

EVALUATION

Rural water supply for ethnic minorities in Ratanakiri Province. CAMBODIA

(Districts Tae Veng, Andong Meas and Vuen Sai)

Project periode 1st of January 2006 to 30th of January 2007

Evaluation period: 20.11.06 – 20.01.07

**Project
Financed by:**



**Project:
implemented by:**

GERMAN
AGRO
ACTION



1 Summary of main results

1.1 Short project description

The evaluated project (KHM-1014, its predecessor was KHM-1007) supported indigenous hill-tribe communities in Ratanakiri province in the northeast of Cambodia. The beneficiaries 15,675 people (see also 1.5), are living in 46 villages spread over three districts and comprise of seven different ethnic groups (see chapter 1.3).

The reason for the intervention was a general deterioration of the livelihood of the target population caused by environmental degradation (Deforestation, Yali dam in Vietnam, reduced access to the virgin forest) and most of all by the present harsh government policy. This policy is encouraging migration of low land Khmer and entrepreneurs to the area. This resulted, in confiscation of land, illegal logging and consequently endangering the traditional live of the target group driving them from their land and original villages.

The objective of the intervention was to improve the health status of the hill-tribe population with special focus on reduction of the infant mortality and under-five-mortality rate. In order to do this, 15 dug wells equipped with hand pumps were constructed, 1,100 ceramic water filters (to purify raw water) distributed and water user committees established. As the “software component”, a hygiene promotion campaign targeted the improvement of people’s awareness concerning health and hygiene issues, handling of drinking water and paved the way for a future sanitation intervention.

The original duration of 10 month had to be extended to 13 month because of late signature of contract and an atypical long rainy season reducing implementation time. As a result, the original project sum of 278,000 Euro had to be increased to 320,000 Euro.

1.2 Project holder analysis – DWHH/GAA

The project was implemented directly by Deutsche Welthungerhilfe (DWHH)/German Agro Action (GAA) and its personnel, and not through a local partner NGO in Cambodia. DWHH/GAA’s due to its short history in the country did not avail of a reliable partner who could be entrusted with the implementation of an ECHO project.

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The project office was located in Ban Lung/Ratanakiri province, and provided sufficient space for personnel, storage of material and vehicles.

The project staff (general project management, administration, water and hygiene promotion expertise) was sufficiently qualified in order to carry out the works professionally. The total number of 42 was sufficient to implement the activities.

Transport was quite restricted to one four-wheel-drive vehicle and nine motorbikes. Considering especially the difficulties during the rainy season, an additional vehicle might have eased transport and work. The efforts within the first project (KHM-1007 which was followed by project KHM-1014 which was evaluated), in which the project management had to train and prepare most of the project staff for their different tasks, deserves special credit.

To conclude, DWHH/GAA in Ban Lung represented a capable, experienced and professional project implementation agency.

1.3 Analysis of situation of the target group

The projects beneficiaries are almost entirely from the Khmer Leu (highlander) ethnic group (with few exceptions of Lao/Chinese), one of the "hill tribes" in Cambodia. The Khmer Leu are found mainly in the northeastern provinces of **Ratanakiri**, in Stung Treng, Mondulakiri, and Kratie. The Khmer Leu hold traditional indigenous beliefs and practice shifting cultivation through slash and burn in the forest.

Although often referred to as an ethnic minority (being less than 1 % of the overall population of Cambodia), they are the distinct majority in Ratanakiri (75 % of the population). In Ratanakiri there are three major hill-tribe groups: Tampuan (24 % of the total population), Jarai (19 %) and Kreung (18 %), and four minor hill-tribe groups: Brau (8 %), Kachok (4 %), Kavet (2 %) and Lun (0.5 %).

Marginalised by physical remoteness, language and cultural barriers, the Khmer Leu have little access to services or essential information. Studies indicate that 98 percent of the indigenous population are not functionally literate in Khmer (official language of Cambodia).

Indigenous people in Ratanakiri are facing degradation of natural resources, diminishing food production, rapid deforestation, internal migration and land loss/confiscation. The Yali Fall Dam in Vietnam, which went into operation 1996, has severely interrupted the livelihood of the people living along the Se San River. The latest of these disquieting developments in the area is the signing of a contract between a conglomerate of BHP Billiton/Mitsubishi and the Royal Government of Cambodia¹. The agreement allows the two companies to explore for bauxite, which is used to make alumina, across the Ratanakiri/Mondulakiri region in eastern Cambodia. It must be certainly assumed that this will further damage the living environment of the hill tribes in the two provinces.

