

THE ASIAN CENTER OF INTERNATIONAL PARASITE CONTROL (ACIPAC): FIVE YEARS OF ACHIEVEMENT

IV. ACTIVITIES IN PARTNER COUNTRIES (CAMBODIA, LAO PDR, MYANMAR AND VIETNAM): SMALL SCALE PILOT PROJECT (SSPP) AND OTHER IMPACTS

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MAKING THE MODEL SCHOOLS

Small-scale pilot projects were carried out in each of CLMV countries by ex-trainees of the ACIPAC International Training Course, based on the proposal that was made during the first training course in 2001. This project was planned in order to provide these participants with the capacity to acquire further experience and management skills for the planning and implementation of parasite control activities. After the ex-trainees of the four countries conducted their baseline surveys, the projects then started to support two or three schools each, using a maximum of US\$ 10,000 per year. The health sector provided support to the schools, such as de-worming and health check-ups. Health education was strengthened as an important activity in this approach. The provision of clean water and latrines was also considered in each country. It was found that there was a decrease in the prevalence of soil-transmitted diseases, a gain of the knowledge about how to prevent parasitic infections, and behavior change concerning personal hygiene among the targeted children.

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Cambodia

Two schools in Rattanakmodul District, Battambang Province, which is located in the northwest of Cambodia, were selected as model schools (Fig 1). In 2002, selective treatment, that is, treatment only after a positive stool examination, was undertaken twice a year. After 2003, 'blanket' treatment was done twice a year. In November, all schoolchildren were examined for soil-transmitted helminthes (STH) infection using microscopic stool examinations. Health education was provided as a short lecture, about parasite control and personal hygiene in the morning, using a poster. Radio programs in model schools were broadcast weekly to pass on health messages to the pupils. Moreover, the child-to-child approach was adopted as extra curricular activities for effective health education, such as making a model child. After the measures described above, as Table 1 demonstrates, there was a decrease in the prevalence of soil-transmitted helminthes, from 45.3 % in 2002 to 14.6% in 2003. The low positive rate was sustained through to 2004 (14.0%).

A questionnaire survey, to assess knowledge about STH and malaria among pupils, was also conducted before and after implementation of the project. The knowledge about the causes and means for prevention for malaria and STH infection among schoolchildren markedly im-

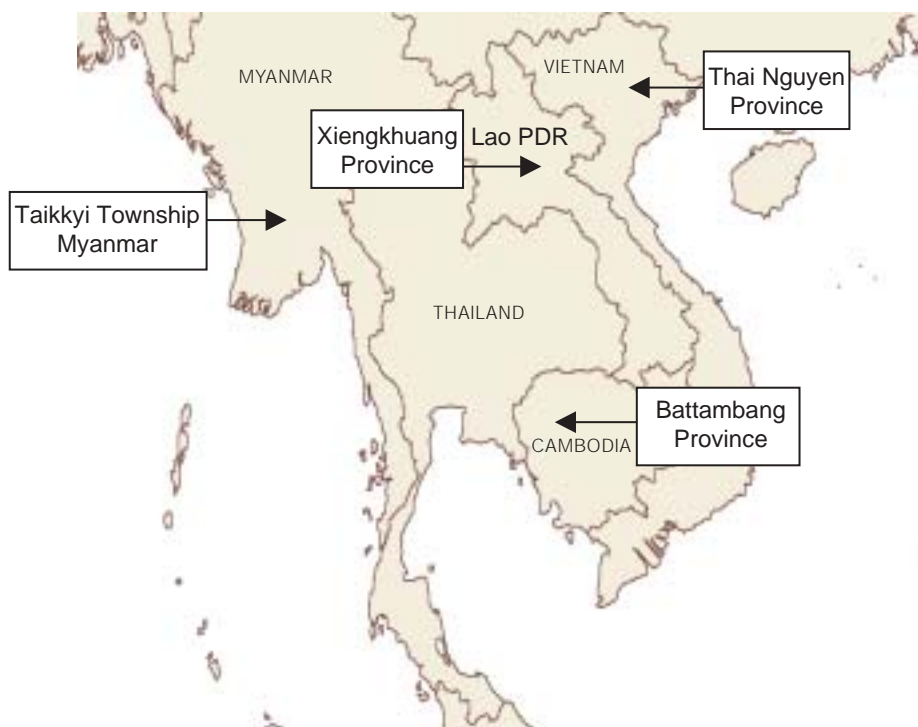


Fig 1—Small scale pilot project sites in CLMV.

