Matrix Planning and Reporting form, which is separate from the CBSS. The presumption when analyzing the CBSS is that it reflects all events among the entire target population in the village. However, because CBSS data is not cross-referenced with the household visitation data, no one is sure what percentage the

[8] Ruebush TK 2nd, et.al. Use of illiterate volunteer workers for malaria case detection and treatment. Ann Trop Med Parasitol. 1990 Apr;84(2):119-25.

[9] P Dawson, et.al. From research to national expansion: 20 years' experience of community-based management of childhood pneumonia in Nepal. Bulletin of the World Health Organization. Volume 86, Number 5, May 2008, 321-416

CBSS data actually represents – 100%, 70%, 50% or less. From the field investigation, it was observed that some communities had significant levels of inactivity, which meant many households were not actually represented in the aggregate CBSS data. The number and/or percentage of households visited should be incorporated into the CBSS form so that it can be interpreted correctly. In the same way, the referral data on the LLIN balance sheet should also be included in the CBSS.

Use and analysis:

The evaluation found little indication that the data was used amongst the care groups to analyze health issues in the community and make decisions based on it – or at least there was no formal process established to do so. The project did develop a curriculum, along with a storyboard, and completed 32 workshops involving all RCVLs, VLs, and VHSGs in order to train them on analysis and to encourage them to conduct analysis. However, this did not appear to have been occurring. When RCVLs were asked what they did with the data, most stated only that they passed the information on to FOs and VHSGs. It is likely that, through the act of aggregating and reporting data, they are internalizing this information, so an intuitive analysis process likely occurs. Use and analysis were not significantly better at the health center level. Only in one case was the health center director actually using the data to conduct a comparative analysis with the health center's own patient data. For example, if the CBSS stated four women delivered at the health center in the last month, the health center Director would compare that information to the number of women from that community who did actually deliver at the health center. The large report boards (based on the CBSS), which were only recently placed in the facilities, should facilitate health center staff efforts to analyze community-based data. It would also be helpful at this level to conduct refresher workshops on using the data. On a monthly basis, CBSS is reviewed during the Siem Reap Provincial Child Survival Working Group meeting. This meeting is chaired by the PHD with participation from all OD Directors and several health NGOs. The PHD uses the CBSS data as the primary source for reporting on the Cambodia Child Survival Scorecard indicators to the national level.

Referrals:

Another system used by the RCVLs is the referral slip system. These slips were professionally printed and given to women who were authorized (based on financial need) to use money from the community fund for transport of themselves or a sick child to the health center. Each slip provided had to be stamped and signed by the VL. While there were not many referrals, health centers did collect these slips and showed them to the evaluation teams. The problem with the system is that they are not truly referral slips, but rather documentation validating that the community fund was used. Other women who were referred to the clinic but paid their own way (the vast majority of women) did not receive referral slips. The printed referral slips should be used for all referrals regardless of whether or not they were financially assisted to go to the health center. The purpose of the referral slip is to help promote and encourage good care-seeking behavior irrespective of ability to pay.

e. Policy and advocacy

In many respects, this project represented new methodologies and approaches for CRC, perhaps the most significant of which was the large number of volunteers it was required to recruit, train, manage, and support. As already mentioned, this program alone represented over 40% of all RCVs

in the country. For practical reasons, CRC was concerned about their capacity to manage and sustain these volunteers. Up until the final evaluation, they were inclined to reduce the number in each community. However, the key to a successful care group model is an effective volunteer to household ratio. While there were some outcomes that were not as strong as anticipated, there is little doubt that the methodology was instrumental in effecting broad-based change in care-seeking as well as breastfeeding practice. While they still have concerns, CRC recognized the relevance of the volunteer-to-household ratio and has committed to sustaining current volunteer levels at both the national headquarters and the Siem Reap Branch. If they can make it successful on their own, it could serve as a model for other Branches within the country. During the final evaluation debriefing, the CRC Secretary General noted that she plans to apply lessons learned from the ICH project, especially related to RCV motivation, incentives, and management to future programming.