The Ratanakiri Health Situation Analysis 2001, conducted for Health Unlimited, found that indigenous peoples of Ratanakiri have significantly poorer health status than other Cambodians, with child morbidity and mortality being the highest in Cambodia (Hardy, 2001). One of the reasons is the poor coverage with respect to safe water supply (10%) and sanitation (5%), and the fact that health stations are very limited.

1.4 Analysis and assessment of project preparation

The project preparation (in this respect the predecessor project KHM-1007 is relevant) was quite thorough and with a period of three months² extensive as well. An experienced professional in rural water supply carried out the preparatory mission and subsequently wrote the proposal submitted to ECHO. The reason for this rather long mission was to assess the situation of the target community and frame conditions

¹ <http://au.biz.yahoo.com/061011/19/xbw0.html>.

² Standard preparatory mission in order to prepare ECHO projects would be around 6 weeks.

concerning implementation as carefully as possible in order to avoid changes during implementation. In addition, the assessment mission also had to establish a general presence of DWHH / GAA office in the country as activities were previously managed from the DWHH / GAA office in Laos. Otherwise, a mission of two month should be sufficient to prepare an ECHO proposal. The intention to avoid changes during implementation afterwards proved not to be feasible because of the bad performance of the contractor. Nevertheless, the project reacted quickly and professionally and set up own DWHH/GAA implementation teams supported by private well teams. In general, assessment and project preparation were thorough, albeit quite long in terms of time requirements.

The project is relevant in the sense of the definition, and the coverage is good and proof of the attempt to distribute the benefits of the project as broadly as possible. In total 71 (96 %³) out of 75 villages in the three project districts (Vuen Sai, Andoung Meas, Ta Vaeng) benefited through the provision of dug wells, hygiene promotion and the distribution of ceramic water filter. Filters were distributed in 49 villages and wells constructed in 42 villages (some villages received both, resulting in 71 villages in total). Even though the authorities and beneficiaries interviewed indicated that addressing other problems than “water supply” would have been more important, safe drinking water and access to water was and is definitely a key problem⁴. Quite a number of the communities, said the interviewees, would have put access to clean water as their first or second priority.

1.5 Analysis and assessment of planning / project planning matrix

Project planning reflects the thoroughness of project preparation.

Through the distribution of 1,100 water filters, construction of 15 dug wells, set up of 35 water committees and carrying out a hygiene promotion campaign, *hill tribe communities will have improved access to safe drinking water.*

As a result, the health status of the target population will improve.

The intervention logic is credible, and there is a very high probability that both specific and principal objectives will be achieved via implementation of the results. The special design of the wells, actually provided the basis for the production of “hygienically safe water⁵” and thus contributes to the reduction of infant and child mortality rate.

The development of indicators was suitable. The result indicators included mostly quantitative aspects but also mention water quality (result 1) which is important in order to reduce water-borne diseases. The indicator for the specific objective was somewhat unclear as it specifies coverage figures (60 % of the target population) as being an indicator for success. It would have been better to use 100 % coverage with subsequent adjustment of numbers of beneficiaries.

The small percentage of funds used directly for the beneficiaries attracts attention. In total only 50,000 Euro of the overall budget of 278,000 (or even 320,000 after a budget amendment) were spent, representing only 16 % of the total funds. On the other hand the project was very effective and produced good quality of hardware and software. Therefore, cost-effectiveness is rated as good. Nevertheless, this aspect should be further analysed and future projects should attempt to produce better percentages in this respect.

³ There must be an error in the provincial map. It is not likely that DWHH/GAA has literally worked in all the villages of the district.

⁴ A number of communities named access roads and schools as their key interest. It was, however, difficult to judge whether this happened because the problem of water has been solved by the new well.

⁵ In contrast to the provision of access to an “improved source”, this [what?] does not necessarily mean access to safe water.

Finally, the actual numbers of direct beneficiaries are approx. 28 % less (11,300 against 15,675) than described in the ECHO proposal. This can be led back to the fact that a figure of 7.4 person/household was used and not the correct one, which is 5.4 person/household.

1.6 Analysis and assessment of the implementation

The project will achieve the results and in parts even exceed them. Sixteen wells will have been constructed, 1050 ceramic water filter distributed, 46 village water-user-group trained. A hygiene promotion campaign based on the PHAST methodology will have been carried out for 46 communities by the end of January 2007.

The implementation of the different project activities (hygiene promotion, distribution of ceramic water filters, construction of dug wells including stand posts) was characterized by the commitment to quality. This is one of the most prominent features of the project, be it the training of the community workers carrying out the hygiene promotion, the development of ICE material, the quality of the concrete, the installation of pipe work and hand pump – or even the cleanliness of the stand posts in the villages. Everywhere one could experience this “determination not to compromise on quality” and deliver good results.