proved in the model schools (Tables 2, 3). Moreover, not only was there an improvement knowledge, but also behavior changed among schoolchildren, as was confirmed in 2004 (Table 4). Therefore, several behavior change communication (BCC) approaches, such as a model child, seemed to effectively change behavior among the children.

Lao PDR

Pek District in Xiengkhuang Province was selected for implementation of the SSPP in Lao PDR (Fig 1). Three schools were selected as model schools. Selective treatment was carried out after microscopic examination of the schoolchildren. Teachers transferred knowledge about how to prevent STH through lectures. An action-learning approach was also used on good practices to prevent STH. For example, this approach was used to promote hand washing after playing on the schools' grounds and to play the game concerning prevention of STH. Parasite rates among children were markedly reduced, from 79% in December 2002 to 39% in May 2003

(Fig 2). Following this program, the positive rate for intestinal parasites was sustained at less than 50%. The decrease in intensity of hookworm infection was also confirmed following implementation (Fig 3).

A KAP study was carried out before and after implementation; however, it was only reported after implementation, in March 2003. More than 80% of schoolchildren answered correctly on knowledge about how to prevent STH infection. More than 90% of the students demonstrated behavior related to their own personal hygiene, such as nail cutting and washing hands.

Myanmar

A total of four schools was selected as model schools in Taikyki Township, Yangon North District, Yangon Division. A baseline survey was conducted in December 2002. STH infection was confirmed in 65.7% of schoolchildren in these four schools. Implementation of the project started from 2004 because political factors created delays in the progress of the project. Regular health education was conducted once a week

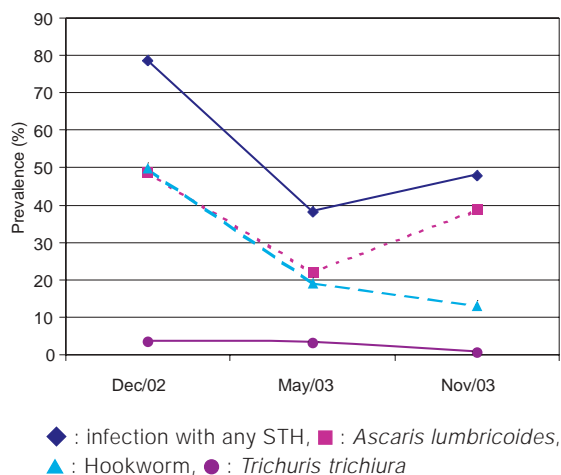


Fig 2–The prevalence of STH infections among schoolchildren in the model schools, where SSPP was operated in Lao PDR (2002- 2003).

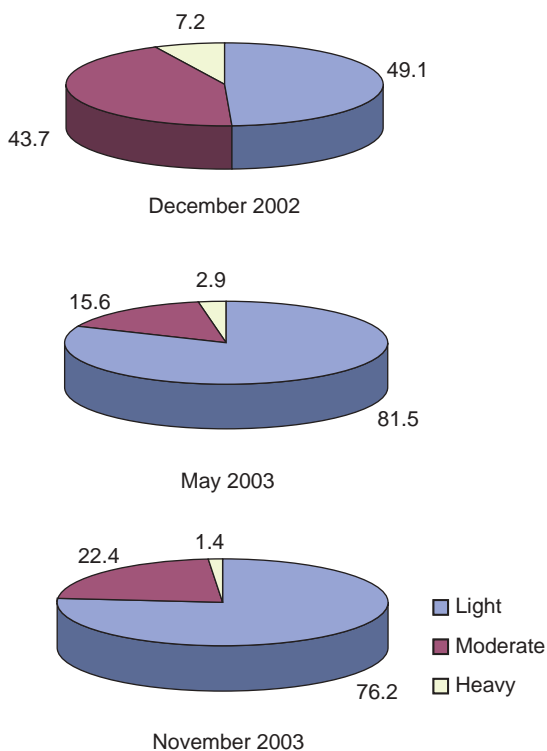


Fig 3–The intensity of hookworm infection among schoolchildren in the model schools, Lao PDR.

