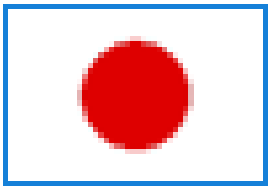
Evaluation Report:
Community Youth Helmet Use Project

Completed for the:
Global Road Safety Partnership &
International Federation of Red Cross and Red Crescent Societies

Thailand
31 October, 2009

The World Bank



International Federation Red Cross
& Red Crescent Societies

Thammasat University
Faculty of Public Health

Thailand Community Youth Helmet Use Project
Evaluation Report

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Abbreviations

CYHUP	Community Youth Helmet Use Project
DWG	District Working Groups
GRSP	Global Road Safety Partnership
IFRCS	International Federation of Red Cross and Red Crescent Societies
JSDF	Japan Social Development Fund
MSC	Master of Science
n	Number
OTP	Office of Transport and Traffic Policy and Planning
p value	A statistics term. A measure of probability that a difference between groups during an experiment happened by chance.
PAC	Project Advisory Committee
PhD	Philosophy Doctor
PIU	Project Implementation Unit
PWG	Provincial Working Groups
RVP	Road Accident Victims Protection Co. Ltd.
sd	Standard Deviation
SME	Situation Analysis, Monitoring & Evaluation
SPSS	Statistical Package for Social Sciences
THB	Thai Baht
USD	United States Dollar
WB	World Bank
WHO	World Health Organization

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Executive summary

In response to the Japan Social Development Fund's (JSDF) objectives, the northeastern region of Thailand was selected as the Thailand Community Youth Helmet Use project's implementation site. Apart from being geographically the largest and most populated area in Thailand, the northeastern region is also economically the poorest. The situation analysis, monitoring and evaluation component (SME) of the project aimed to provide: (1) baseline project information, (2) an input to project review, (3) insights on aspects of project implementation, and (4) information on project outcomes and impacts. This report emphasizes the lessons learned from the summative assessment**.** A controlled before-after design was applied to facilitate the establishment of baseline information and the summative evaluation.

Within the northeastern region the Community Youth Helmet Use Project purposively selected two provinces, and within these districts and sub-districts for intervention based on following criteria: (a) rural communities, highly populated, and economically disadvantaged; (b) incidence rates of road accident injuries; (c) exposure to high risk and or vulnerability for road crashes. As a result following intervention sites were selected: Non Thong and Non-Sa-ard sub-districts, within Waeng Yai district of Khon Kaen province; Non Com and Huay Muang sub-districts, within Phu Pha Man district of Khon Kaen province; Kan Nua and Pa Por sub-districts, within Banphai of Khon Kaen province; Talad Sai and Hun Huay Sai sub-districts, within Prathai district of Nakorn Ratchasima province; and Ban Lueam and Chor Raka sub-districts, within Ban Lueam district of Nakorn Ratchasima province.

Within these communities, study sites were identified using the same criteria as for planned intervention sites. In addition, Ubon Rachathani province was selected as a control based on similar criteria and cultural similarities. As a result following communities were selected as study sites for project evaluation: Non Thong and Non-Sa-ard sub-districts within Waeng Yai district of Khon Kaen province; Talad Sai and Hun Huay Sai sub-districts within Prathai district of Nakorn Ratchasima province; and Kham pom and Nonghai sub-districts within Samrong district of Ubon Rachathani province.

Within the selected study sites and their population following study groups were purposively selected based on the project's key intervention components and evaluation objectives: (a) the entire sub-district community as target population, (b) police officers, (c) secondary school teachers, (d) secondary school students, (e) students' parents, (f) teenage motorcycle users, and (g) community key stakeholders such as chiefs of the sub-districts, chiefs police, secondary school principals, chiefs of the health centers, chiefs of the sub-district administrative organizations, village leaders and village health volunteers.

- Main results

The CYHUP coordinating approach involving national, provincial and district authorities acted as a strong vehicle in mobilizing essential project support and reaching local communities.

Within Khon Kaen and Nakorn Ratchasima provinces in northeastern Thailand 111 communities comprising of 98 villages and 13 secondary schools benefited from the project.

When communities are made aware of the importance of helmet wearing, when local formal and informal leadership join forces, and when communities are given the support and assistance needed to develop and implement their own plans, ownership and creativity thrive.

Local leadership, backed-up by administrative authorities, and supported by external know-how empowered community participation and local capacity building. Schools, Police Offices and Health Services took the lead, while Sub-district Administrative Offices could have paid a more active role, and the use of local media was heavily depending upon networking of local leadership. The various working groups and capacity building efforts provided clearly a vehicle for inter-sector collaboration. However, local multi-sector steering teams could have helped to integrate various community initiatives.

Mobilizing strategic partnerships among national, provincial, district, and local level authorities provided an essential foundation. While inter-sector action at the community level varied depending on local leadership, key actors in creating and maintaining local partnerships in most communities were police, schools, health services, and community organizations.

Law enforcement officers highly appreciated the support received from the CYHUP in enforcing helmet wearing law. Based on road safety data targeted policing was applied by police officers as a strategy to overcome barriers created by limited resources. Social and community enforcement mechanisms provided a unique support system to law enforcement efforts.

Institutional support is important but local leadership and people's active involvement were key factors to the CYHUP's success. A sense of competition among communities and among schools greatly fueled action and commitment.

Awareness among police officers, teachers, parents and students on safety and helmet use are generally similar between the intervention areas and non-intervention areas either in pre-intervention and post-intervention. However, the results from the roadside observations suggest a significant increase in helmet use among the school children in the intervention areas as compared to the non-intervention areas.

Fluctuations in pre- and post intervention findings on law enforcement are inconclusive and could be explained by improved alertness to law enforcement, improved attention to reporting, positive effects of the project or under reporting.

Too few incidence cases of head injury were reported over the study period to evaluate the impact of the interventions on reduction of head injuries from motorcycle accidents.

A trip to the grassroots does cost money: with 40% for consultants' services (which can be further broken down into 20% for consultants, 15% for nationally hired IFRC staff and 4.5% for travel and related expenses), 15 % for operating costs, 16% for workshops, 9 % for helmet provision, and only 19% for community sub-grants of the total actual and forecasted expenditures.

However, a little money at the grassroots goes far. USD 1,000 per community was used as follows: workshops (33%), signboards/signage (28%), checkpoints (16%), campaigns (15%), helmet fund (6%), and broadcasting (2%)

The intervention unit cost of helmet wearing compliance was strongly variable from community to community, both for direct community expenditures and total project expenditures per community.

Cost per unit reduction in head injuries could not be assessed due to unavailability of sufficient data on head injuries from motorcycle accidents.

The CYHUP's participatory approach created strengths among local communities to plan, implement, monitor and evaluate their initiatives. While evidence suggests that certain activities have the potential to be more sustainable than others without additional funding or resources, various communities and schools intend to seek local funding to continue other project activities. The importance of road safety for communities and the level of commitment are valuable factors for sustainability of project activities.

- Main conclusions & recommendations

The overall CYHUP coordinating approach involving national, provincial and district authorities acted as a strong vehicle in mobilizing essential project support and reaching local communities.

The set of CYHUP strategies such as: awareness raising, education, policing, helmet distribution, and emergency medical services training proved to be a valuable approach.

Unanticipated delays in project preparation in absence of required postponement of the project completion date may have affected expected project outcomes.

The CYHUP reached all targeted communities in terms of sub-granting community initiatives, helmet provisions, joint training and capacity building, law enforcement support, and grassroots monitoring, and went beyond expected outputs by conducting experience sharing events.

The project clearly succeeded in increasing awareness on road safety issues and assist youth, families, and teachers within these communities to become agents for promoting behavior change. As a result the use of motorcycle helmets increased significantly.

The quality of community and school plans and reports showed that most communities and schools were able to effectively plan and implement activities designed to address promotion of helmet use, including managing their project budget and meet accountability expectations.

Sustainability of project activities was a key issue discussed within and among communities and various communities and schools expressed their intention to seek additional funding to continue key project activities, in particular from their Sub-district Administrative Organization (SAO).

A high level of involvement of formal and informal community leaders indicated the importance of the issue for these communities and the level of commitment, which could contribute to the sustainability of project activities.

Evidence suggests that certain activities have the potential to be more sustainable than others without additional funding or resources; although there was variation based on the level of involvement among communities and schools.

A trip to the grassroots costs money because significant proportions of the budget were needed to implement support, coordination, and evaluation components required for a pilot program and only about 20% of the total cost was used for community sub-grants. However, it was also evident that a little money at the grassroots does go far!

The intervention unit cost of helmet wearing compliance was strongly variable form community to community, both for direct community expenditures and total project expenditures per community.

The CYHUP model shows clearly to have value in terms of mobilization of local resources, initiating behavior change, fostering capacity building, and developing a foundation for the sustainability of activities beyond the project; therefore the evaluation team recommends replicating the CYHUP model to other sites in Thailand as well as other developing countries.

The CYHUP most successful strategies were awareness raising, education, and policing. Therefore these strategies should be considered essential if the model will be replicated.

There is a need to reflect on the realism of project time frames. Unanticipated delays in project preparation while maintaining rigid funding cycle deadlines risk undermining achievement of project outcomes and impacts and therefore ultimately the investment itself.

To further enhance project sustainability; considering the importance given to the support of national, provincial, and district authorities; it would be instrumental to deliberate including quit pro quo approaches that ensure commitment of local administrations to key community helmet wearing initiatives beyond the project cycle.

Chapter-1
Introduction

Helmet project rationale

An estimated 30 million people have been killed in road crashes since the invention of the motor vehicle over a century ago. The World Health Organization (WHO) forecasts road crashes will be the third most important cause of death and disability worldwide, by 2020. With more than 1.2 million people killed in road crashes every year, and as many as 50 million injured[1]. In low-income and middle-income countries the ownership and use of motorcycles and other two-wheelers are generally high. For example 70-90% of road deaths in Thailand are among users of motorized two-wheelers[2].

Strategies

To address this growing concern the World Bank (WB) initiated in 1999 the Global Road Safety Partnership (GRSP), which brings together governments and governmental agencies, the private sector and civil society organizations to address road safety issues in low and middle income countries.

The GRSP, which is hosted by the International Federation of Red Cross and Red Crescent Societies, (IFRC), has received a grant, via the WB, from the Japan Social Development Fund (JSDF) to implement a targeted road safety program in the Northeastern region of Thailand from November 2007 until April 2009. The main objectives of the project are to:

- Reduce the severity of head injuries and injury related deaths due to motorcycle accidents
- Increase the use of motorcycle helmets
- Increase awareness of road safety issues
- Assist youth in target communities to become agents for promoting behavior change and help influence other age groups to use helmets.

Objectives and scope of this evaluation

The project evaluation is an essential component of the above project to increase an understanding about why motorcyclists and pillion passengers in rural settings neglect wearing helmets, and how effective the project's strategies are in improving road safety. This evaluation yieled useful findings and recommendations for dissemination to other jurisdictions.

This paper reports on the project evaluation which considered the following questions: (1) what are key factors that affect project implementation?; (2) did the project deliver the expected outputs?; (3) how successful was the project in achieving its objectives?; (4) what are the project's impacts on beneficiaries?; (5) did the project contribute to local capacity building and sustainable development?; (6) what does it cost to achieve project outcomes?

In order to address these questions following evaluation objectives were developed:

- Determine achievement of project deliverables.
- Identify post intervention levels of awareness, enforcement, and helmet use among youth in selected communities.
- Define post intervention incidence of motorcycle accidents including head-injury severity in selected communities.
- Establish the project's impacts compared with pre-interventions levels and control group outcomes.
- Identify gains in capacities among local project partners in selected communities.
- Determine the sustainability of the various project components at selected study sites.
- Establish the interventions' cost and effects.

Evaluation design and methodology

This evaluation served an initiative of the GRSP and the IFRC and was designed to address relevant aspects of an intervention from a project management perspective applying a controlled before-after design using quantitative and qualitative methods.

The evaluation applied multiple strategies. These include situation analysis; process evaluation; output and outcome evaluations; impact assessment; cost analysis; and capacity and sustainability assessments. Using indicators on aspects of project activities, indicators relating to achievement of project objectives, and impact indicators referring to the direct and immediate effects brought about by the project as well as the consequences of the project that go beyond the immediate effects on its beneficiaries.

Data collection methods used involved: self-administered questionnaires, an observation survey instrument, regional injury surveillance databases, archival data reviews, in-depth interviews and focus group discussions. Application of these data collection methods was organized by each study population such as: target population, police officers, secondary school teachers, secondary school students, students' parents, motorcycle users, and community stakeholders.

For all units of analysis in this evaluation, and in each instrument used, informed consent was obtained from participants and respondents. In absence of existing instruments, standards for content analysis, interview frameworks, focus group protocols and questionnaires were developed. Instruments were pre-tested for both face-validity through a small sample of interviewees and content-validity through expert review.

Within the northeastern region provinces, districts and sub-districts were purposively selected using following main criteria: (a) rural communities, highly populated, and

economically disadvantaged; (b) incidence rates of road accident injuries; and (c) exposure to high risk and or vulnerability for road crashes. Another consideration in the selection of sites was efficiency and effectiveness for pilot project management. As a result Khon Kaen and Nakorn Ratchasima provinces were selected as pilot intervention sites.

Within Khon Kaen and Nakorn Ratchasima provinces districts were selected based on: (a) the proportion of poor population; and (b) incidence rates of road accident injuries. As a result within Khon Kaen province Waeng Yai District, Phu Pha Man District, and Banphai District were selected as intervention sites; while within Nakorn Ratchasima province Prathai District and Ban Lueam District were selected as intervention sites.

Table-1.1: Project Intervention Sites

Province	**District**	**Sub-district**
Khon Kaen	Waeng Yai	Non Thong
		Non Sa-ard
	Phu Pha Man	Non Com
		Huay Muang
	Banphai	Kan Nua
		Pa Por
Nakorn Ratchasima	Prathai	Talad Sai
		Hun Huay Sai
	Ban Lueam	Ban Lueam
		Chor Raka

Within the selected districts in Khon Kaen and Nakorn Ratchasima provinces, sub-districts were selected mainly based on a socio-economic criterion namely the proportion of poor population, because of unavailable data on injury rates at the time. For each of the selected districts within Khon Kaen and Nakorn Ratchasima provinces the top two sub-districts (ranking the highest proportion of poor population) were selected[3]. As a result following sub-districts were selected as intervention sites:

Within each of the selected provinces and among the selected districts for implementation two district for Khon Kaen province and one district for Nakorn Ratchasima province were purposively selected as the situation analysis study site, based on the socio-economic criterion, namely the proportion of poor population. For each of the selected study districts, both sub-districts were included as study site.