DWHH/GAA’s design of the water points (water extraction and delivery points separated) is unique in Cambodia. None of the other actors involved in rural water supply has constructed similar water points. In this respect, it would be important to start a dialogue with the Ministry of Rural Development and main actors in the water sector to promote this design and get governmental support. The same would be recommended for the hygiene promotion using the PHAST (Participatory Hygiene and Sanitation Transformation) methodology because the currently promoted model is (Community Led Total Sanitation) CLTS. The costs for the single ceramic water filter (CWF) is quite high (12 Euro); here, potential future models should be discussed with other actors in the water sector to find a economic model.

The method of implementation was adequate, and actually through using local well digging teams trained by DWHH/GAA, the knowledge of well construction was “somehow” transferred into the districts. Whether this knowledge will be sustainable will depend on whether the teams will continue to construct wells and convey this expertise to more people in the district.

1.7 Analysis of effectiveness and efficiency

The effectiveness of the project was very good were the project covered. Problematic for effectiveness within the concept were villages which received a well “only” even though ceramic water filters would be the basis for access to safe drinking water as families spent up to 6 months not in the village but at their *chamkars*. During this time, access to safe water is not possible without filter. The project however realised this at an early stage and number of “wells-only” villages were reduced from 19 to three between the projects KHM-1007 to KHM-1014.

The project used its resources efficiently to work towards the planned results. Important aspects were good day-to-day management, overcoming logistical problems because of extremely difficult access and limited transport capacities.

1.8 Analysis of the project management

The main monitoring tool was a meeting between the project management and the community workers, which were regularly held every Friday. The community workers (CW) would meet in the office of DWHH/GAA in Ban Lung to report on any activities, events, or actions, which have taken place in the villages and were important for the project. In order to document this, a special form sheet was used. This village report

sheet was an important tool to monitor the situation in the villages and the project as a whole.

Work progress was monitored by the project management through a “simple but sufficient” work plan in the office, which showed the various work steps for dug-well construction and the level of completion for each village (see Annex 6). A similar work plan was used for the hygiene promotion.

The project has collected a vast amount of data quite comprehensively and thoroughly which is not usual in the context of an (European Commission Humanitarian Office) ECHO project. In order to produce initial data (the baseline) and to assess the situation in the project villages, a “General Questionnaire” was developed. Data was collected in each village. To prepare and accompany the hygiene promotion campaign, a “Hygiene promotion baseline survey sheet” was designed. To monitor the use and impact of the water filter, a so-called “Filter follow-up sheet” was used.

The movement of material and equipment was controlled through the standard DWHH/GAA stock-card systems, which controlled incoming and outgoing goods from Ban Lung to the different project villages and between the project villages.

The management including management system applied was good and adequate.

1.9 Impact with regard to development objectives

The impact of the project received special attention by the evaluation, and the methodology applied used parts of the MAPP (Method of Impact Assessment of Programs and Projects) concept by discussing trends concerning important aspects of village life (food, income, health, education) during recent years (see Annex 3 and 6).

Nutrition

The food availability in the villages became generally worse over the last years which is mainly a consequence of the Yali dam in Vietnam (damaging fishery and making people afraid of the river), changing weather conditions and the establishment of a national park (restricting access to the forest). As a result, people wished for support in the agricultural sector (rice-harvesting machines, tilling capacity). Concerning the food availability, the project had little impact despite contributing to the taste of food because of better water. Some villages reported that availability of more cash helped them to buy more food (two out of 15 villages).

Income

Income has actually improved in many villages as a result of better access to daily labour (which is an outcome of increased business facilitated by lowland Khmer migrating into the area), better marketing conditions for livestock, and support of NGOs (access roads). The project caused a slight improvement in this respect through reducing the rate of diseases. This resulted in return in reduced expenditure for medicine and more time available to work in the *chamkars*.

Health

All villages interviewed reported an improved health situation because of the new wells constructed by DWHH/GAA. In some villages, better income, new health centres, and access roads making travelling to health centres easier additionally improved the overall health situation. The project had its major impact concerning the improvement of health. People actually did not report an improved health situation because of the hygiene promotion. This can be explained by the fact that a causal connection between reduction of diseases and hygiene promotion is difficult to prove. Distribution of water filters in return reportedly had a major impact on people's health, especially at the *chamkars*.

Education

Education is one of the most problematic sectors in the tribal areas of Ratanakiri. In many villages, there are no possibilities for parents to provide any education for their children. As a result, schools are one of the top priorities in the villages. In a number of cases, the village would have preferred a school to a well.