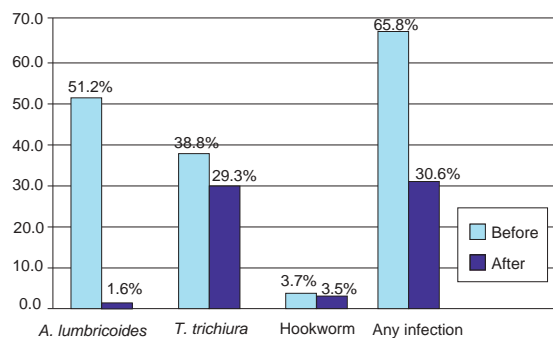


Fig 4–Comparison of the prevalence of STH infections before (December 2002) and after (October 2004) implementation of the project in the four model schools in Myanmar SSPP.

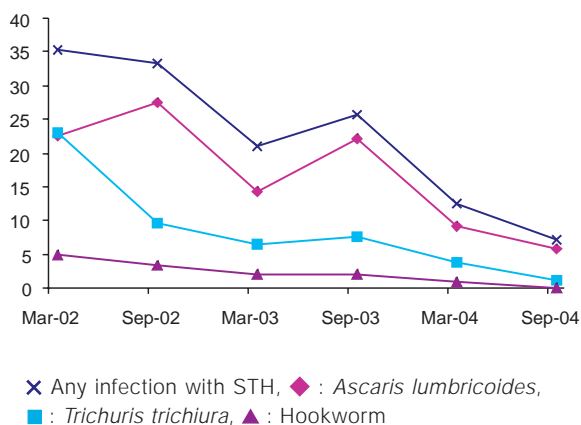


Fig 5–The prevalence of soil-transmitted helminthes among schoolchildren in periods of project.

in the Life Skills curriculum. A one-hour session was conducted for additional health education on STH infection in the model schools. Mass treatment was conducted in the four schools with a deworming campaign for all the schools in the township that was supported by WHO. After implementation, the positive rate of STH in four schools decreased to 30.6% (Fig 4).

Vietnam

Dong Hy District, Thai Nguyen Province was selected to implement the SSPP in Vietnam. Mass treatment was conducted twice a year, from 2002, after implementation of the baseline

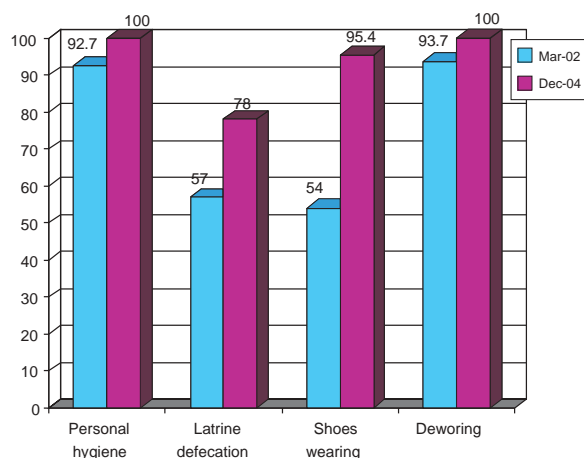


Fig 6—Comparison of the percentage of schoolchildren who can answer correctly how to protect STH infection, before and after implementation in SSPP, Vietnam.

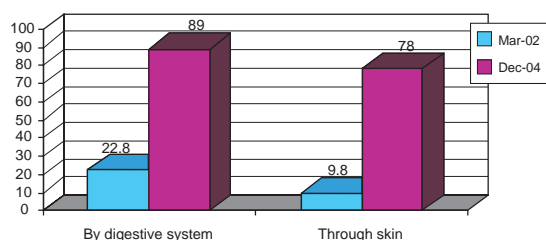


Fig 7—Comparing the percentage of schoolchildren who can answer correctly how intestinal worms can enter to the body.