Within the northeastern region Ubon Rachathani province was selected as a control, based on consideration of criteria such as: (a) rural communities, highly populated, and economically disadvantaged; (b) incidence rates of road accident injuries; (c) exposure to high risk and or vulnerability for road crashes; and (d) cultural similarities.

Within Ubon Rachathani province one district was purposively selected based on: (a) the ratio of youth within the population (whereas youth was defined as persons between 12 and 18 years of age); (b) proportion of poor population; and (c) incidence rates of road accident injuries. As a result Samrong District was selected as control study site.

Within Samrong District two sub-districts were selected mainly on the socio-economic criterion namely the proportion of poor population. As a result following sub-districts within Samrong District were selected as study sites: Kham Pom Sub-district and Nonghai Sub-district. Table-1.2 below displays the selected study sites within the project implementation sites and the control province.

Table-1.2: Evaluation Study Sites

Province	**District**	**Sub-district**
Khon Kaen	Waeng Yai	Non Thong
		Non-Sa-ard
	Banphai	Kan Nua
		Pa Por
Nakorn Ratchasima	Prathai	Talad Sai
		Hun Huay Sai
Ubon Rachathani	Samrong	Kham Pom
		Nonghai

Within the selected study sites (Non Thong and Non-Sa-ard sub-districts within Waeng Yai district of Khon Kaen province, and Talad Sai and Hun Huay Sai sub-districts within Prathai district of Nakorn Ratchasima province) and the control site (Kham Pom and Nonghai sub-districts within Samrong district) following populations were selected:

- Target population

For each of the selected sub-districts (implementation and control sites) the entire population constituted the target population for assessment of geographic and demographic characteristics. Within Non Thong and Non-Sa-ard sub-districts of Waeng Yai district in Khon Kaen province, Talad Sai and Hun Huay Sai sub-districts of Prathai district in Nakorn Ratchasima province, and Kham Pom and Nonghai sub-districts of Samrong district and in Ubon Rachathani province following study populations were selected:

- Police officers

Each district has on average one police station, therefore the police stations of Waeng Yai district in Khon Kaen province, Prathai district in Nakorn Ratchasima province, and Samrong district in Ubon Rachathani province were selected. However, Hun Huay Sai sub-district within Prathai district of Nakorn Ratchasima province has a police sub-station and was therefore also included. Within each of these police stations all officers were selected for interviews.

- Secondary school teachers

Each district has a varying number of secondary schools. For each district schools were purposively selected based on the highest student attendance of the selected study sub-districts. As a result for Khon Kaen province, Waeng-Yai district, the Non Sa-

ard Wittayakarn secondary school in Non-Sa-ard sub-district, in Banphai district the Banphai Pittayakom School and the Banphai College in Nong Nam Sai sub-district (which provide secondary education for students from Kan Nua and Pa Por sub-districts); and for Nakorn Ratchasima province, Prathai district, the Prathai secondary school in Prathai sub-district; and for Ubon Ratchathani, Samrong district, the Samrong Wittayakarn secondary school in Non Klang Sub district, were selected. Within these secondary schools all teachers were selected for interviews.

- Secondary school students

In each of the selected secondary schools, students were proportionate randomly selected from study and non-study sites; this because secondary schools serve communities beyond the selected study sites. Study sites comprised intervention and control communities, while non-study sites comprised non-intervention and non-control communities.

- Secondary school students' parents

Selection of secondary school students' parents was based on the random selection of students from each school. For each randomly selected student, one parent completed a self-administered questionnaire.

- Motorcycle users

For the observational survey on helmet use among the target population in the intervention and control sub-districts a sample of approximately 2,400 teenage motorcyclists and their pillion passengers in the study districts from each province were initially planned for the observation. However, we were able to observe about 2 folds higher than the determined sample size for the pre-intervention.

Selection of observation sites from all available sites in the study districts was randomly selected by using a numbered grid overlaying on the map of the districts. However random sampling outcomes resulted in clear site disadvantages such as peripheral road networks, traffic conditions, remoteness, and observer security. Therefore, observation site selection shifted to a purposive sampling based on proximity to intersections, popular routes to secondary schools and market places, and the absence of police boots.

- Community key stakeholders

Within each sub-district (4 implementation sub-districts and 2 control study sub-districts) key stakeholders for in-depth interviews were purposively selected as: Chief of the Sub-district, Chief of the District Police Office, Principal of the (selected) Secondary School, Chief of the District Health Center, and Chief of the Sub-district Administrative Organization, for conducting in-depth interviews.

In addition, participants for focus group discussions in each of the selected sub-districts were purposively selected as Village Leaders and Village Health Volunteers. No Focus group discussions were organized in the control sub-districts within Ubon Rachathani province.

An analysis of correlations and cross validations among variables of aspects of context was applied.

Quantitative data obtained on continuous and categorical variables served both a descriptive analysis using distribution of frequencies, proportions, and standard deviations; Chi-square for comparison of 2 proportions; and t-test for comparison of 2 means. between interested variables. Responses entered in computer compatible format; with a randomly selected sample validated by double entry. This data was analyzed using the SPSS (version 15.0 for Windows) program to determine Frequencies, Percentages, Means and Standard Deviations.

Analysis of qualitative data was based on theoretical prepositions and issues analysis facilitating discovery of regularities, comprehension of meaning and reflection. Interview reports were reviewed by interviewees and focus groups were audio-recorded and transcribed. A code-book, a long table approach, and a logbook of responses facilitated analysis of data. A socio-demographic register of participants was maintained to facilitate source tracing of data for analysis. Outcomes were triangulated to identify cross-validation and or discrepancy.

Organization of the report

This evaluation report on the Thailand Community Youth Helmet Use Project (CYHUP) presents the highlights of evaluation findings in ten chapters as follows:

The first chapter entitled “Introduction” explains the rationale for the CYHUP and the strategies applied by the project, followed by the objectives and scope of the evaluation and the methodology used.

Chapter-2 entitled “Placing helmet use on local agendas” provides details on the operational approach employed by the Global Road Safety Partnership and the International Federation of Red Cross and Red Crescent Societies to implement the project.

Chapter-3 entitled “Innovation bottom-up” brings to light the approach applied in fostering local ownership for the projects’ intervention strategies.

Chapter-4 entitled “Building local capacity” draws attention to the roles of communities, organizations, and inter-sector steering teams in building local capacity.

Chapter-5 entitled “Strategic partnerships” highlights key findings on actors, aspects of inter-sector collaboration and unanticipated findings related to facets of partnerships.

Chapter-6 entitled “Lessen barriers to law enforcement” deals with efforts in targeted policing, networks supportive to law enforcement, and community support.

Chapter-7 entitled “Champions of change” focuses on people and how these individuals were able to provide leverage for change.

Chapter-8 entitled “Outcomes and impacts” presents the highlights in terms of the CYHUP outputs, outcomes especially in terms of behavior change, and project impacts on motorcycle accident head injuries.

Chapter-9 entitled “The price tag” provides presents the results of the cost analysis including an estimation of cost related to behavior change.

Finally, chapter 10 entitled “Beyond the project” deals with the encountered strengths, local resources and challenges to foster sustainable development.

The closing chapter entitled “Conclusions & recommendations” summarizes the evaluation highlights, discusses the importance of this health promotion project, and provides strategic recommendations to key stakeholders.

Chapter-2
Placing Helmet Use on Local Agendas

Highlights

The CYHUP coordinating approach involving national, provincial and district authorities acted as a strong vehicle in mobilizing essential project support and reaching local communities.

The specific target groups were rural youth from the poorer villages in Nakorn Ratchasima and Khon Kaen provinces. The target areas were selected based on prevailing socioeconomic conditions combined with some reliance on local crash data and injury trends.

Up to 120 rural poor communities in 2 districts from Nakorn Ratchasima and 3 districts from Khon Kaen were selected on the basis of socioeconomic background and location, near national highways or major rural roads, combined with the level of road trauma in the target area.

On average, there were approximately 500 people per community, which implies that more than
60,000 people likely benefited from the program. 15,000 members of the targeted population were expected to be youth in the 12 to18 year age group.

In order to optimize reaching these youths with the designed intervention the following approach was applied:

Project implementation unit

The Project Implementation Unit (PIU) was established within GRSP's regional office in Bangkok. Managed by an Operations Manager, the PIU coordinated the project activities, including project planning and monitoring, procurement of goods and consultant services, project management and administration of contracts, and financial management and accounting to ensure their timely and successful implementation. Duties of the PIU included but were not limited to:

- Overall project management, including preparing and regularly updating a project implementation plan
- Financial management of the project
- Procurement planning and scheduling
- Procurement of consultancy services included in the project
- Managing contracts and disbursements
- Monitoring of implementation
- Project benefit monitoring where provision of helmets is concerned
- Progress, financial and audit reports for the project
- Co-ordination with counterparts in ministries and agencies concerned with the grant
- Liaising with the World Bank, IFRC, GRSP Geneva
- Liaise and support the provincial based Field Supervisor and Assistant Field Supervisor in organizing and delivering activities at provincial level.

Project advisory committee

The Project Advisory Committee (PAC), which performs an advisory and not a management role, consisted of a number of senior government and non-government representatives from: the Transport Safety Bureau, the Office of Transport and Traffic Policy and Planning (OTP), the Ministry of Transport, the Bureau of Disaster and Safety Integrated Management, the Department of Disaster Prevention and Mitigation, the Ministry of Interior, the Ministry of Public Health, the Trauma and Critical Care Centre of Khon Kaen Hospital, the Children Safety and Injury Prevention Research Centre, Ramathibodi Hospital, the Children Welfare and Rights Group, the Ministry of Education, the Road Safety Group Thailand, the National Health Foundation, the Royal Thai Police, the Road Accident Victims Protection Co. Ltd., and the Thai Motorcycle Enterprise Association. The roles of the PAC were:

- To consider strategy and direction of the project
- To be a technical consultative network to provide technical support and guidance for project implementation
- To coordinate with related organizations to ensure smooth project activities
- To follow up the progress of project implementation
- To provide supervision and assistance in solving any problems that may occur
- To support the sustainability of the project by encouraging integration of project implementation with related routine work.

National stakeholders

- Meetings with national level stakeholders comprised of governmental, private, and civil society sectors working on road safety presented in Table-2.1.
- The objectives were: (1) to introduce the project to key governmental agencies of Thailand and (2) request for cooperation for project's field implementation.

Local stakeholders

- A meeting with local stakeholders in Khon Kaen and Nakorn Ratchasima Provinces was conducted.
- The objectives were: (1) to introduce the project to local stakeholders, and (2) obtain advise and guidance on mobilizing support for the project.
- Outcome: approval was obtained from the Provincial Governor of Khon Kaen and Nakorn Ratchasima in setting up a "Provincial Working Group" and "District Working Groups" of all selected districts in each of the provinces. This facilitated coordination and cooperation with local stakeholders and especially with communities.

Table-2.1: Participants: The 1st Project Advisory Committee Meeting April 30, 2008

No.	Organization	Position
1	Office of Transport & Traffic Policy and Planning	Director Transport Safety Bureau
2		Officer Transport Safety Bureau
3	Royal Thai Police	Director Traffic & Civil Service Planning
4	Department of Disaster Prevention & Mitigation	Director Bureau of Disaster & Safety Integrated Management
5	Ministry of Public Health	Public Health Officer Department of NCD
6	Ministry of Education	Head Children Welfare & Rights Group
7		Officer Children Welfare & Rights Group
8	Khon Kaen Regional Hospital	Senior Expert in Preventive Medicine
9		Nurse
10	National Health Foundation	Road Safety Group Thailand
11	Ramathibodi Hospital	Researcher Children Safety & Injury Prevention Research Centre
12		Head Children Safety & Injury Prevention Research Centre
13	Naresuan University	Transportation Engineer Faculty of Engineering
14	Road Accident Victims Protection Co. Ltd.	Managing Director
15		General Manager
16	Thai Motorcycle Enterprise Association	Director

Provincial working groups

With approval of the Provincial Governor of Nakorn Ratchasima and Khon Kaen Provinces, the CYHUP PIU did set up a Provincial Working Group in each province. In forming this group, the PIU consulted with key road safety stakeholders in those two provinces and invited them to participate in the project's Provincial Working Group.

The PWGs were chaired by the Provincial Governor, whereas the secretary came from the Regional Hospital in Khon Kaen province, and the Provincial Public Health Office for Nakorn Ratchasima province.

Members of the PWG comprised of the District Chief Officer, Officials from the District Health Office and/or Provincial Hospital, local police, local educational officials, the District Public Relations Official, etc.

According to consultation with PAC, Khon Kaen Hospital is the key road safety player in Khon Kaen whereas it is expected that the District Health Office plays a pivotal role in Nakorn Ratchasima Province.

The roles of these Provincial Working Group were not only to advise the PIU how best to cooperate with communities, the most efficient means to run road safety operation in

the two provinces, and local networking dealing with specific activities, but also to facilitate the coordination with their local officials in implementing activities.

District working groups

For District Working Groups to ensure accountability and transparency of the sub-grant provision process an appraisal and approval committee was designated. One Approval Committee in each of the five Districts was established.

DWGs were chaired by the District Chief, whereas the Head of the District Public Health Office functioned as secretary. Further, the committee comprised the following members: a PIU Field Supervisor, the Assistant Field Supervisor, and a representative from the Provincial Working Group.

Initially, the Approvals Committee did set up Focus Groups in each of the communities comprising five representatives from the selected communities. These Focus Groups were used to introduce the project to the communities and provide the network needed for required consultation and training for application preparation.

The Approvals Committee considered proposals of all communities and if meeting evaluation criteria approved the list of activities designed by communities.

The PIU summarized the submissions and approvals and provide a letter to every applicant to inform them of the outcome of their application or to assist with any remedial actions needed to improve the submission.

The Approvals Committee assessed all applications received via PIU and either approved, declined or requested further information or amendments to application.

The project Field Supervisor and Assistant Field Supervisor made an appointment with every successful applicant to execute the required contractual agreement for issue of the grants in November 2008.

Community workgroups

Every community needed to establish a Community Workgroup. Five representatives functioned as community leaders and comprised of village head, and health and police volunteers, whereas for school communities members comprised teachers and students.