From a national policy level, ARC has played an important role in facilitating the revision of the CP Policy for Health, which reached final draft in July of 2008. The evolution of community participation within the health care system has been a relatively recent and somewhat fragmented occurrence. Officially, the only recognized community health volunteer has been the VHSG. This system was established in the 1990s. Yet, numerous other volunteers that engage in health activities and are associated with NGOs or other line ministries also exist. Up until the current policy revision, there was no overarching recognition of health volunteers, definition of roles or support structures. ARC capitalized on the ICH program experience and applied to and was awarded a PVO Collaboration Grant through the CORE Group and USAID to assist the Government of Cambodia in reviewing and revising policy on community participation.

In 2007, a task force and secretariat were formed to guide the policy revision process. Numerous public and private stakeholders were engaged throughout the process. The new policy defines parameters for volunteers, establishes overarching structures and clarifies incentives for all health volunteers. Rather than being prescriptive, the new policy leaves it to the PHD to determine how best to use volunteers within the context of the parameters established under the CP Policy. Compared to previous policies, the revised policy significantly broadens the role of volunteers, including community case management, defines a local coordination and support structure, and dictates that all health volunteers should receive, among other incentives, free medical care. ARC was instrumental in moving this process forward and was able to use its own ICH project and its staff and resources as a base of experience and means by which to gather input and facilitate the process. (*For a more in-depth description of the process, see Annex 11*.) Particularly relevant is the fact that the revised CP Policy will formally institutionalize the RCV groups established and developed under the ICH project.

f. Contributions to scale-up

CRC will continue with its existing geographic coverage after the CSHGP grant ends. There are no plans at this time to scale-up the in other areas of the country. However, World Relief is operating a care group model in Cambodia as well, which has recently been scaled up to 14,000 volunteers with support from USAID/Phnom Penh. Collectively, the CRC and World Relief programs will provide an important base of experience that could influence national scale-up.

g. Equity

The revised CP Policy stipulates that each village will have one VHSG leader and all other health volunteers in the community as VHSG members. Traditionally, most volunteers tend to be men as they are more likely to be literate and have more influence in the cultural hierarchy of the village. However, given the nature of the ICH interventions, ARC strongly advocated that only women be recruited as volunteers under the ICH project. In addition, one third of the FOs hired were women. Interestingly, higher literacy and education levels among men led some people to argue that women would constrain the project and negatively affect quality. While literacy and education are certainly barriers in becoming effective agents of change, the importance and relevance of having all women RCVs and many women FOs outweighed the challenges. Having male volunteers talk to women about breastfeeding techniques, for example, would not have the same impact and would have likely bordered on being inappropriate. Female participation was a significant and important contribution of this project.

h. Sustainability

In March 2008, with sponsorship from the Voluntary Service Overseas organization, seven stakeholders in the ICH project traveled to Nepal to study what happens to project activities once external funding ends. Participants included the ARC Representative, CRC Siem Reap Branch Director and Health Directors, MoH's Angkor Chum OD Director and Deputy Director. The participants reviewed sustainability concepts, learned about successful strategies in Nepal used by child survival projects to sustain community health volunteers, and shared best practices and lessons learned. They witnessed and talked with volunteers who continue to support activities well after the project's donor funding ended. The experience was instrumental in changing the way key stakeholders thought about project cycles and sustainability. During that trip, participants identified five core interventions that they jointly agreed to continue after the end of the ICH project:

1) Community-based surveillance system;
2) RCV home visitation;
3) Community equity funds (see description below);
4) Community mobilization and support for health center outreach and campaigns;
5) Follow-up on LLINs.

CBSS and RCV Home Visitation:

In order to sustain the advances achieved as part of the ICH project, the CRC Siem Reap Branch hopes to continue CBSS and RCV home visitation supported through a revised management and supervision structure entailing sub-Branch divisions and an expanded partnership at the commune and health center level. Currently, there is one CRC Project Manager and 16 CRC FOs directly supporting program activities. The new structure will have a CRC Project Manager (referred to as the Special Health Development Officer) and three Follow-up Officers (one per administrative district) in place of the 16 FOs. These Follow-up Officers will also be supported by Sub-Branch Representatives (officially they are Deputy District Directors within the government that will also assume this role with the CRC). The Sub-Branch Representative positions have already been formally established.