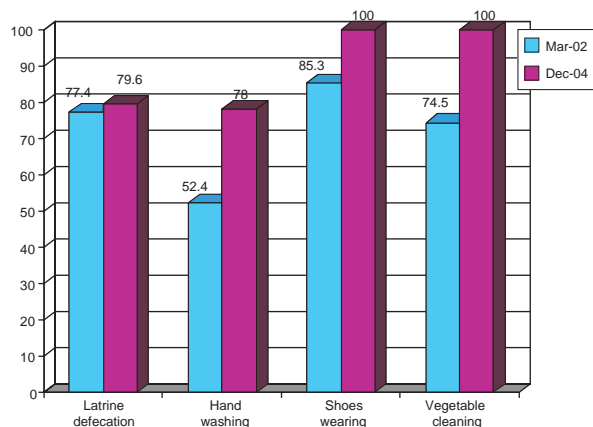


Fig 8—Comparison of the percentage of schoolchildren who had good practices before and after operation of the project.

survey. Health education about STH prevention was conducted once a month as one topic of health education in the curriculum. In 2004, health education for STH infection was conducted two times, when there was a health promotion campaign in the model schools. Teachers in model schools used participatory learning methods in the health education. Playing games, telling stories, and role play in school health was conducted by the children with guidance from their teachers (Photo 1). The prevalence of STH among schoolchildren decreased from more than 35% in March 2002 to less than 10% in September 2004 (Fig 5). Knowledge about STH infection and how to protect against infection, markedly improved after implementation of the project (Figs 6 and 7). The rate of the children who are able to demonstrate good practices related to the prevention of STH also increased, according to the KAP study conducted in these model schools (Fig 8).

HUMAN RESOURCE DEVELOPMENT IN SSPP

Before introducing the project to the model area, human resource development in SSPP was conducted at provincial, district, and school levels. Decentralization was one of the more important topics for the expansion of the target schools when the feasibility and the cost-effectiveness were considered. This is because the central staff could not supervise all schools in the provinces directly; moreover, transportation and accommodation fees for central staff were generally higher than for local staff. Follow-up training was conducted in SSPP in the four countries. The training was generally effective to sustain the program. However, continuing training could not be carried out without additional funding. In the Myanmar SSPP, the STH topic has been conducted as one of the components in the existing school health training for teachers. It was recommended that the use of the existing training courses could be considered when an additional topic would be introduced. However, these activities were not found in that SSPP.

Cambodia

Teacher training was conducted twice for

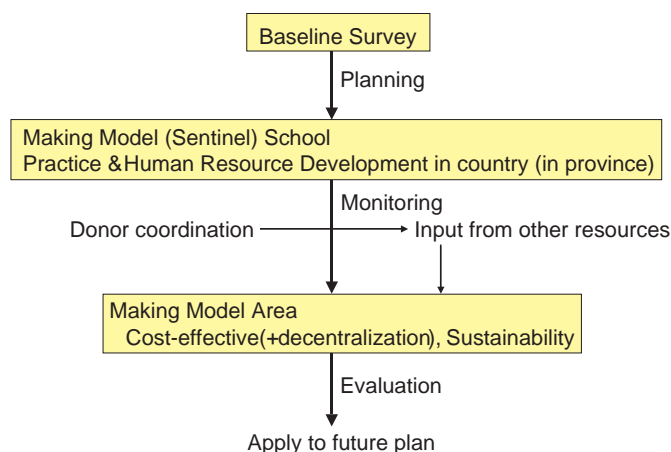


Fig 9–The basic strategy of SSPP, which was modified in 2003.

this SSPP. A total of 42 teachers were trained in two model schools. In one of model schools, an additional training for teachers of other schools in the same school cluster was undertaken using the experience of the model schools. Photo 2 illustrates the teacher training approach to transfer the experiences from teachers in a model school to the teachers in the other schools. The staff of a health center were also trained to monitor and supervise school health activities. Laboratory training was also conducted to monitor parasite infection among children.