This workgroup received training on the project and sub grant application format and process as well as briefings on aspects of road safety (such as awareness raising, law enforcement, driving license, insurance, and first aid) via regional workshops run by PIU field staff in collaboration with DWGs. The workgroup was then required to arrange public hearing meetings with community members to obtain the opinion of community about appropriate promotional activities. The proposed activities were accepted by the majority of community members.

The workgroups then set-up project committees and wrote a proposal detailing the proposed activities, estimation of needed budget, time-frame and an evaluation process.

Community and school sub grants

Community sub-grants covered both villages and schools being the project's target population. Allocation of more than one grant per community was based on the merit of the proposals but in all cases, only one grant of THB 35,000 was allocated per community, whereas schools received additional THB 58,000 totaling in sub grants of THB 93,000 each.

Sub grants allocated to schools in the target areas were appraised in the same format as the community sub grants however, school workgroups comprised a mixture of teachers and students.

A participatory monitoring and evaluation approach was used in all project processes. Meetings were held with community workgroups on a monthly basis ensuring programs were implemented in line with contractual requirements and were moving towards achieving the stated outcomes. Community project monitoring provided a system to activate grant installments.

Where required, PIU staff (Field Supervisor and Assistant Field Supervisor) provided assistance in determining and implementing any remedial actions that were requested.

Activity implementation was monitored by PIU field staff who provided regular progress reports to the PIU Bangkok.

Regular Progress Reports were required from all communities awarded sub grants and these were audited by PIU field staff and PIU Bangkok.

The community level progress reports were summarized and included in periodical progress reports required by the project management and the WB.

Road safety working groups

The Road Safety Working Group (RSWG) was mobilized comprising of NGOs or other agencies to provide consultant service to undertake facilitation and coordination for CYHUP implementation in Khon Kaen and Nakorn Ratchasima Provinces.

The RSWG has a long standing relationship with the Khon Kaen Regional Hospital Injury and Accident Prevention Centre which is a WHO Centre of Excellence. The RSWG also has strong connections to relevant medical centers in Nakorn Ratchasima and extensive networks in the provincial government administrative structures and health networks in both target provinces.

In order to ensure that the CYHUP achieved maximum outcomes and to take advantage of financial savings from appointing a single suitably qualified and extensively experienced provider, the RSWG provided a single project focal point for facilitation of:

- Social marketing in the provinces
- Community capacity building for proposal development
- Monitoring of activities in operation (assistance to PIU Field Staff)

- Access to existing provincial and district administrations as well as education, health, and enforcement networks
- Emergency medical services training and
- Monitoring and evaluation activities

Chapter-3
Innovation Bottom-Up

Highlights

When communities are made aware of the importance of helmet wearing, when local formal and informal leadership join forces, and communities are given the support and assistance needed to develop and implement their own plans, ownership and creativity thrive.

A key feature of the project was to foster local ownership and stimulate bottom-up innovation for the various activities designed and planned by local communities by providing resources and technical assistance to these communities such as sub-district administrative organizations, community work groups, secondary schools, local police offices, and health services. The framework provided to communities consisted of a set of five potential strategies as follows:

Community and school projects

Community and school projects were essentially awareness creation activities combining both education and entertainment activities "Edutainment", with the primary target group being youth within the community and or within secondary schools. Local schools are convenient places to reach youth in an organsied manner and teachers are respected and experienced conduits of information. Both communities and schools developed their own working group to initiate and implement activities depending on the nature of the plans these comprised student councils, parent groups, teacher taskforces, police officers, health workers, and or community organizations.

For community projects the key strategies used are described below. Following key factors were found to be attributable to the success of the community projects which included: (1) local leadership, (2) the mobilization of networks to foster teamwork and cooperation, (3) the use of various motivational activities, (4) social marketing, (5) sharing experiences which fostered competition among communities, and (6) the creation of social enforcement mechanisms in addition to law enforcement (see Appendix-C).

As for school projects key strategies adopted included: (1) integrated social campaigning activities, (2) peer education, (3) provision of edutainment, and (4) school policy enforcement. Following key factors were found to be attributable to the success of the school projects which included: (1) support of school administrators and teachers, (2) development of supportive school policy, (3) joint campaigning by teachers, students, parents, and monks, (4) peer education though student clubs, (5) fostering competition among student groups, and (6) the organization of school check points (see Table A-3.1 in Appendix-A and Appendix-C).

Awareness raising

Systematic marketing of road safety and particular safety behaviors to the target communities alongside the other initiatives and techniques were undertaken to achieve

the project outcomes. Marketing techniques included campaigns, road sign boards, community radio broadcasting, and village road shows. For example, community training sessions on helmet wearing was done by staff from health and police sectors; or caravan-type campaigns run by the village and district working groups or audio-visual sessions on “Victim Talk” to increase people’s awareness within communities; or using the community radio and television to launch campaigns and raise awareness.

Law enforcement

Local police forces, volunteers, schools and community members were engaged in the design of a community-specific helmet use enforcement program on the basis of incentives (in support of laws and regulations). For example social enforcement checkpoints were conducted in communities by community work groups in support of police enforcement efforts applying community regulations with different penalty systems.

Helmet distribution

Helmets were made available for communities and schools who had free decision in the distribution of helmets to their respective communities. Some groups researched the need for helmets within households or schools, others used their project acitivities to distribute helmets such as: social enforcement checkpoints, helmet wearing education sessions or competition events etc. A portion of helmets was distributed as “Best Practice” rewarding events by the PIU.

Several approaches were applied, for example, through a motivation and rewards process, through a public pledge/commitment to road safety and helmet wearing, and through the use of subsidies from community members.

Several communities established a “helmet revolving fund” to enhance project sustainability. For example in Non-sa ard Sub-district all villages, in Talad Sai about half of the villages, and in Hun-Huy Sai about 1/3rd of the villages contributed to a helmet revolving fund. Fines collected at social enforcement checkpoints and sales of project helmets at a price of 100 to 200 Baht per piece were returned to the helmet revolving fund, which in turn supported the promotion of helmet wearing initiatives within communities.

Subsidized helmets were made available and distributed to youth through household distribution, schools, and best practice rewarding events. The helmet subsidies emphasized the importance of helmet wearing and overcame financial contraints of the motorcyclists to purchase a helmet.

To overcome the inadequate number of subsidized helmet provison, some communities offered the opportunity to borrow helmets, however this did not always work out well because villagers often were reluctant to wear 2nd hand helmets. Further, information obtained from the focus group discussions with the community working groups, another constraint was that the quality and style of subsidized helmets which was perceived somehow inferior by community members.

EMS projects

Emergency Medical Services (EMS) experts from local hospitals and public health services held short training courses on the treatment of crash victims as part of social marketing and school-based education efforts. Again, the target audiences were youth (estimated to be approximately 100 people per community or about 12,000 in total).

These trainings included introduction to basic concepts and practices such as the use of emergency health hotline and first aid to crash victims.

Chapter-4
Building Local Capacity

Building local capacity was an important aspect of the CYHUP. This chapter highlights the key aspects of capacity building within communities, within partnering local organizations, and finally addresses facets of inter-sector collaboration.

Communities

Highlights

Local leadership, backed-up by administrative authorities, and supported by external know-how empowered community participation and local capacity building. In addition, sharing with, and learning and adopting from neighboring communities created a competitive aspect in the process which provided a stimulus in capacity building.

Communities were trained to raise awareness on the benefits of road safety and to build capacity in terms of planning for sub-grant activities, mobilizing community involvement, project accounting, basic data collection, and basic monitoring and evaluation. The majority of communities and schools were able to effectively plan and implement a range of activities specifically designed to address helmet wearing. As a result, with exception of minor differences, most activity plans showed similar approaches.

It was encouraging to observe that capacity building was not limited to few key persons only. Many community members attended capacity building events, which resulted in an expansion of their original activity plans. Exchange among communities resulted in sharing with others and adopting and learning from neighboring communities.

A lot of attention was given to provide communities with essential tools for community project budgeting such as: translating objectives into activities, allocating resources to activities, costing resources, and aggregating costs into budget lines; as well as monitoring the implementation of their plans through the use of monitoring templates. As a result, the majority of community committees demonstrated that they had developed the ability to effectively manage their project budget and meet accountability requirements. As a result communities were also enabled to use the gained understanding and skills for opportunities of local funding leverage.

Previous experiences with community-based initiatives, commitment and support of the District Officer, strong local leadership, the degree of community involvement were key success factors for community development. For example, some communities developed a local public policy related to helmet wearing. Community members became convinced that they had to wear a motorbike helmet because they wanted to set an example and be a role model for their youths.

Helmet provision was implemented as a part of the CYHUP however helmet provision should follow the public awareness campaigns. Further, in addition to quality considerations helmet style should take into account the target population i.e. youth.

The number of helmets distributed per community should not be arbitrary (i.e. 50 helmet per community) but must also take into account the size communities.

The provision of one helmet per family was culturally not appropriate because Thais do not like to lend/share their helmet with others. Observation indicated that poor communities commonly showed to have more than one motorcycle per household.

Organizations

Highlights

Schools, Police Offices and Public Health Services took the lead, while Sub-district Administrative Offices could have paid a more active role, and the use of local media was heavily depending upon networking of local leadership

Key partnering local organizations for the CYHUP were the sub-district administrative organizations, secondary schools, district police offices, public health centers, and local media. The main findings on each of these partners are described below.

- Sub-district Administrative Organizations

Although as pointed out by key informants prior to the CYHUP implementation, one would expect the Sub-district Administrative Organization (SAO) to be well positioned to coordinate and initiate local priority setting and policy-making, as well as to mobilize the various public sectors and agencies to promote and secure resources for helmet use among the youths, SAO's involvement was limited to the Chair attending the monthly Provincial Work Group meetings. There were indications that limited SAO involvement was mainly due to few human resources available to conduct operations.

- Police Stations

Police responsible for law enforcement have demonstrated prior capacity in collaborative efforts with schools to address road safety, and conduct periodically road safety campaigns especially at the time of local and national festivals. Common barriers expressed in fulfilling their mandate were understaffing, budget limitations, and community pressures undermining law enforcement.

As law enforcement remains a challenge, the latter seems important in providing leverage. It was observed that if road safety gets onto the agenda of local communities and schools policing on helmet-use enhanced.

- Schools

Secondary schools were very open to collaboration with other sectors, demonstrated a keen interest, and became active partners for the CYHUP. Although safety and well-being of students are part of their mandate, constraints in available resources, including budget and time, created barriers to take up new initiatives. CYHUP created an opportunity which was eagerly taken up by schools.

- Public Health Centers

Public health centers, especially the District Public Health Offices, are often considered as key stakeholders in road safety issues. The low incidence of road accident injuries in the area underscores this assumption. However, public health personnel's ability related to the CYHUP provided valuable assistance to communities and schools in terms of volunteer training, and support in project planning, monitoring and evaluation.

- Media

Field observation, supported by findings from the cost analysis, indicated that community radio and or television played a minor role in CYHUP as there were competing priorities and interests. Often, the use of local community radio and television to boost awareness on road safety and helmet use depended on local leadership, such as village heads, and their ability to mobilize networking.

Inter-sector steering teams

Highlights

Various working groups and capacity building efforts provided clearly a vehicle for inter-sector collaboration. However, local multi-sector steering teams could have helped to integrate various community initiatives.

The formation of working groups at the various administrative levels helped to develop a sense of collaboration and coordination that goes beyond individual efforts and fostered inter-agency or institution capacity building. For example, working groups were established at province, district, and community levels to develop plan and monitor the CYHUP implementation. Involvement in the project certainly raised understanding of the importance of planning, monitoring and related data collection. However, the multi-sector steering teams could have strengthened inter-sector activities by crossing project level and settings. For example, pooling resources within and across health sector, communities, and schools could help increase cost effectiveness, and efficient management, contributing to program sustainability.

The unexpected

Highlights

- Local wisdom on what resonates within communities is important.
- Social checkpoints on helmet use compliance have the potential to create added value.

Several communities created motivation and sense of belonging by composing traditional "Isan" (Northeastern) songs to promote key messages about helmet wearing to their communities.

Some communities created their own geographical zone and declared it as the helmet wearing compliance zone as part of their targeted community-based policing strategy.

Focus group discussions with the community in Ban Phai District highlighted positive but unintended effect of community checkpoints namely perceived improvement of overall public safety with less illicit activities such as street gang threats, motorbike racing, bench drinking, etc.

The DWG in support of the District Chief undertook fundraising initiatives to mobilize local funding sources in order to include non-selected sub districts into the CYHUP in support of the commitment and determination of these communities to develop their own plans.

Chapter-5
Strategic Partnerships

Highlights

- Mobilizing strategic partnerships among national, provincial, district, and local level authorities provided an essential foundation.
- Inter-sector action at the community level varied depending on local leadership.
- Key actors in creating and maintaining local partnerships in most communities were police, schools, health services, and community organizations.
- Mobilizing support from Buddhist monks could have turned a challenge into an opportunity.

The CYHUP in the northeastern region of Thailand was the result of a collaborative effort between the JSDF, the World Bank, the GRSP, and the IFRC. As described in Chapter-2 the strategy applied to support project implementation involved at each level, from central to local, a consultative forum.

At the national level the Project Advisory Committee included representatives of funding agencies, the executive agency, and senior government and non-government representatives. Although this Committee was not involved with CYHUP operations directly, it was very instrumental in mobilizing high level support as well as to sensitize provincial, district and community level lines of command.

At the local level local partners comprised of representatives of the District Office, the District Health Office and/or Provincial Hospital, the local police, the local educational authorities, and the District Public Relations Office. The roles of these Provincial and District Working Groups were not only to advise the PIU how best to cooperate with communities, the most efficient means to run road safety operation in provinces, and local networking dealing with specific activities, but also to facilitate the coordination with their local officials in implementing activities.

The composition of Approval Committees varied among provinces; however members consisted of representatives of PWGs and DWG assisting PIU staff in screening and approval of community proposals as well as accountability and transparency of the sub-grant provision process.

Every participating village established a Community Workgroup, which organized meetings of community members to obtain the opinion of community about appropriate promotional activities and arrive at a consensus on a plan for local initiatives.

Inter-sector action

The CYHUP evaluation identified following strategic partnerships: the SAO, the local police, the local health sector, secondary schools, community leaders, and community organizations. It is of importance to notice that both provinces had well developed networks in place and shared prior history of experiences with inter-sector activities.

However, the level of collaboration among these partners varied from one sub-district to another, which might be explained by variations in the characteristics of local leaderships.

Key actors

Key actors in creating and maintaining local partnerships were interestingly not the Sub-district Administrative Organizations, but police and health sectors as well as school and community organizations.