The Project Manager will supervise the Follow-up Officers and will be responsible for overall coordination of the CRC with the OD. The role of Follow-up Officers will be to work more closely with the health center, CCs and RCVLs to follow-up with volunteer groups in the villages while also providing support as needed to ensure that established systems continue to function well. Following the CRC statutes, CCs Deputy Directors (the smallest government administrative structure, which covers approximately 6-10 villages) will also serve as the CRC Commune Group Leader with the defined responsibility of assisting with oversight and follow-up of RCVLs and RCVs. CCs (CC) already serve as the coordinating body for the Red Cross during emergencies.

At the time of writing this report, the CRC Siem Reap Branch Director, who initially proposed this strategy, had already organized the formal establishment and assignment of the CC RC Group Leaders through the Provincial Governor and had conducted one-day orientation workshops in each of the three districts. This structure builds on the pre-existing CC structure, the members of which are elected by the villages within their commune. Moreover, the CCs already have a role in community development and oversight, as well as an annual discretionary budget for commune development of approximately $8,000. As detailed in the revised CP Policy, CCs are encouraged to program budget resources from their annual budget for community health activities. The new structure is both thoughtful and practical and demonstrates a commitment on the part of CRC to ensure the project activities continue. The CRC Siem Reap Branch has shown leadership with setting up the CC RC Groups. Key responsibilities for these CC RC Group leaders should include monitoring and supportive supervision.

The Operational Health District has also agreed to assume responsibility for future technical training to RCVLs along with VHSGs. Again, it will be crucial to define exactly how this will take place, what costs are entailed and who will pay for it, and with what frequency this will take place.

Community Equity Funds:

In Nepal, the study group learned about the community volunteer endowment fund which is an authorized capital that can be added to but not be used. The interest generated from the endowment fund is deposited in a separate savings account and is used for the benefit and encouragement of the volunteers. Under the ICH project, community funds have been generated from the sale of DTKs and LLINs. Community equity funds exist in 204 of the 254 communities and, in total, amount to $7,216 (or ~$35/village). Originally, funds were to be used to support emergency transport for the poor, but they have been sparsely used in spite of the increase in care-seeking. As of the writing of this report, the CRC Siem Reap Branch has updated the guidelines for the use of these funds to include paying for transportation cost for the VHSG or RCVL to attend monthly health center meetings and buying snacks for the monthly village health meeting. Additionally, the updated guidelines encourage CC Red Cross Group leaders and village level RCV groups to plan activities to replenish the fund. The updated guidelines were distributed, reviewed and discussed during the one-day CC Red Cross Group orientation workshops. Additionally, a brainstorming session was held during each workshop to get participants to consider other strategies to replenish the fund. The OD Director has also expressed interest in contributing to the fund from his budget as a performance-based incentive to RCVs for referral of pregnant women for antenatal visits.

Community Mobilization & Health Center Outreach:

Health center directors, midwives, VHSGs, and OD and PHD Directors recognized the valuable contributions RCVs have made to improve care-seeking, and home care and outreach activities. Both CRC and MoH have an interest in seeing RCV activities continue. Both have committed to continue collaboration in this area.

Follow-up on LLINs:

It is not clear what follow-up will be done related to the LLINs. This was a one-time donation through ARC which will no longer be available. RCVs can and should follow-up to determine if the nets are being used, used appropriately and for the target group it was intended.

- **Sustainability Fund:** Key informants from the Nepal study group reported that the main costs associated with continuing volunteer activities are volunteer training and supportive supervision. CRC has proposed a staffing structure that includes four paid staff dedicated to project activities. ARC has dedicated internal funding in order to support follow-up programming over the next two to three years. However, additional sources of funding will be needed to complement what ARC has brought to the table and to ensure sustainability beyond that period. Also related to financial sustainability, ARC mobilized technical and financial resources from the US-based State Street bank to support the CRC Siem Reap Branch office in the development and establishment of Angkor Panorama, an income generating project. The CRC SR Branch now sells panoramic photographs, matted prints, and post cards of the ancient Khmer temples to tourists at 35 sales points, including the domestic and international departure terminals of the Siem Reap airport. Revenue from this activity will support the Cambodian Red Cross to implement its plan to continue key activities following the end of the USAID award. In September 2008, the monthly revenue from this activity surpassed $900. This is very promising, especially as September is outside of the tourist season (see following website: www.redcrossangkorpanorama.org).