In summary, it can be said that the impact as perceived by the beneficiaries was remarkable based on to the discussions in the 15 villages. All the communities interviewed had been visibly "proud of their well" and thought it extremely useful. They expressed their satisfaction that an organisation (DWHH/GAA) had kept its promise (compared to others which did not) and were visibly happy that their effort had been rewarded – a well producing clean water exists in the middle of the village.

Most of the villagers reported that incidences of water-borne diseases were significantly⁶ reduced and also that the diarrhoea rate increased immediately when they used an unsafe source.

Impacts of the well construction and hygiene promotion gained through analysing the structured interviews in the villages were:

- Reduction in diarrhoea, itching of skin, reduced stomach pain
- Easier collection of water (slippery slope down to the river)

⁶ Sometimes the evaluator had the impression that the reduction was theoretically expected as a result of the hygiene promotion. No wonder that in theory it really happened afterwards.

- Reduction of workload for women and girls because reduced time for water collection and boiling of water not necessary anymore
- Saving of money as a result of reduced expenditure for medicine
- More time to work on the *chamkars* because reduced number of diseases
- Taste of the water and food is actually better (“food tastes delicious”)
- Hygiene promotion informed people about viruses

Sometimes the evaluator had the impression that people only repeated what they have “learned” in the hygiene promotion sessions and actually did not report the real facts.

1.10 Recommendation

Recommendation for future projects in the sector

- Analyse the vast amount of data collected concerning health and hygiene, filters and wells, as well as water quality methodically for future planning of projects in the area⁷. (Chapter 2.5)
- Further intensification of the contact⁸ and cooperation with the MRD in order to work towards quality standards and even include the DWHH/GAA design as one possible standard. (Chapter 6.1.3 and chapter 5.1)
- The utilisation of the plastic bucket as water storage at the water points should be re-assessed and a possible design change envisaged (tiled or mortar). (Chapter 6.1.4)
- The utilisation of a hose connected to the taps should also be re-assessed for hygiene considerations, as there might be breeding ground for bacteria. (Chapter 6.1.4)
- Queuing time should be considered when designing number of supply points needed in one village. (Chapter 6.1.4 and Annex 6)
- The Water quality department needs further training in order to understand the concept of water quality monitoring, analyse the data and prepare statistics for each village separately. Thus, trends in water quality in each village can be detected. (Chapter 6.1.7)

Recommendation for DWHH/GAA – Cambodia

- A technology check on appropriateness and sustainability should be made before new wells are built within the new food security project. Within this check it should be analysed whether the new rope pump manufactured in Cambodia would be a feasible alternative to the AFRIDEV. (Chapter 7..3.1)
- Use the experiences made, techniques and material developed of the present health and hygiene campaign of DWHH/GAA for water and sanitation projects of DWHH/GAA in other countries (e. g. new BMZ/ECHO project in Myanmar). (Chapter 6.1.1 and 6.1.2)
- Coordination with the MRDs, which are presently drawing up a national standard for the provision of safe drinking water in the rural areas, is also

⁷ To this end, the project has already sent three of its staff on an ACCESS training course.

⁸ A presentation of the project in the water and sanitation working group is planned in January 2007.

highly recommended in order to get a “voice” within this process and further introduce the DWHH/GAA design. (Chapter 5.1 and 6.3.1)

- The continued engagement in the field of water and sanitation (health) in Cambodia is recommended because of the need in this sector. (Chapter 3.5.1 and 3.5.2)
- Include anthropological expertise in the new food security project to address special issues concerning tribal societies (especially for the saving schemes). (Chapter 3.4).

Recommendation for DWHH/GAA – head office

- Discussion with ECHO in Brussels on the “impracticability” of numbers of beneficiaries reached as an indicator for water projects. (Chapter 5.2)
- The DWHH/GAA management should consider to give the green light for starting project activities to the country team earlier (basically at the moment when a clear sign comes from ECHO that the project will be funded and remaining issues are focusing on formalities only). (Chapter 6.2.1)

1.11 General conclusions

The project KHM-1014 is in summary exceptionally good when analysed within the expectations of an emergency project. In certain parts, it could even serve as a showcase. Extremely good were relevance, effectiveness and quality of both the constructed dug wells and the hygiene promotion campaign. The impact was impressive and the people in the villages were very satisfied with the services provided to them. The project has achieved its purpose within the requirements of an ECHO project.

When assessing the project against long-term effects, some critical aspects emerge like the sustainability of the AFRIDEV hand as a result of the difficult situation concerning spare parts and against the socio-cultural background of the target group. For feasibility reasons, alternative options should be analysed (rope pump, conventional dug well in combination with ceramic water filter (CWF) etc. In addition, full coverage of villages with CWF should be binding, using a model, which is easier affordable for the people.