Leadership qualities of village chiefs in mobilizing community participation were a key factor to create a sense of local project “ownership and active involvement in project implementation”.

The unexpected

The CYHUP received less participation from some special groups such as monks. Until today monks do not wear helmets when riding on motorbikes based on cultural-religious values. However monks act as important role models in Thai society**.** Their importance was illustrated by communities inviting monks to bless motorcycle campaigning caravans.

Chapter-6
Lessen Barriers to Law Enforcement

Highlights

- Law enforcement officers highly appreciated the support received from the CYHUP in enforcing helmet wearing law.
- Based on road safety data targeted policing was applied by police officers as a strategy to overcome barriers created by limited resources.
- District and community working groups clearly provided a vehicle for supportive networks to develop between education, health, law enforcement, and administrative sectors as well as community organizations.
- Social and community enforcement mechanisms provided a unique support system to law enforcement efforts.

Common barriers in road safety law enforcement for police officers identified prior to CYHUP implementation were insufficient manpower, financial constraints, and community pressures undermining law enforcement. Especially in rural Thailand, community life styles and the non-confrontational values of Thai culture were reasons pointed out that made law enforcement extra challenging. In addition, the low incidence rates of motorcycle collusions and related head injuries in the project areas did not help to bring helmet wearing to the local priority agenda. Notwithstanding these challenges the CYHUP was able to lessen barriers to law enforcement.

Sharing experiences

The CYHUP conducted training sessions for all district police officers aiming at enhancing capacity by sharing experience from law enforcement abroad, reinforcing the educational role in policing and how to run checkpoints and support communities in running checkpoints. A positive outcome of these sessions was that all district police officers involved regularly returned CYHUP monitoring and evaluation forms on running checkpoints and training activities. The feedback received was that the CYHUP project was very supportive for police officers to enforce helmet wearing law in the community and avoiding complaints or opposition from villagers to law enforcement efforts.

Targeted policing

Despite the common challenges expressed prior to project implementation, the police sector accepted leadership for the CYHUP. Consequently a police workgroup was established to develop policing action plans using road safety data to focus their policing efforts on high risk locations within communities such as: highways, important intersections, schools, as well as during popular festivals. Given that most people did not wear a helmet when traveling within their neighborhoods, a zoning approach was used to improve compliance with helmet wearing.

Supportive networks

Local networking was clearly stimulated by the formation of CYHUP district and community workgroups. Community activities clearly played a leading role in supporting law and social enforcement for helmet wearing, whereas the SAO and health sector provided a supportive role for enforcement efforts. However, extra policing efforts seemed to be less than expected because of inadequate numbers of police officers who are authorized to charge traffic fines.

Community support

Besides traffic police officers, especially schools, local communities, and parents played an important complimentary role to support law enforcement. Social and community enforcement provided a unique support system to law enforcement efforts in observed intervention areas.

Interviews revealed that it was difficult for the police to set up check points on sub-main roads within villages because of resource constraints. Social enforcement initiatives undertaken by community groups and teachers at school entrances provided support much needed support for law enforcement. Occasionally, some conflicts occurred because the project's target group was youth of 12-18 years old, while helmet wearing enforcement was applied to anyone in the villages.

Chapter-7
Champions of Change

Highlights

- Institutional support is important but local leadership and people's active involvement were key factors to the CYHUP's success.
- A sense of competition among communities and among schools fueled action and commitment.
- Mobilizing media support for community action depends on the networks and public relations of local leaders.

Not institutions but people

Although institutional support is important and should not be overlooked, local leadership and active involvement of people were key factors to the CYHUP's success. Experienced local leaders who gained trust from their communities because of their vision and devotion and the voluntary members of community groups were the real champions. Where formal and informal leaders joined forces, community mobilization, community participation and community ownership was created which positively affected the degree of success such as in Pa Mai Ngam village in Non Thong sub-district, Khon Kaen province.

Pa Mai Ngam village initiated a variety of helmet wearing promotion activities, such as: social enforcement checkpoints, helmet storage to keep project's helmets and provide to non-helmet users, introduction of a village regulation to enforce helmet wearing, and the creation of a village helmet fund receiving income from the sale of project helmets and fining non-helmet users. This village was outstandingly creative and active and achieved behavioral change among their community members within a short time.

Peer influence

The concept of peer influence was not limited to individuals such as students in the CYHUP. Equally important was the competition among communities, among schools, among districts and even among provinces, which was further encouraged by events such as awarding the "best practice village" and the "best practice school".

Non Com Village of Non Com Sub-district in Phu Pa Man District, Pa Mai Ngam Village of Non Thong sub-district in Waeng Yai District and Kok Klang Village of Pa Por sub-district in Banphai District were selected as "best practice villages" in a first round selection of communities of best practice. While in Nakorn Ratchasima Province, Nong Muang Yai of Hun Huay Sai sub-district in Pra Tai District and Toon Village of Ban Lueam sub-district in Ban Lueam District were chosen as "best practice villages".

Phu Pa Man School, and Non Sa-ard Wittayakarn School in Waeng Yai and Banphai Pittayakom School in Banphai were voted to "best practice schools" at the district level.

Finally, at provincial level the above selected communities and schools competed for being "best practice village and schools" within their province. Phu Pa Man School in

Phu Pa Man District, Pa Mai Ngam Village of Waeng Yai District, and Toon Village of Ban Lueam District were selected as the “best practice communities” within Khon Kaen and Nakorn Ratchasima Province respectively.

Social marketing

Social marketing benefited from support of local media such as community radio, local television broadcasting, and newspapers through networking from local leaders; for example by putting an appointed high-level administrator such as a District or Provincial Governor in the spotlight.

Key activities in social marketing involved campaigns with various types of activities such as caravans, events organized to distribute helmets, the organization of community check points, and edutainment activities. For example community training sessions on helmet wearing was done by staff from health and police sectors; or caravan-type campaigns run by the village and district working groups to increase people’s awareness within communities; or using the community radio and television to launch campaigns and raise awareness.

Chapter-8
Outcomes and Impacts

Key project outputs, outcomes, and impacts for the CYHUP are presented below:

Outputs of CYHUP operations

Highlights

Delay in site selection impacted project progress however the Community Youth Helmet Use Project reached all targeted communities in terms of sub-granting community initiatives, helmet provisions, joint training and capacity building, law enforcement support, and grassroots monitoring, and went beyond expected outputs by conducting experience sharing events.

- The following committees were established and maintained through project implementation: (a) Project Advisory Committee, (b) 2 Provincial Working Groups, (c) 5 District Working Groups, and (d) 111 Community Working Groups.

- Out of the 120 communities targeted by the CYHUP 111 communities were actually included. These 111 communities comprised of 98 villages and 13 schools. However, delay in finalization site selection impacted on all aspects of project progression.

- For each of the 5 selected intervention districts a training of police officers was conducted.

- In each of these 5 districts trainings were conducted to: (a) introduce the CYHUP and its sub-grant scheme, (b) emphasize the need for road safety and helmet wearing for motorcycle users, (c) explain helmet wearing law, (d) build capacity in essential emergency medical service skills, and (e) build capacity in developing, planning, monitoring and evaluating community initiatives.

- As a result all 98 villages and all 13 schools submitted a proposal and received a sub-grant for their plan.

- A close supervision system for community project monitoring and evaluation was put in place to assist village and school initiatives.

- The project provided 50 motorcycle helmets for each of the 98 villages, 140 helmets for each of the 13 schools, and 755 helmets as rewards during joint events, totaling 7,475 helmets.

- For each of the 5 intervention districts “experience sharing sessions” were conducted. A similar experience sharing session was conducted including a competition for the award of “best practice village” and “best practice school”, bringing Khon Kaen and Nakorn Ratchasima provinces together (details are presented in Appendix-C).

Outcomes of the CYHUP

The expected outcomes of the CYHUP included raising awareness on helmet use and changing behavior in helmet use among the children ages 12-18 years in the intervention areas. Brief description on the methodology and the evaluation results are described below.

Awareness

Highlights

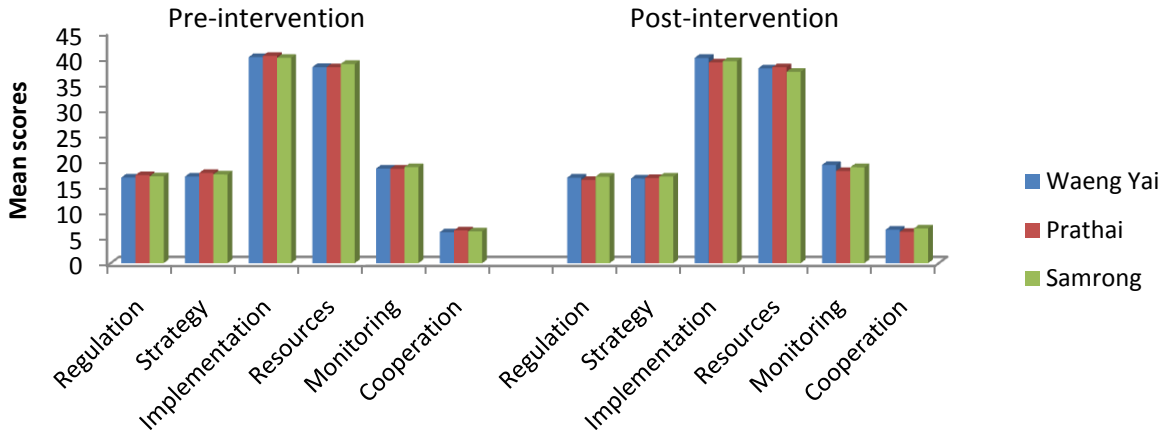
Awareness among police officers, teachers, parents and students on safety and helmet use are generally similar between the intervention areas and non-intervention areas either in pre-intervention or post-intervention.

The perceptions on safety and helmet use among school children were assessed in pre- and post-intervention surveys among four target groups including: police officers, teachers, parents, and students in the intervention sites and non-intervention site. Their perceptions on various aspects were inquired and compared between the intervention sites and non-intervention site.

Police officers

We selected 4 local police stations for the pre- and post intervention surveys, two of which were in Prathai district, one from Waeng Yai district, and one from Samrong district. The first two districts are the intervention sites and the latter is the non-intervention site. For each of the selected study sites all officers of the local police stations participated in completing a self-administered questionnaire on perceptions of safety and helmet use in the pre-and post-intervention surveys. The assessment emphasized on the perceptions of the institutional regulations, strategies, implementation of activities, resource allocation, monitoring system, and corporation with other organizations that were involved with safety and helmet use. A four point scale was used for different levels of perception comprising (1) strongly disagree, (2) disagree, (3) agree, and (4) strongly agree respectively. Detailed questions are shown in the questionnaire-1 in Appendix-B. As shown in Figure-8.1, the mean scores on these aspects were relatively similar for the intervention and non-intervention sites either in pre- or post-intervention surveys, with an exception of the low mean score on the perceptions of the implementation of the activities involving safety and helmet use for Samrong in pre-intervention, but it caught up with the other two districts in post-intervention (details are presented in Tables A-8.1 and A-8.2 in Appendix-A).

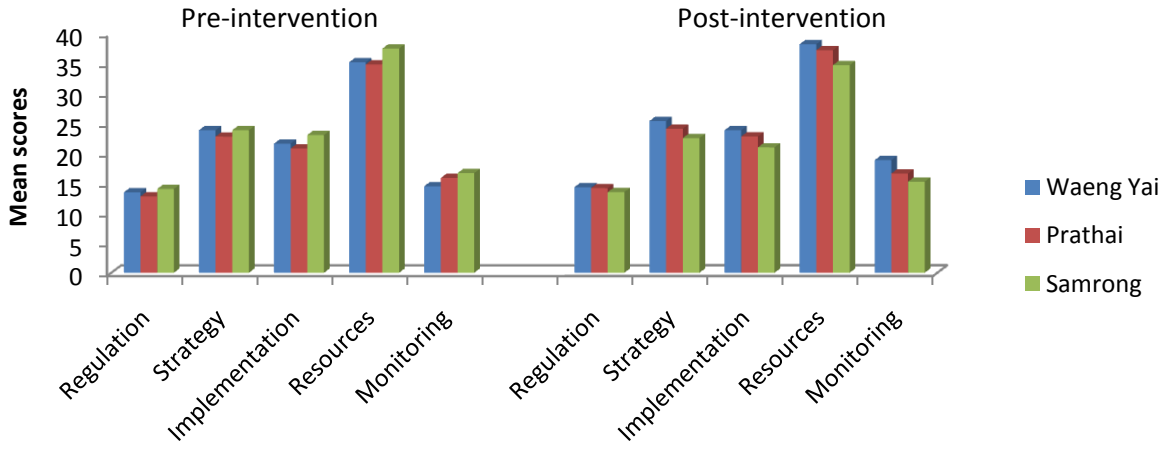
Figure-8.1: Mean Scores of the Scales from 1-4 for the Police's Perceptions on Safety and Helmet Use



- Teachers

Non Sa-ard Witayakan school in Waeng Yai District, Prathai school in Prathai district, and Samrong Witayakan school in Samrong District, were selected for the awareness assessment of the teachers. For each of the selected secondary schools all of the teachers participated in completing a self-administered questionnaire on perceptions about safety and helmet use within the schools. Similar to the police, the teachers are regarded as enforcers for safety and helmet use among the students. We, therefore, emphasized the assessment of their perceptions of the institutional regulations, strategies, implementation of the school activities, resource allocation, and monitoring system, that were related to safety and helmet use among the students. Assessment of teachers' perceptions used the same approach as applied for police officers that included the institutional regulations, strategies, implementation of the school activities, resource allocation, and monitoring system, using the four point scale for the perception levels of (1) strongly disagree, (2) disagree, (3) agree, and (4) strongly agree respectively. Detailed questions are shown in questionnaire-2 in Appendix-B. As shown in Figure-8.2, the mean scores of the teachers' perceptions on all aspects of the school management in Non Sa-ard Witayakan school and Prathai school were somewhat lower than Samrong Witayakan school, but they became significantly higher than Samrong Witayakan school in post-intervention (details are presented in Tables A-8.3 and A-8.4 in Appendix-A). This may reflect the influence of the interventions on raising awareness on safety and helmet use among the teachers in the intervention schools.