Lao PDR

A total of 115 teachers were trained in topics related to malaria and STH in this SSPP. A training course for microscopic diagnosis for STH was conducted for a total of 10 staff, including provincial hospital laboratory staff, provincial malaria staff, and district malaria staff. Thai experts also supported the training course by giving lectures about practical microscope maintenance under the field conditions (Photo 3).

Myanmar

A total of 39 teachers were trained for topics related to malaria and STH in this SSPP. The School Health Division, Ministry of Health, organized a one-day training for 13 health personnel on management of school health.

Vietnam

Teacher training was conducted twice in this

SSPP. A total of 45 teachers were trained in two model schools with a focus on health education technology, using IEC materials, as illustrated in Photo 4, that were developed during the project. Participatory learning methods were also used during this training course (Photo 5). In 2004, 53 teachers in expanded schools as well as health workers were trained using the experience gained from the model schools. Six laboratory technicians were also trained at the provincial level, under the supervision of central staff.

EXPANDING TO OTHER SCHOOLS WITHIN THE MODEL AREAS

Small-scale pilot projects were initiated as practical training for the field in each country situation; however, after one year of project implementation, the strategy of SSPP was modified after consideration concerning how the model could be generally applied in the future at the national level. Fig 9 illustrates the basic strategy of SSPP as it was accordingly modified in 2003. Using the experiences such as human resource development, material development, the organization of committees at several levels, and so forth, the projects will be expanded to the other schools located near the model schools after consideration of a cost-effective strategy and a fund-raising plan.

The following guidelines, as examples of a cost-effective strategy with a fund raising plan, were explained to the project managers in the partner countries during several occasions, such as a regional workshop, mobile supervision to partner countries, and the international training courses in 2003 and 2004.

- Guidelines for a cost-effective strategy
 - To avoid overlapping the target area among the project
 - To avoid overlapping the activities among the project
 - Decentralization to supervise and monitoring of project
 - Using the existing materials, meeting and training
 - Simple monitoring system
 - Campaign

- Social marketing
- Guidelines for a fund-raising plan
- Revolving fund
- Community participation
- Involving the private sector using the campaign
 - Guidelines for expansion of projects
 - Prioritization

Cambodia

Ten schools in two school clusters were covered in 2004 in the SSPP. Teacher training to expand the project to other schools was held in the model school because that was a core school for the SSPP. A core school in school cluster in Cambodia serves to supervise the other schools within that cluster. The experiences of the model school could be applied to other. The school cluster system was established nationwide in Cambodia; however, the function of a cluster was not always well managed in some areas. The SSPP in Cambodia was a good example of the use of the school cluster system. On the other hand, the cluster system was strengthened by the implementation of the SSPP. After the teacher training, the schools conducted, not only health education, but also used the child-to-child approach. For example, a model child, who was selected from among the schoolchildren, led school health activities as a health messenger (Photo 6).

Decentralization was considered after the second year of the project. Monitoring and supervision from central level was reduced, and the provincial supervisors strengthened the monitoring system from the provincial level. Linkage between health sector and education sector was strengthened not only at the central level, but also at provincial and district levels as well. A provincial supervisor would coordinate among the partners to avoid overlapping of support. Linkages between the schools and the communities was strengthened through the exchange of information between NGOs and SSPP supervisors.

Lao PDR

Community participation was well organized in the Lao SSPP. Table 5 illustrates the contribu-

tion of the community in the construction of latrines and safe water supply for the model schools (Photo 7). Water sanitation was an important issue for school health; however, providing the latrines and safe water supply was not carried out in the majority of the schools in the region, because of the high cost compared to other activities. The promotion of community participation in Lao PDR was a good experience. The Lao SSPP was expanded to another six schools in the cluster with the promotion of community participation. There was not only a community leader, but also the parents of the pupils were involved in planning and implementing the school health activities in the schools.