D. MISSION COLLABORATION

Collaboration with the USAID/Phnom Penh Mission has been limited, but positive and beneficial. Initially the Mission was involved with review of the proposal and submitted comments to CSHGP. Dr. Hen Sokun Charya, the project's original USAID point of contact, participated in the Mid-Term Evaluation. She also visited the project to participate in the first LLIN donation ceremony, visited field activities and formally introduced Dr. Sek Sopheannarith as the new USAID mission point of contact for the project. USAID/Washington also visited the project during a mini-evaluation of the zinc introduction pilot activity (DTK). Mr. Jonathon Ross participated in the launching ceremony for the income-generating project described above. Dr. Sek Sopheannarith had regular email and phone contact with the ARC field project manager and shared relevant technical resources which have benefited the project.

The external evaluator, ARC and CRC representatives presented preliminary findings of the final evaluation to Dr. Sek Sopheannarith, Development Assistance Specialist, Mr. Ross, Health Team Leader, and Ms. Kate Crawford, Director of the Office of Public Health at the USAID Mission.

Afterwards, the evaluator met alone with Mission staff. Ms. Crawford expressed that the Mission has been generally impressed with the project and the linkage that ICH has tried to foster between the project activities and the health system. As with their other projects, they expressed concerns about sustainability but were encouraged by the Angkor Panorama project and its potential to provide continued support.

E. CONTEXTUAL FACTORS THAT INFLUENCED RESULTS

There were certain factors outside of the project management's control that may have bolstered or hindered results, including the following:

Decentralization of CRC: Just prior to the project's start-up, CRC began decentralizing authority to their Branch offices with regard to human resources, budgeting and planning. As the operational center for the ICH project was in Siem Reap, this decentralization process greatly helped facilitate decision-making by progressively reducing and eventually eliminating the need for lengthy review and authorization from Phnom Penh. Up until 2007, monthly funding request still needed review and authorization (six signatures at CRC/HQ) before funding was received. This process was eliminated, which significantly improved cash flow, thus reducing the administrative burden while facilitating smooth project implementation.

Strong leadership within OD: The Angkor Chum OD Director, Dr. Mak Sum Oeun, is an innovator and zealous advocate for improving maternal and child health. He provided cash incentives, through the OD budget, to every midwife who assisted a birth within the health center. He started enforcing the prohibition of delivery assistance by TBAs and insisted that health centers improve quality services by being on-call in evenings and weekends. He also took unprecedented action to crack down on counterfeit and partial drug vendors in the villages. Undoubtedly, his efforts have contributed to observed increases in use of health center services.

Late start of project and staggering of training: As already discussed, the three month delay in start–up, combined with the staggered training schedule, resulted in a late start-up of community-based activities and shortened the period of time for message dissemination. Given that, for example, nutrition promotion was just beginning in the project area when the final evaluation was beginning, there was no possible way for the KPC results to reflect the impact of that training.

F. MAJOR ACHIEVEMENTS, CONCLUSIONS AND RECOMMENDATIONS

After reviewing the preliminary KPC survey results and an extensive four-day field assessment in 32 communities, the field investigation team composed of ARC and CRC HQ & Siem Reap Branch staff, Angkor Chum OD, Siem Reap PHD and RACHA representatives and the external evaluator, derived the following conclusions and recommendations:

Major Achievements:

- An established volunteer network and community reporting system;
- Major behavior changes related to breastfeeding and care-seeking;
- The majority of RCVs take their responsibilities as a member of the CRC and auxiliary to the government seriously;
- RCVs are highly committed to continue serving their communities, the CRC, and the health centers;
- Ownership of project and RCV work is valued among all stakeholders and target groups;
- Well-established village health teams collaborating closely with health centers;
- Established community equity fund to support health needs within the community.

Conclusions:

- Generally, the level of volunteers who are considered active is believed to be around 80%. However, in some communities, it was as low as 50%. According to VL, VHSGs and RCVLs define "non-active" as being absent from the community, not visiting households, not attending meetings, or dropping out and not having been replaced.

- Most RCVs enjoy being a volunteer for three principle reasons:
    1. They want to help to improve the health of their community;
    2. They enjoy learning;
    3. It helps mothers save money.

- Almost all RCVs want to continue being RCVs after the project ends and believe they can continue to manage without assistance from their respective FO; they mentioned RCVL, VHSGs and VLs as their continuing support networks.