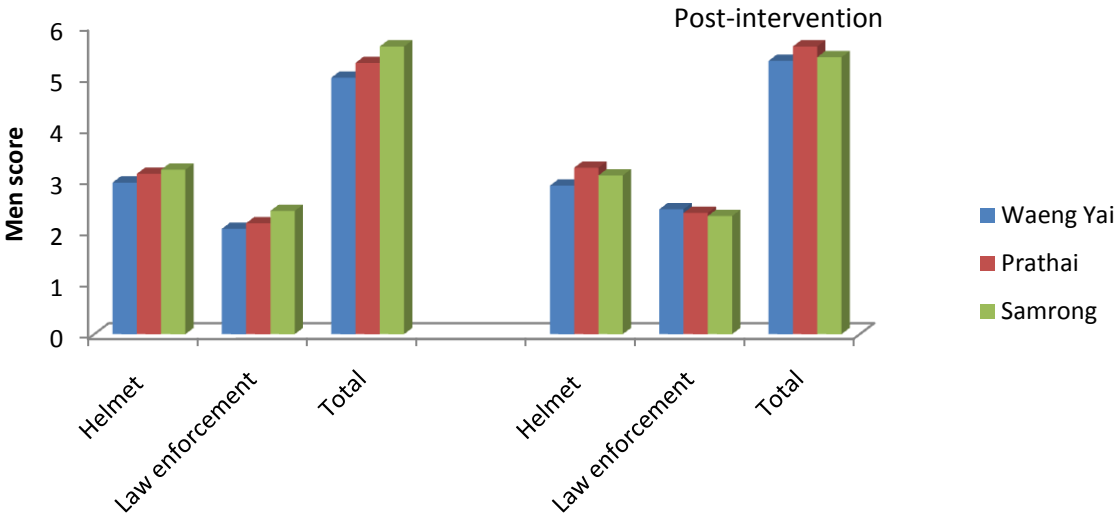
Figure 8-2: Mean Scores of the Teacher's Perceptions on Safety and Helmet Use Management



- Parents

For each of the randomly selected students from Prathai school, Waeng Yai Witayakan school, and Samrong Witayakan school, a self-administered questionnaire was provided for their parents to complete at home in pre- and post-intervention surveys (see detailed questions in questionnaire 3 in Appendix-B). In general, their perceptions about helmet use among their children and other young motorcyclists were not significantly different from that of the parents in Samrong School (details on perceptions are presented in Tables A-8.6 and A-8.7 in Appendix- A). In addition, as shown in Figure-8.3, their knowledge about helmet safety and law enforcement were not significantly different (details are presented in Tables A-8.7 and A-8.8 in Appendix-A).

Figure 8-3: Mean Scores of the Parent's Knowledge on Helmet and Law Enforcement



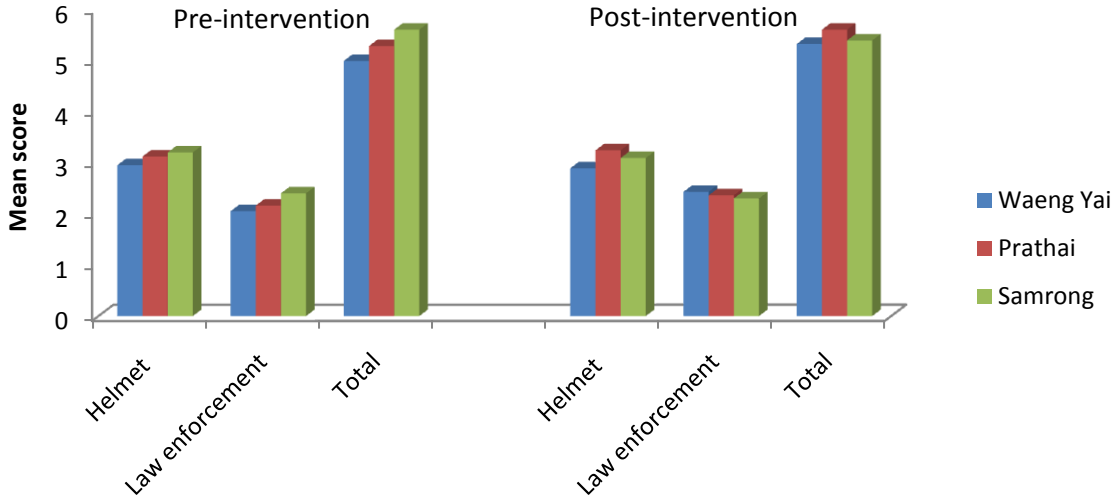
- Students

A total of 1,532 randomly selected students participated in completing a self-administered questionnaire on knowledge, perceptions, and practices about safety and helmet use in pre- and post-intervention surveys in August 2008 (see detailed questions in questionnaire-3 in Appendix-B). In post-intervention survey, the same participants completed the same questionnaires in June 2009. Unfortunately, some of the students could not be followed up in the second survey since they had graduated and left the schools. As a result, a total of 997 students remained in the post-intervention survey. Of these, 425, 302, and 270 participants were from Prathai School, Non Sa-ard Witayakan School, and Samrong School respectively.

To assess the awareness of the students on helmet use, we collected the data on knowledge, perceptions, and practices on helmet use. We emphasized on the basic knowledge about helmet and helmet law enforcement. As shown in Figure-8.4, the total mean scores for knowledge of the students in Non Sa-ard Witayakan School and Prathai School were significantly lower than Samrong Witayakan school in the pre-intervention survey, but they were increased and significantly higher than Samrong School in post-intervention survey (details are presented in Tables A-8.9 and A-8.10 in Appendix-A).

Generally, the students' perceptions on helmet use for Non Sa-ard Witayakan School and Prathai School were relatively similar to that for Samrong Witayakan School, with an exception of a few negative aspects which were found to be stronger for the students in Non Sa-ard Witayakan School and Prathai School than those in Samrong School. The total mean score on some of the negative aspects such as "wearing helmet is only necessary on main road driving", "wearing helmet is too hot and itchy", "wearing helmet is uneasy for seeing or hearing", and "Wearing helmet looks stupid to friends" were significantly higher for the students in Non Sa-ard Witayakan School Prathai School than in Samrong witayakan school ($p<0.05$) (details are presented in Tables A-8.10 and A-8.11 in Appendix-A). However, this negative perceptions may not affect the student practice in wearing helmet because the increase in helmet use rates were observed in post-intervention survey for the two schools as shown in Tables A-8.13 and A-8.14 in Appendix-A. The increased helmet use rates found from self-reporting were consistent with those observed from the roadside observations further discussed in the behavioral change section.

Figure 8-4: Mean Scores of the Student's Knowledge on Helmet and Law Enforcement



In summary, awareness of the police, teachers, parents and students on safety and helmet use among children are generally similar between the intervention areas and non-intervention areas either in pre-intervention or post-intervention. The significantly increased mean score on the knowledge on helmet use and law enforcement among the students in the intervention schools was possibly the result of the project interventions in either the schools or the communities. Importantly, the results suggested that observed negative perceptions on wearing helmets among the students did not prevent them from using helmets, as shown in Figure 8-5 to be discussed later, the observed helmet use rates in the intervention sites were higher than the non-intervention sites (see Figure 8-5 below).

Behavior change

- Helmet use in the villages

Highlights

The results from the roadside observations indicate a significant increase in helmet use among the school children in the intervention areas as compared to the non-intervention areas.

To evaluate behavioral change of the children, we conducted a pre- and post-intervention roadside observation on helmet use among secondary school children in the 6 selected sub-districts including: Non Thong and Non Sa-ard in Waeng Yai District, Talad Sai and Hun Huay Sai in Prathai district, and Nonghai and Kham pom in Samrong district. A total of 12,091 children and 6,597 children were observed in pre-intervention and post-intervention surveys respectively. As shown in Figure-8.5, the helmet wearing rates observed in Waeng Yai district, Prathai district, and Samrong district were 4.4%, 7.9%, and 6.9% in pre-intervention and increased to 27.1%, 23.4%, and 13.8% in post-intervention respectively. The results from post-intervention show that the helmet wearing rates among school children in Weang Yai and Prathai districts were about 2 folds and significantly higher than in Samrong district ($p<0.001$) (see Table A-8.15 in Appendix-A). Evidently, the helmet use rate in Waeng Yai district was dramatically increased about 6 folds of the rate in pre-intervention. This was attributed by the substantial increase in helmet use rate in Non Thong sub-district from 0.9% in pre-intervention to 11.1% in post-intervention, and in Non-sa ard sub-district from 6.4% in pre-intervention to 32.5% in post-intervention (Figure-8.6) Similarly, the increase in helmet use rates were observed in post-intervention for Hun Huay Sai and Talad Sai sub-districts, with a 2 fold increase for the former and a 3 fold increase for the latter (Figure-8.7).

Figure-8.5: Percentages of Helmet Use among Children by Districts

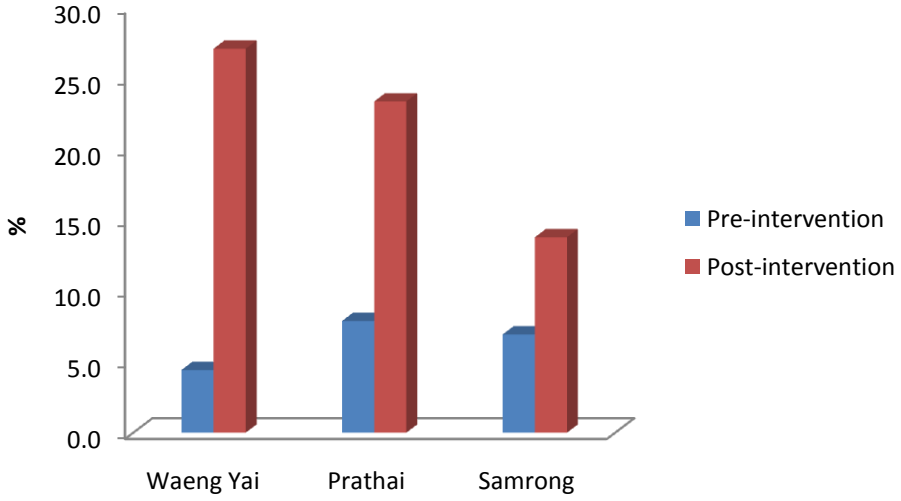


Figure-8.6: Percentages of Helmet Use among Children by Sub-districts

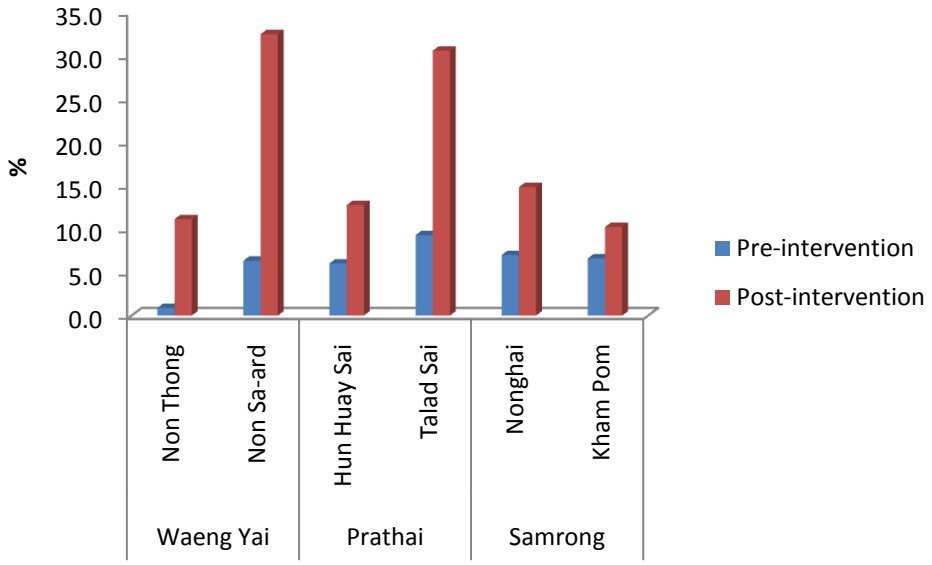
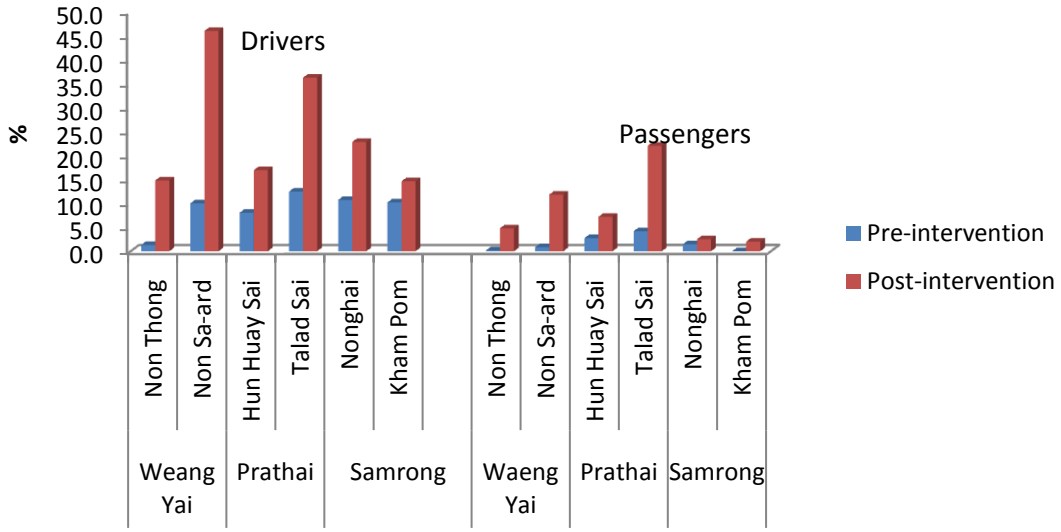


Figure-8.7: Percentages of Helmet Use among Driver and Passenger by Sub-districts



As a control district, there was no project intervention implemented in Samrong district. In post-intervention survey, however, a 2 folds increase in helmet use rate was found in the district, as shown in Figure-8.5; and the increase rates were observed in the two study sub-districts within the district, namely Nonghai and Kham pom (see Figure-8.6). This may be influenced by some other factors which cannot be evaluated in this study, and could possibly confound the effects of the project interventions. In spite of these potential confounders, we still observed excess helmet use rates for all of the study sub-districts except Talad Sai which had an equal increase of 2.1 folds of the helmet

use rate to Nonghai sub-district. This suggests the effects of the project interventions on the increase of the helmet use rates among the school children in the study sites.

As shown in Figure-8.7, the greater changes in helmet wearing rates were observed among drivers than passengers in all of the 6 sub-districts. There was no clear pattern in the behavioral changes in helmet use either in males or females (Figure-8.8). Generally, the helmet use rates were higher on weekdays than on weekends (Figure-8.9).