The central supervisor tried to coordinate the partners. IEC materials, which were developed under the support from World Health Organization (WHO), were applied to the SSPP with original materials of the project. The results of the field trial of IEC materials were fed back to the central level to improve the IEC materials.

The pilot project in Lao PDR was expanded to the other province according to the proposal that was developed by the participants of the 3rd ACIPAC international training course. The expanded project in Vientiane Province was planned after consideration of the feasibility in the situation of Lao PDR. The revolving fund for de-worming was managed by the District Educational Office for the implementation of further activities. This trial was also evaluated in the pilot project supported by WHO. More than 60% of the parents of the pupils paid 1,000 Kip (US\$ 0.1) to a fund that provided pupils tablets for de-worming. An integrated approach with other infectious disease control measures was also involved in the project. Dengue hemorrhagic fever was serious public health problem in the area where the project was conducted. In the classroom, this topic was also included in health education process where teachers also provided information on the basic topics of school health, such as general hygiene and STH. The participatory learning action approach, including activities from the schools to the communities, was also carried out to promote infectious disease control in the communities using schoolchildren as health messengers. In Thailand, this trial was

already nationwide under the supervision of the government; however, the SSPP in Vientiane Province was the first trial of this kind in the Lao PDR.

Myanmar

The SSPP in Myanmar was expanded to an additional nine schools (Photo 8). In the expanded schools, health examinations, treatment, and health education was also strengthened as a national school health program. The supervisors of the project tried to coordinate other resources with the same schools and areas. They promoted the construction or repairing of water sanitation facilities in the schools using other resources such as communities, the educational sector and the local authorities. The de-worming program was expanded to the all 286 schools in the whole township and supported by WHO.

Myanmar has established its school health system from 1980 based on the health promoting school concept. The support from donors has been applied to strengthening the existing system to sustain its own programs. The school health division has also encouraged township school health officers to carry out the program by themselves. One of participants of the 4th ACIPAC international training course planned and implemented her own program of the school health in Tyaing Tong Township, Shan State (Photo 9), after she attended the training course. She developed a proposal according to the guidance of the training course without any expectation of financial support from the ACIPAC project or other donors. The strategy of the plan involved several cost-effective strategies and fund-raising plans, such as the involvement of the private sector. The proposal was approved by the central ministry and implementation started at the beginning of 2005.

Vietnam

The project in Vietnam was expanded to a total of 25 schools in the last year. De-worming and health education related with STH were selected as priority activities to expand to other schools.

The Vietnamese supervisors conducted other strategies to expand the general hygiene to the area around the model schools. They de-

velop radio programs related to general hygiene using topics about STH. Promoting health by using the mass media is one cost-effective strategy in health promotion. The Vietnamese government had already established a management system for education, including in the school health. On the other hand, the Vice Minister of Health of Vietnam recently recommended that health promotion as one of the priority concepts in public health. If the coordination between both ministries is strengthened, it can be expected that the movement of school health will be expanded nation-wide in the near future.

OTHER MOVEMENT IN THE PARTNER COUNTRIES AFTER INITIATION OF SSPP

The SSPPs were implemented as practical exercises for the ex-trainees in Cambodia, Lao PDR, Myanmar, and Vietnam. Tools for the control of parasites through promoting behavior change among schoolchildren were developed by the considerable effort of the ex-trainees and their associates. Moreover, the additional initiatives were also observed after the SSPPs were implemented. The following four areas of impact were discussed in the conclusion of the ACIPAC Symposium, held on 27-28 January 2005, as follows:

- Promotion of partnership among partners in country such as international agencies, NGOs.
- Closer coordination between the Ministry of Health and Ministry of Education.
- Establishment of the national policies of STH control and School Health by the cooperation of ministries, under support from partners.
- Malaria education in school became one of the concepts in malaria control strategy.