- RCVLs maintain community funds which range from 50,000-200,000 riel and are used for the purposes of emergency transport. In most cases, it has only been used once or twice in spite of the fact that community members are aware of its existence. The referral system is linked to the use of the funds – i.e. referrals made only for those who cannot afford transport and access the fund.

- Most VHSGs and VLs meet regularly with RCVG (once a month for VHSG and every 1 or 2 months for the VL). VHSGs collect CBSS forms from RCVLs. VLs sign off on referral slips. VLs are primarily there to encourage and support household visits.

- VHSGs see RCVs as a crucial link for transferring information between health centers and the community. Most are appreciative of the assistance provided by the RCVs.

- VHSGs say there is too much work for just them alone. All preferred to maintain or increase the number of volunteers.

- VHSGs and VLs believe that conducting house visits is a good approach to educating mothers as it is hard to get women together in large groups to disseminate health messages.

- VHSGs believe the biggest impact RCVs have had is on convincing women to go to health centers for prenatal and delivery visits, care-seeking for the sick child, and changing attitudes toward early and exclusive breastfeeding. This is also reflected in the KPC results.

- Most VHSGs and VLs are very willing to continue to work with RCVs and provide extra support to them as FOs phase out.

- There have been substantial increases in patient numbers between 2005 and 2008 due to a confluence of factors, including:
  - RCV health promotion;
  - presence of additional health center staff;
  - 24-hour service and weekend work;
  - monetary incentives for TBAs (5-10,000 riel, prohibition of TBA delivery);
  - mothers receive a LLIN for prenatal visits and baby clothes at delivery as an incentive to deliver at the health center; and
  - WFP food ration provided during prenatal visits (in communities where it has ceased – ANC visits dropped off slightly).

Recommendations (from entire Evaluation Team):

- CRC Siem Reap Branch will develop management structure at the Commune level (i.e. Red Cross Groups) to support management and supervision of the RCV network, including management and supervision training of volunteers.

- ARC/CRC-SR will develop supervisory and spot check tools to verify RCV activity and quality of home visits.

- All future trainings will be provided to VHSGs and RCVLs together with support from OD.

- OD and Health Centers will support training of RCVs and support involvement in monthly health center meetings and joint analysis of CBSS data.

- CRC-SR, Sub-Branches, and CC RC Groups will support the communities to facilitate replacement of non-active RCVs and strengthen recruitment practices.

- CRC-SR will seek to support volunteer levels that would allow each volunteer to cover 15 households rather than 20 – especially in remote areas.

- CRC-SR, OD and health centers will continue to strengthen RCVs/RCVLs/VHSGs/VLs as a team. As such, all incentives should be budgeted and planned to promote teamwork. Likewise, all VHSGs and VLs should participate in monthly RCV meetings.

- ARC/CRC-SR will strengthen CBSS data collection by development of forms that are filled out by RCVs during household visits and ensure better analysis of data at the household and community level. CRC-SR, Sub-Branches, CRC RC Groups, OD, and health centers will provide adequate training to RCVLs and VHSGs for them to train RCVs on the use of the form.

- Health centers should provide free medical care to RCVs. (This is also stipulated in the revised Community Participation Policy).

- CRC-SR, Sub-Branches, and CC RC Groups will provide RCVLs training on supportive supervision and RCVLs will be required to accompany each RCV on 1 home visit every 3 months.

- ARC, CRC Siem Reap Branch and OD will form a committee to develop a plan to grow the community fund.

- OD will designate a CBSS focal person.

Additional Recommendations by Evaluator:

- CBSS process should be revised so that RCVs have means to record household data during visit; RCVL form should include the number or percentage of target households the data represents.

- CRC, in collaboration with the MoH, should develop a quality assurance process to ensure RCVs are effectively communicating messages to mothers. This should include regularly scheduled observation visits and coaching by RCVLs and CRC staff. Recurrent problems should be addressed through refresher training. Moreover, the CBSS meeting time should be used as an opportunity to review topics. This was done informally but CRC should have it as a formal agenda item for the meeting. This would also reinforce RCVLs' coaching/training role.

- The referral systems should be reorganized such that all sick mothers or children receive referral slips by community health agents as opposed to only those who cannot afford to pay for transport. Health centers should prioritize referral cases.

- ARC/CRC should reflect upon the initial challenges of partnership during the start-up of the project and identify strategies that may help to avoid these challenges in the future.