In summary, the results from the roadside observations suggest a significant increase in helmet use among the school children in the intervention areas as compared to the non-intervention areas. This may indicate the influences of the project interventions on behavioral changes on helmet use among the children within the study areas.

Figure-8.8: Percentages of Helmet Use among Male and Female Children by Sub-districts

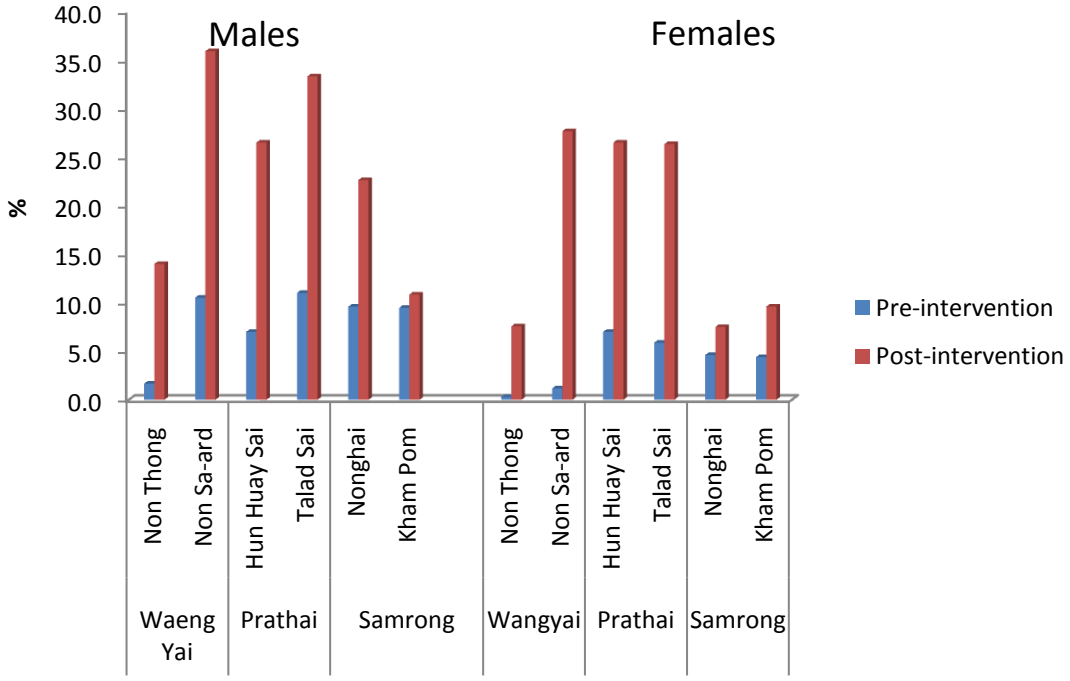
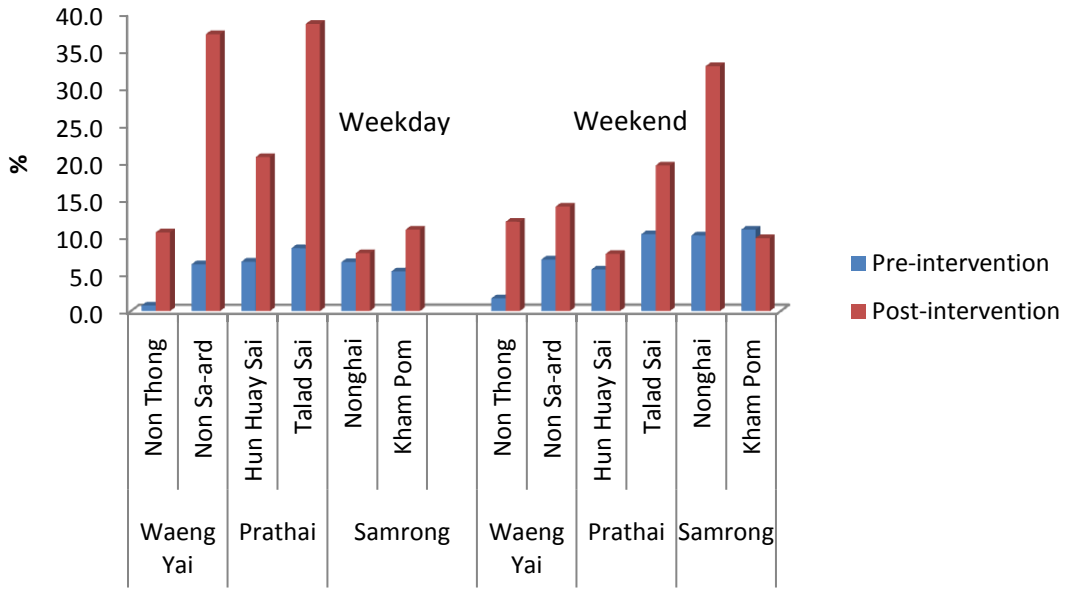


Figure-8.9: Percentages of Helmet Use among Children by Weekday and Weekend



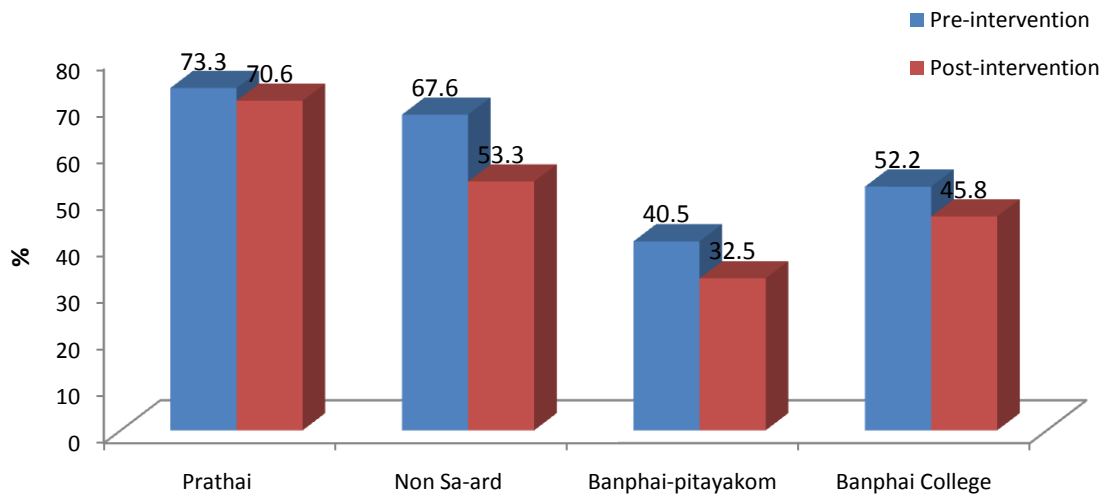
- Helmet use in proximity to schools

In addition to the roadside observations of helmet use within the villages, other pre- and post intervention roadside observations were conducted to evaluate the behavioral changes in helmet use of school children in proximity to Prathai school in Prathai district, Non-Sa-ard Witayakan school in Waeng Yai district, and the other two schools from Banphai district which are Banphai Pitayakom School and Banphai Industrial and Community Education College (abbreviated as Banphai College in the graphs). Within these schools, we also performed the pre- and post-intervention transect walks in the motorbike parking places and helmet storage facilities to observe the numbers of helmets used by the students. It is believed that the numbers of helmets observed would reflect behavioral changes in helmet use of the students. It is important to note that the pre-intervention survey was conducted in early June 2009, in which most of the community and school interventions had not yet been implemented, and the post-intervention survey was conducted in early September 2009 which was only about 2 months after the community project interventions. As a result, the findings obtained can only reflect the trend of behavioral changes in a short time period. More importantly, based on our field observations in the pre-intervention survey, the school checkpoints were usually present at the school gates in the morning when the students were coming to schools and in late afternoon when the student were going back home; but in the post-intervention survey, we observed that the late afternoon checkpoints were not always present as they were observed in the first survey in early June 2009

As shown in Figure-8.10, the extraordinary high helmet use rates of the students were observed in proximity to the 4 schools under study in early June 2009 survey. The observed rates were as high as 73.28%, 67.57%, 40.45% and 52.17% for Prathai, Non Sa-ard, Banphai Pitayakom, and Banphai College respectively. It was found that the rates were decreased by 2.72%, 14.29%, 7.92% and 6.38% for Prathai, Non Sa-ard, Banphai Pitayakom, and Banphai College respectively in the second survey in early

August 2009. The rapid decrease within 2 months in helmet use rates may be resulted from the level of enforcement by the schools was not as strong as before.

Figure-8.10: Helmet Use among School Children in Proximity to the Schools

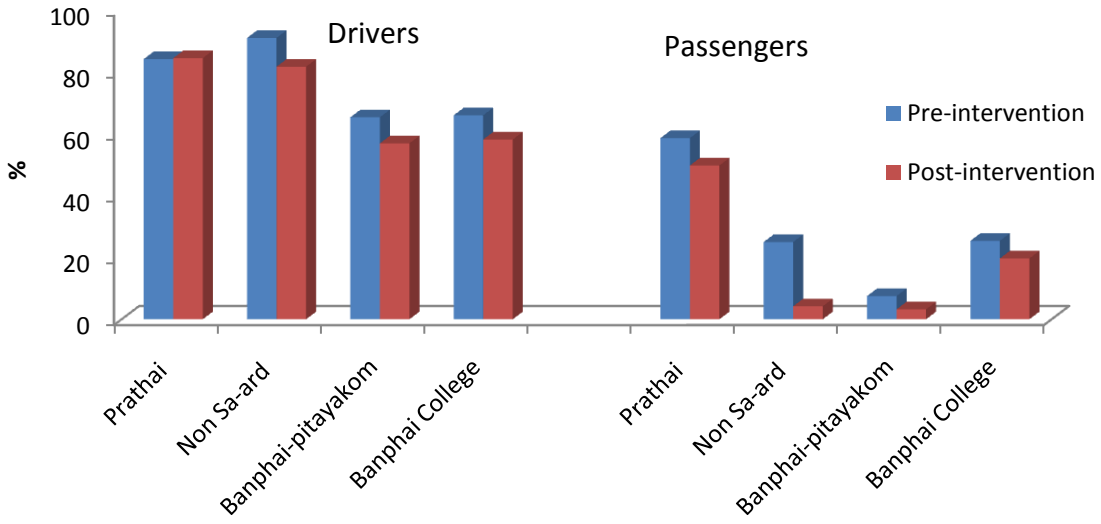


Based on our observations in the pre-intervention survey, the school checkpoints were usually present at the school gates in the morning when the students were coming to schools and in late afternoon when the student were going back home; but in the post-intervention survey, we observed that the late afternoon check points were not always present as they were observed in the first survey in early June 2009.

It is worth noting that the observed helmet use rates in proximity to schools were higher than those observed in the villages (see Figure-8.5 and Figure-8-10). This may be because the students were likely to take the helmets off in the absence of the school or police checkpoints.

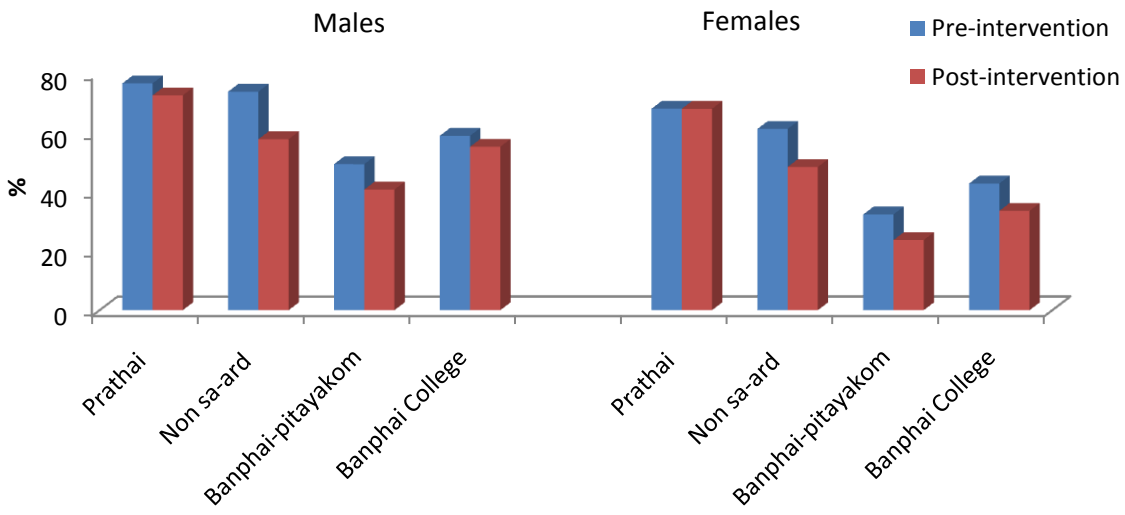
As shown in Figure-8.11, the decreased helmet use rates were observed for both drivers and passengers.

Figure-8.11: Helmet Use among Youth Drivers and Youth Passengers in Proximity to the Schools



Generally, helmet use rates for male students were higher than female students with the excess rates ranged from 8.6% to 17.0% in the first survey and from 4.5% to 21.7% in the second survey (Figure-8.12).

Figure-8.12: Helmet Use among Male and Female Children in Proximity to the Schools



- Helmet observation in schools

The results of transect walks in motorbike parking places and helmet storage facilities are shown in Table-8.1. It was found that numbers of students attending the schools in pre-intervention were slightly more than post-intervention. This may affect the smaller

number of motorbikes and helmets observed in the parking places within the schools. For Banphai College, the number of students observed was less than the number of motorbikes because some of the students were out of the school for education activities during the observation period. On the other hand, numbers of helmets observed were more than numbers of motorbikes because some motorbikes may have two helmets for the driver and passenger. Importantly, we found a slightly higher ratio of number of helmets to number of motorbikes in all of the 4 schools. In addition, none of the school provides helmet storages for the students, but there were security guards in most schools except Non Sa-ard Witayakan.

It is clear that the decrease in helmet use rate in proximity to schools were consistent with the reduction of the number of helmets observed in the parking places of the schools (see Figure-8.10 and Table-8.1).