Lao PDR

In Lao PDR, several donors have supported the pilot project related to school health, especially for de-worming in 2002. However, the exchange of information among donors was carried out by using only limited personal communication. Thus, the donor agencies introduced different or similar strategies to the same or different counterparts in the government. To avoid this confusion, a partnership meeting for school-

based parasite control was held, supported by WHO and JICA/KIDSMILE/ACIPAC, on March 2003 (Photo 10). More clear exchange of information among the project manager and donor agencies was undertaken during the meeting. In the meeting, the Lao government presented the national policy for de-worming that had been developed under the supervision of Dr Carlo Urbani of WHO.

On the other hand, the health promoting school concept had been introduced to the Lao PDR. National health promoting school meeting was held in 2003, and a national committee was established and a national task force for school health was coordinated between the Ministry of Health and the Ministry of Education. Lao task force members and partners discussed the possibility to join the two movements. A second meeting, supported by WHO and JICA/KIDSMILE/ACIPAC, was held in March 2004 as a coordina-

tion meeting on school health. The role of the national task force was presented at this meeting, and the ownership by the Lao PDR government would be strengthened following this meeting.

UNESCO also introduced the FRESH framework in Lao PDR. The concepts of Health-Promoting Schools, FRESH, and other concepts, introduced by donors such as ACIPAC, UNICEF, and so on, are similar. Therefore, the Lao PDR government developed its own policy of school health with modifications of the global concepts. In March 2005, a draft of the national policy and implementation guidelines for school health was presented at the 3rd meeting on school health.

Cambodia

The Cambodian government started a national de-worming program under the supervision of WHO when the SSPP started in Battamban

Table 1
Soil-transmitted helminthes infections among schoolchildren in model schools, where Cambodia SSPP was operated.

	February 2002 n=397 (%)	December 2002 n=481 (%)	November 2003 n=527 (%)	November 2004 n=400 (%)
Positive case of any STH	180 (45.3)	117 (24.3)	77 (14.6)	56 (14.0)
Hookworm sp	128 (32.2)	85 (17.8)	52 (9.9)	29 (7.6)
<i>Ascaris lumbricoides</i>	1 (0.3)	3 (0.6)	1 (0.2)	2 (0.5)
<i>Trichuris trichiura</i>	1 (0.3)	1 (0.3)	0 (0.0)	0 (0.0)
<i>Enterobius vermicularis</i>	5 (1.3)	2 (0.4)	2 (0.4)	1 (0.3)
<i>Hymenolepis nana</i>	45 (11.3)	26 (5.4)	22 (4.2)	24 (6.0)

Table 2
Comparison of the knowledge to prevent STH infection among schoolchildren in model schools before and after implementation of SSPP in Cambodia.

Knowledge	Before implementation	After implementation
	February 2002 n=163 (%)	November 2004 n=250 (%)
Use latrine	20 (12.3)	221 (88.4)
Wash hands before meals	53 (32.5)	231 (92.4)
Clean fresh vegetable	46 (28.2)	223 (89.2)
Use spoon during meals	33 (20.2)	69 (27.6)
Wash hands after latrine	24 (14.7)	166 (66.4)
Wear shoes	54 (33.1)	246 (98.4)
Drink boiled water	55 (33.7)	226 (90.4)

Province. Some differences in the strategies between ACIPAC/SSPP and WHO created some confusion among the ex-trainees of ACIPAC. ACIPAC re-initiated by discussing among partners in 2003 to solve this problem. The project

manger of the SSPP reconsidered the strategies for the project. Based on the national de-worming program, a pilot project was carried out to strengthen the management system and to create a comprehensive approach including health education and water-sanitation. It was clear in the SSPP that the mismatched area concerned the peripheral administration office, between the education and health sectors that led to a lack of delivery of the de-worming tablet in some schools. The national task force of de-worming program discussed this matter according to the report from SSPP project site.

The Cambodian government carried out the drafting of the national policy of school health. At the time, ACIPAC was one of partners to support to develop the policy with WHO, UNESCO and so on.

Myanmar

Before the implementation of SSPP, a management system for school health was estab-

Table 3

Comparison of the knowledge to prevent malaria infection among schoolchildren in model schools before and after implementation of SSPP in Cambodia.