Table 8-1: Comparison of Transect Walks in Motor Bikes Parking Places in the 4 Studied Schools

Observations	Pratai School		Non Sa-ard School		Banphai Pitayakom School		Banphai College	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
No. students	3,011	2,758	400	380	542	501	310	138
No. motorbikes observed in school	275	238	35	33	202	165	419	400
No. helmets observed in school	419	386	37	35	195	172	485	468
Observed motorbike: helmet ratio	1:1.52	1:1.62	1:1.06	1:1.06	1:0.97	1:1.04	1:1.15	1:1.17
Availability of security guard	yes	yes	no	no	yes	yes	yes	yes
Availability of helmet storage	no	no	no	no	no	no	no	no

Law enforcement

Highlights

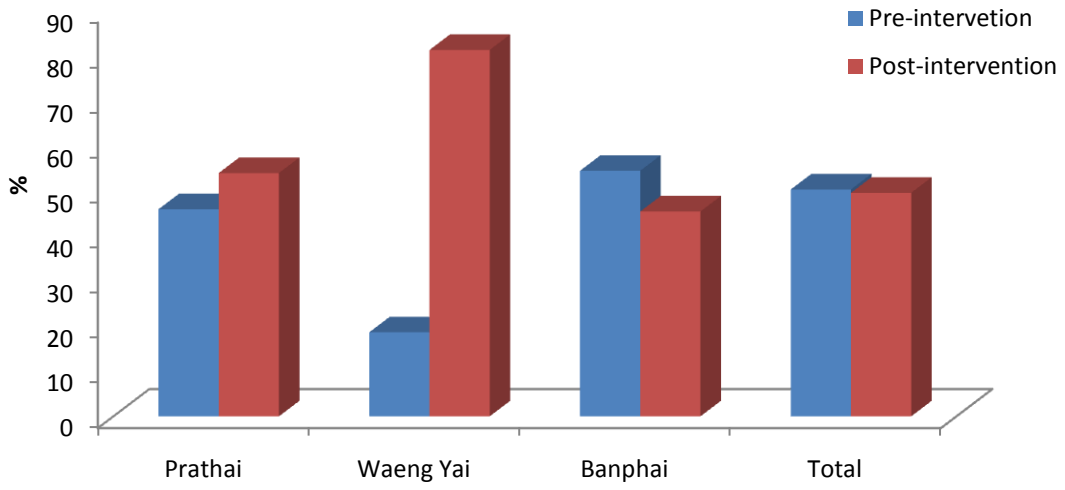
Fluctuations in pre- and post intervention findings on law enforcement are inconclusive and could be explained by improved alertness to law enforcement, improved attention to reporting, positive effects of the project or under reporting.

In early June and early August 2009, a pre-post intervention data collection on fines issued for non-helmet wearing and data on surveillance duty deployment were employed to evaluate the outcomes of law enforcement by police agencies within Waeng Yai, Prathai and Banphai district. The comparison of the information obtained was made for the same periods of time, i.e., from January to August 2008 and January to August 2009. This approach should avoid possible variations of the fines and surveillance over time, which may subsequently affect the validity of the results. The first period was considered as pre-intervention because no project interventions implemented in this period, and the latter was considered as post-intervention period because the project interventions had been implemented from January to August 2009.

Based on the criteria for data collection, there were 3,092 records on fines during January to August 2008, and 3,046 records on fines during January to August 2009, the details of which are presented in Table A-8.16 in Appendix A.

As shown in Figure-8.13 approximately 50% of the total fines were observed in both pre- and post- interventions. However, we observed excess proportions of about 8% and 63% for post-intervention comparing to those in the pre-intervention for Prathai and Weang Yai districts respectively. The excess proportions may possibly be a result of various factors such as more enforcement conducted in post-intervention or improvement of recording system, resulted in increasing number of fines. In contrast, in Banphai, the proportion of fines was about 10% lower in post-intervention than in pre-intervention. This may be resulted from the effectiveness in enforcing helmet use within the district, resulting in less number of fines; or under reporting of the fines.

Figure-8.13: Percentages of Fines due to Violation of Helmet Law by Districts



Head injury incidence

Highlights

Too few incidence cases of head injury were reported over the study period to evaluate the impact of the interventions on reduction of head injuries from motorcycle accidents. Moreover, it is unlikely to observe reductions of head injuries within a short period of time after the completion of the project.

An expected impact of the project interventions is the reduction in head injuries among children aged 12-18 years in the study area. To evaluate this impact, the incidence of head injuries in the intervention sites was compared with that in the non-intervention site. Therefore, motorcycle injury data from the period of January 2007 to March 2009 were obtained from the Khon Kaen University hospital, the Regional Nakorn Ratchasima Hospital and the Regional Ubon Rachathani Hospital. Unfortunately, the most recent completed data available for the assessment was up to March 2009 in all of the hospitals, making it difficult to assess the impact of the interventions as they had not been fully implemented in March 2009.

As shown in Table A-8.17 (Appendix), during the study period of Jan 2007 to March 2009, a total of 30 cases of motorcycle injuries were reported in the 4 intervention Hun Huay Sai sub-districts including Hun Huay Sai, Talad Sai, Non Thong, and Non Sa-ard, and a total of 16 cases were reported from the non-intervention sites, Kham pom and Nonghai sub-districts. Of these, there were 3 reported cases of head injury, one of them was in Non Thong sub-district, and the other two cases were in Nonghai sub district (presented in Appendix Table A-8.18). Moreover, two of them had a Glasgow score less than 5, indicating possible severe brain trauma[5], one case was from Non Thong sub-district and the other case was from Nonghai sub-district (presented in Appendix Table A-8.19).

As too few incidence cases of head injury were reported over the study period along with the data obtained were not covered the post-intervention period, so it was not possible to evaluate the impact of the interventions on reduction of head injuries from motorcycle accidents. Moreover, it is unlikely to observe the reduction of head injuries within a short period of time after the completion of the interventions, because behavioral changes in helmet use play a major role in the reduction of head injuries, and it may take a long time to happen.

Chapter-9
The Price Tag

The bill

Highlights

A trip to the grassroots costs money: with 40% of the total expenditure for consultants' and related services, 14 % for operating costs, 15% for workshops, 9 % for helmet provision, and 21% for community sub-grants.

As summarized in Table-9.1 and Figure-9.1, the total budget for the project was USD 834,200, of which USD 694,612 or about 83% was spent by the end of October 2009.

The major component (40%) of the total expenditure was for consultants' services which can be broken down into 20% for consultants, 15% for nationally hired IFRC staff and 4.5% for travel and related expenses. The consultants' services include situation analysis, monitoring and evaluation, facilitation and coordination for field implementation, education system and delivery component, and traveling expenses for field missions.

The second component was the sub-grant which is the allocation to the communities and schools to implement their proposed activities. This component took up 21% of the total expenditures. Another 10% was for the purchase of goods, being 9% for helmets to be distributed to the communities and schools, and 1% for purchase of computer and telecom equipment. Workshops, trainings and meeting expenses for all project components account for 14% of the total costs. Finally 14% is for incremental operating costs including office running cost, information and public relations.

Figure-9.1: Total Project Expenditures by Component

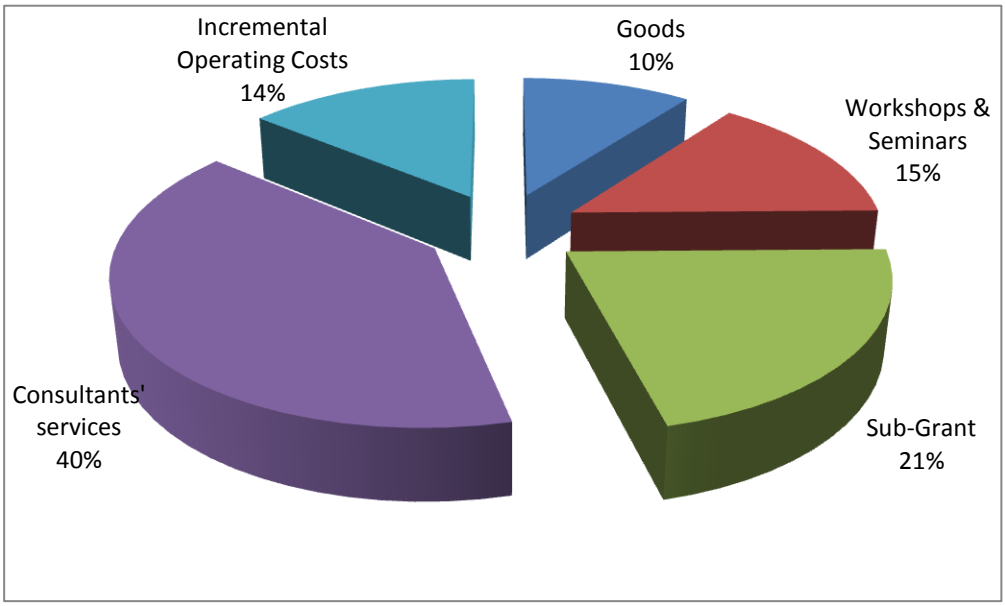


Table-9.1: Total Project Expenditures in USD

Components	Budget	Actual	%
Goods	88,500	71,491	10.29
Workshops & Seminars	165,000	100,421	14.46
Sub-Grant	144,000	148,894	21.43
Consultants' services	320,000	276,271	39.77
- Consultants	(107,180)	(137,166)	(19.75)
- Nationally hired IFRC staff	(154,252)	(107,619)	(15.49)
- Travel and related expenses	(58,568)	(31,486)	(4.53)
Incremental Operating Costs	116,700	97,535	14.04
Total	834,200	694,612	100.00
%	100.00	83.27	

Expenditures for central operation vs. allocations to communities

Highlights

Direct allocation to communities is 37% of total costs while joint cost is 63%.

Project activities consist of: Youth Helmet Program, Training, and Monitoring & Evaluation. As of October 31, 2009, USD 368,827 or 53% of the total amount spent to date was for the Youth Helmet Program (Table 9.2). Activities under this program consist of allocation of funds to villages and schools under sub-grant, distribution of the helmets to communities, fees and traveling expenses for facilitators and coordinators for field implementation. While sub-grant and helmets are directly distributed to the communities for use at their own discretion, money for other activities is subject to central management.

Table-9.2: Budget and Actual Project Expenditures by Project Activity and Component (up to October 31, 2009) in USD

Activities	Budget		Actual Expenditures						
	%	Budget	Goods	Consultants	Sub-grant	Workshops	Incremental Operating Cost	Total	%
Helmets	50.18	418,598	61,883	158,049	148,894	-	-	368,827	53.10
Training	26.58	221,745	-	66,803	-	100,421	-	167,224	24.07
Monitoring	23.24	193,858	9,608	51,419	-	-	97,535	158,562	22.83
Total	100.00	834,201	71,491	276,271	148,894	100,421	97,535	694,612	100.00
%			10.29	39.77	21.44	14.46	14.04	100.00	

The sub-grant and helmet purchase for direct allocation to the communities add up to USD 210,777 or about 50% of the Youth Helmet Program budget of USD 418,598. From the total expenditures of USD 694,612, as shown in Table 9.3, 23% is set aside for monitoring and evaluation, 30% is for the direct allocation and helmet distribution to communities, and the remaining 47% are joint costs consisting of workshops and meetings, and consultants' services which apply equally to all communities. Monitoring and evaluation component is not included in the joint costs because some of the monitoring and evaluation activities only cover a sample of 44 villages and 2 schools which is less than 50% of the total communities in the project.

Table-9.3: Allocation of Total Expenditures

	USD	%	%	Million Baht [2]
Total Expenditures	694,612	100.0	-	22.92
Less monitoring & evaluation	158,562	22.8	-	5.23
	536,050		**100.0**	**17.69**
Sub-grant + helmet for direct allocation to communities	210,777[1]	30.3	39.3	6.95
Joint cost	325,273	46.8	60.7	10.73

Notes: (1) Sub-grant USD 148,894 + helmet purchase USD 61,883
(2) USD 1 ≈ THB 33

Table-9.4 shows that each of the 111 communities in the project received 35,000 Thai Baht direct allocation to conduct their own helmet wearing promotional activities. This amount was divided into two allotments: 60% and 40%. On top of the 35,000 Baht, each school was allocated an additional 58,000 Baht, divided into two payments of 50% each. The project also distributed 50 helmets to each village and 140 helmets to each school. The total value of direct allocation per village was therefore 49,000 Baht and per school was 132,200 Baht.

Figure-9.2: Allocation to Communities

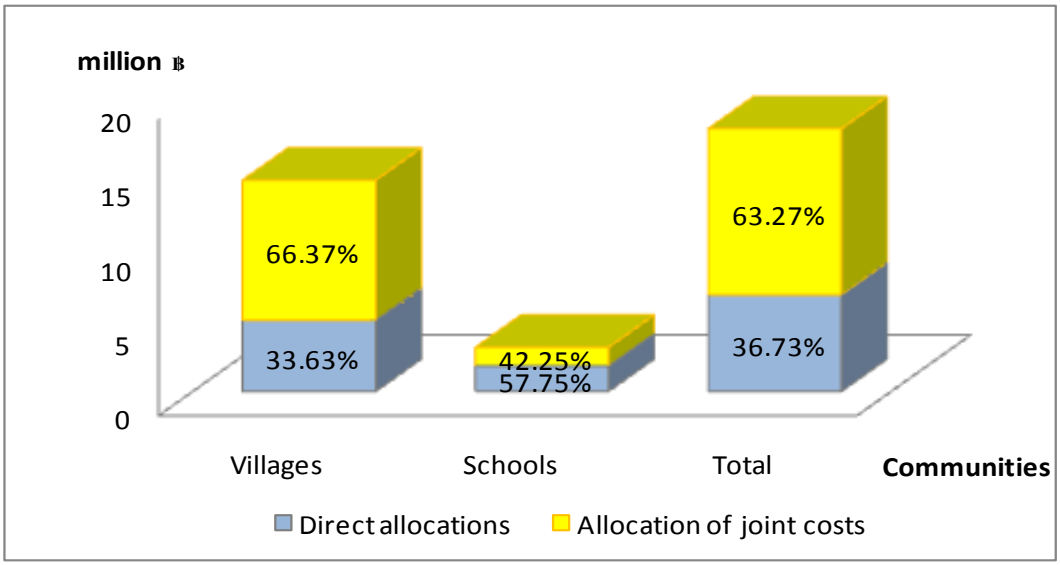


Table-9.4: Allocations to Communities in Thai Baht

Per community		Villages		Schools		Total	
Direct allocation		35,000		35,000			
Additional allocation		–		58,000			
Helmet distribution	50@ ฿280	14,000		-			
	140@ ฿280	-		39,200			
		49,000		132,200			
Allocation joint cost (1)		96,700		96,700			
	Total/community	**145,700**		**228,900**			
Total no. communities		98	%	13	%	111	%
Direct allocation & helmets (2)		4,802,000	33.63	1,718,600	57.75	6,520,600	36.73
Allocation of joint cost (1)		9,476,600	66.37	1,257,100	42.25	11,233,700	63.27
	Total for all communities	**14,278,600**	**100.00**	**2,975,700**	**100.00**	**17,754,300**	**100.00**
	%	83.08		16.92		100.00	

Notes: USD 1 ≈ THB 33
(1) Excluding monitoring & evaluation
(2) Not including 500 helmets for rewards and remaining 255

The allocated joint cost was 96,700 Baht per community. After adding the joint costs, total allocation to each village amounted to 145,700 Baht and to each school 228,900 Baht. As a result, the total direct allocation to all 98 villages accounted for 34% and for all 13 schools 58% of the total allocations for each group. For the total 111 communities, direct allocation was 37% while allocation of joint costs was 63% (Figure-9.2)

Allocation of community funds

Highlights

Little money at the grassroots goes far! USD 1,000 per community was used as follows: workshops (33%), signboards (28%), checkpoints (16%), campaigns (15%), helmet fund (6%), and broadcasting (2%)

The activities carried out by communities include workshops within and jointly among communities to educate the people about the benefits of wearing helmets, putting up signboards/signage made of metal or wood (permanent) and cloth (temporary) at different entrances/exits of the communities, setting up checkpoints at certain locations to monitor and enforce helmet wearing, broadcasting of information through community radio, campaigning jointly with other communities, and setting aside an amount from the allocated money for helmet fund which will be used for the purpose of helmet wearing promotion. Fines collected from non-wearers of helmet caught at checkpoints will provide additional funding for the helmet fund. Schools also conducted contests of various kinds to promote helmet wearing by students riding motor cycles.