Knowledge	Children (%)	
	2002	2004
Use bed net	92.0	98.7
Use impregnated bed nets	18.0	53.8
Avoid mosquito bite	23.0	97.5
Insecticide spray/repellent	15.0	23.0
Drink boiled water	9.0	6.0
Housing sanitation	10.0	18.2

Table 4

Comparison of the behavior among schoolchildren related to the personal hygiene between before and after the implementation of the project.

	Before the implementation	After the implementation
	February 2002 n=163 (%)	November 2004 n=250 (%)
Wear shoes	163 (100.0)	250 (100.0)
Cut nails	148 (90.7)	238 (95.2)
Short and clean nails	96 (58.8)	218 (87.2)
Wash hands before meals	135 (82.8)	249 (99.6)
Wash hands after using latrine	80 (49.1)	237 (94.8)
Use spoon for serving meals	151 (92.6)	249 (99.6)

Table 5

Community contribution for the construction of water sanitation facilities in three model schools in SSPP, Lao PDR.

Name of model school	Project fund from public sector (Kip)	The contribution from community (Kip)	Total (Kip)
Inpeng	10,600,000	16,582,000	27,182,000
Lathern	4,000,000	1,250,000	5,250,000
Khangdohn	15,000,000	5,035,850	20,035,850
Total (%)	29,600,000 (56.4)	22,867,850 (43.6)	52,467,850

10,000 Kip = US\$ 1

lished in Myanmar. After the project manager presented the results and activities of the SSPP that was successful in malaria and STH control using the existing school health system, the policy makers in the ministry recognized the importance of school health.

MALARIA EDUCATION IN THE SCHOOL

Malaria education in the school was not evaluated as an effective strategy when ACIPAC started to promote the school health approach for malaria control in 2001 because the direct target group for malaria education was not schoolchildren. ACIPAC has developed a strategy using the participatory learning action (PLA) approach for school-based malaria control in 2003. It was explained in the strategy that using the PLA approach would facilitate the transfer from school to community and could be promoted as pupils to be health messengers to change behaviors among the villagers. ACIPAC developed a model of malaria education in a model area in Thailand with the cooperation of the Thai Ministry of Education. At the same time, the Kenan Institute also carried out a school-based malaria control project in northern Thailand. In Thailand, the education for the control of several infectious diseases, such as malaria,

dengue hemorrhagic fever, and HIV/AIDS in primary school has been accepted in the both ministries as a general concept.

Cambodian ex-trainees submitted a proposal for malaria control to the Global Fund that was including in this strategy in 2004. The nationwide malaria education in the school would commence in 2005 with support from the Global Fund, Round 4.

In Lao PDR, a school IEC kit was developed as health education materials for water-sanitation in 1994. In 2004, a national task force for school health presented the 3rd version, which included malaria education materials. Trials of malaria education in the schools of Xiengkhuang and Udomxay provinces were carried out by ex-trainees of ACIPAC training courses. The study results demonstrated that practices among villagers changed using a PLA approach from the school.

The Ministry of Education in Myanmar has already developed a curriculum for elementary schools, including the topic of malaria, before ACIPAC promoted this approach. After an ex-trainee conducted SSPP, the policy makers in the health sector recognized that the school-based approach of infectious disease control was an effective strategy.



Photo 2—Effective expanding of system using by school cluster in Cambodia.



Photo 1—Participatory learning in the model schools, Vietnam.



Photo 3—Microscopist training in the SSPP, Lao PDR (December 2002).



Photo 5—Practical training of the participatory learning methods in the teacher training in the SSPP, Vietnam.



Photo 4—IEC materials used in the SSPP, Vietnam.

Photo 6—Child to Child approach and School to Community approach in the SSPP, Cambodia.



Photo 7-Community participation to set the well in the school in the SSPP, Lao PDR.



Photo 9-School health program, which was supervised by ex-trainee; Dr San Hone, in Tyang Tong township, Myanmar.



Photo 8-Oral health was carried out supported by private sector and community participation in the model school, SSPP, Myanmar.



Photo 10-Partnership for parasite control, coordination meeting on soil-transmitted helminthes control in school health (March 2003, Vientiane, Lao PDR).