As shown in Tables 9.5 & 9.6, expenditure data collected from the two sample districts, Prathai District in Nakorn Ratchasima and Waeng Yai District in Khon Kaen, suggest that workshops and signboards/signage took up the largest proportion (over 60%) of the community expenses, whereas broadcasting and helmet fund together accounted for only about 8%. Considering by type of expenses, about 38% of the total expenses went to fees, which were mainly for workshop resource persons. Equipment expenses of 34% were mostly for signboards, while operating expenses accounted for 28%.

Figure-9.3: Total Expenditures at Local Level by Activity

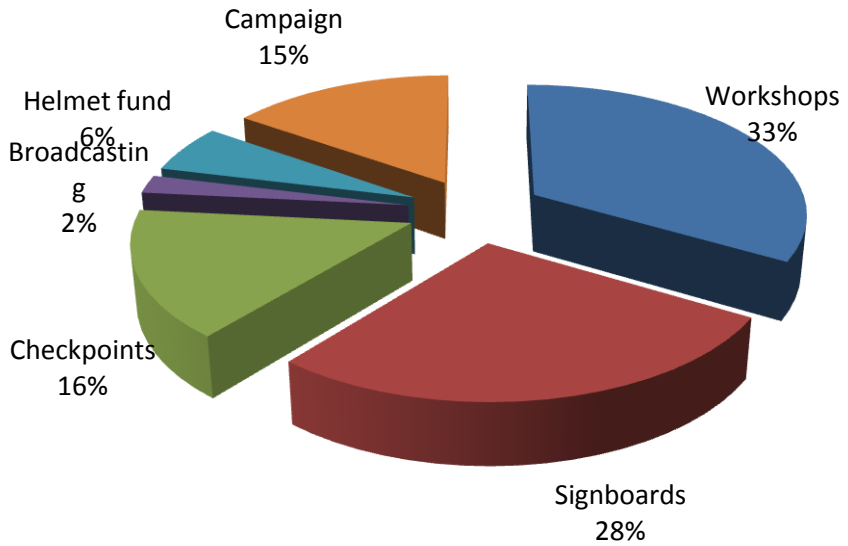
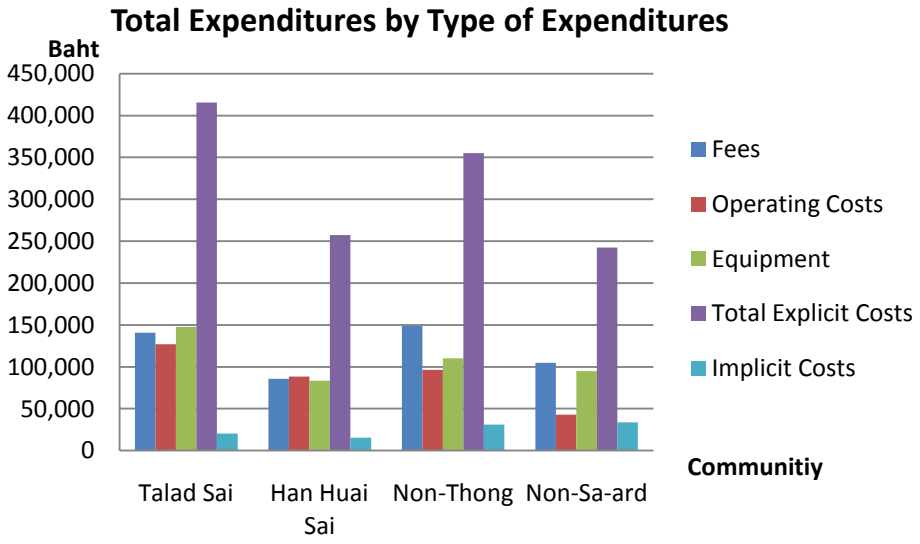


Table-9.5: Total Expenditures at Local Level by Activity in THB

Activities	Prathai		Waeng Yai		Total	%
	Talad Sai	Hun Huai Sai	Non-Thong	Non-Sa-ard		
Workshops	143,520	84,850	131,830	64,350	424,550	33.42
Signboards	113,445	60,700	91,645	83,920	349,710	27.53
Checkpoints	42,205	13,900	90,150	52,558	198,813	15.65
Broadcasting	8500	9,250	3600	7,000	28350	2.23
Helmet fund	26,390	30,200	8,100	10,220	74,910	5.90
Campaign	81,300	58,500	29,750	24,422	193,972	15.27
Total	415,360	257,400	355,075	242,470	1,270,305	100.00
%	32.70	20.26	27.95	19.09	100.00	

Figure-9.4: Total Expenditures at Local Level by Type of Expenditures



Note: See next section for an explanation of implicit costs

Table-9.6: Total Expenditures at Local Level by Type of Expenditures in THB

Type of Expenditures	Prathai		Waeng Yai		Total	%	%
	Talad Sai	Hun Huai Sai	Non-Thong	Non-Sa-ard			
Fees	140,613	85,750	148,680	104,878	479,921	37.78	
Operating Costs	127,032	88,300	96,245	42,902	354,479	27.91	
Equipment	147,715	83,350	110,150	94,690	435,905	34.31	
Total Explicit Costs	415,360	257,400	355,075	242,470	1,270,305	100.00	92.64
Implicit Costs	20,345	15,505	31,200	33,804	100,854		7.36
Total Costs Explicit & Implicit	435,705	272,905	386,275	276,274	1,371,159		100.00

Since activities and expenditures were determined by the communities, it is expected that some would place a greater emphasis on particular activities. However, it is found that there are small differences among the communities regarding the relative importance of activities or types of expenditures. Except for Non Sa-ard sub-district in Waeng Yai, communities in other sub-districts had the largest average expenditure on workshops. Villages in Non Sa-ard, on the other hand, spent the largest average amount on signboards as well as spending less than other sub-districts by about the same time. The largest average expenditure for checkpoints was in Non-Thong sub-district, while helmet fund and campaigning were most significant in Hun Huai Sai sub-district (Tables 9.7A & 9.7B).

Table-9.7A: Average Expenditure at Local Level per Community by Activity and Type of Expenditures in THB

Activities	Prathai							
	Talad Sai				Hun Huai Sai [1]			
	Type of Expenditures				Type of Expenditures			
	Fees	Operating Costs	Equipment	Total	Fees	Operating Costs	Equipment	Total
Workshops	6,014.46	4,341.83	1,653.75	11,040.00	5,900.00	5,725.00	1,840.00	12,121.43
	(n=13)	(n=12)	(n=8)	(n=13)	(n=7)	(n=6)	(n=5)	(n=7)
Signboards	956.25	1,605.00	7,691.54	8,726.54	1,066.67	2,600.00	6,212.50	7,587.50
	(n=4)	(n=6)	(n=13)	(n=13)	(n=3)	(n=3)	(n=8)	(n=8)
Checkpoints	3,485.71	3,466.67	2,468.33	5,275.63	2,166.67	1,000.00	2,700.00	4,633.33
	(n=7)	(n=3)	(n=3)	(n=8)	(n=3)	(n=2)	(n=2)	(n=3)
Broadcasting	-	2,000.00	1,625.00	1,700.00	500.00	2,566.67	525.00	1,541.67
	(n=0)	(n=1)	(n=4)	(n=5)	(n=1)	(n=3)	(n=2)	(n=6)
Helmet fund	5,500.00	5,500.00	4,945.00	5,278.00	4,500.00	7,066.67	-	6,040.00
	(n=1)	(n=2)	(n=2)	(n=5)	(n=2)	(n=3)	(n=0)	(n=5)
Campaign	4,783.33	5,237.50	3,566.67	7,390.91	6,312.50	5,083.33	6,000.00	9,750.00
	(n=6)	(n=8)	(n=3)	(n=11)	(n=4)	(n=3)	(n=3)	(n=6)
Total	10,816.38	9,771.69	11,362.69	31,950.77	10,718.75	11,037.50	10,418.75	32,175.00
	(n=13)	(n=13)	(n=13)	(n=13)	(n=8)	(n=8)	(n=8)	(n=8)

Note: (1) There are 9 villages in Hun Huai Sai but data from one village were not available.

Table-9.7B: Average Expenditure at Local Level per Community by Activity and Type of Expenditures in THB

Activities	WaengYai							
	Non-Thong				Non-Sa-ard			
	Type of Expenditures				Type of Expenditures			
	Fees	Operating Costs	Equipment	Total	Fees	Operating Costs	Equipment	Total
Workshops	5,407.27	6,600.00	1,177.27	11,984.55	4,093.64	3,725.00	1,105.00	5,850.00
	(n=11)	(n=9)	(n=11)	(n=11)	(n=11)	(n=4)	(n=4)	(n=11)
Signboards	-	920.71	7,745.45	8,331.36	1,250.00	1,200.00	7,292.73	7,629.09
	(n=0)	(n=7)	(n=11)	(n=11)	(n=2)	(n=1)	(n=11)	(n=11)
Checkpoints	7,690.00	1,464.29	600.00	8,195.45	4,504.80	1,480.00	530.00	5,255.80
	(n=10)	(n=7)	(n=5)	(n=11)	(n=10)	(n=4)	(n=3)	(n=10)
Broadcasting	-	425.00	200.00	450.00	1,000.00	1,000.00	1,000.00	1,400.00
	(n=0)	(n=8)	(n=1)	(n=8)	(n=1)	(n=5)	(n=1)	(n=5)
Helmet fund	3,300.00	4,000.00	400.00	2,025.00	-	3,450.00	1,106.67	2,044.00
	(n=1)	(n=1)	(n=2)	(n=4)	(n=0)	(n=2)	(n=3)	(n=5)
Campaign	2,250.00	2,550.00	1,600.00	3,718.75	1,883.33	1,497.00	1,035.00	3,052.75
	(n=4)	(n=5)	(n=5)	(n=8)	(n=6)	(n=6)	(n=4)	(n=8)
Total	13,516.36	8,749.55	10,013.64	32,279.55	9,534.36	4,290.20	8,608.18	22,042.73
	(n=11)	(n=11)	(n=11)	(n=11)	(n=11)	(n=10)	(n=11)	(n=11)

Schools also spent the largest amount on workshops and exhibition. Contests, public relations, signs, and checkpoints all received about the same proportion of the budget. See Table-9.8 for Prathai and Non-Sa-ard Wittayakarn schools' allocation of their budget expenditures.

Table-9.8: School Expenditures by Activity and Type of Expenses in THB

1. Prathai School	Fees	Operating Costs	Equipment	Total	%
Workshops & Exhibitions	25,500	19,200	1,000	45,700	49.14
Contests	6,000	11,100	–	17,100	18.39
Public Relations	13,200	–	–	13,200	14.19
Signs	10,700	–	–	10,700	11.51
Campaign	–	6,300	–	6,300	6.77
Total	55,400	36,600	1,000	93,000	100.00
%	59.57	39.35	1.08	100.00	
2. Non-Sa-ard Wittayakarn School	Fees	Operating Costs	Equipment	Total	%
Workshops & Exhibitions	7,700	38,250	1,900	47,850	50.90
Contests	5,400	2,400	5,820	13,620	14.49
Monitoring & Checking	9,000	–	3,330	12,330	13.12
Public Relations	–	5,000	–	5,000	5.32
Signs	–	–	15,200	15,200	16.17
Total	22,100	45,650	26,250	94,000	100.00
%	23.51	48.56	27.93	100.00	

About implicit costs

Highlights

Imputed time costs for people freely assisted in the project activities in the communities are small relative to explicit costs.

Apart from explicit costs or costs in money terms allocated to each community to conduct its activities, one could consider the implicit costs involved in carrying out such activities. These include time costs for people who assist in the various activities without being their direct responsibilities and without being paid, or even the value of other resources (meeting place, vehicles, etc.) used without paying money. Although these assistances reflect the cooperation within and among the communities, there are opportunity costs to the use of such resources.

In this analysis, only time costs for people are taken into account. This is done by using average salary or daily wage of particular occupation and in some cases the minimum wage by law to do the estimation. Uses of other resources free of charge are minimal (except the temple hall) and therefore are not imputed.

Table-9.9 indicates that the imputed value to time costs of those who help in the activities without being paid account for only 5 % to 12% of the total costs. Workshops, campaign and broadcasting are the activities involving implicit costs because the activities involve using a lot of people, many of them provide assistance voluntarily.

Table-9.9: Total Expenditures at Local Level by Type of Expenditures, Community and Activity in THB

Activities	Prathai district						WaengYai district					
	Talad Sai sub-dt			Hun Huai Sai sub-dt			Non-Thong sub-dt			Non-Sa-ard sub-dt		
	Type of Expenditures			Type of Expenditures			Type of Expenditures			Type of Expenditures		
	Explicit Costs	Implicit Costs	Total	Explicit Costs	Implicit Costs	Total	Explicit Costs	Implicit Costs	Total	Explicit Costs	Implicit Costs	Total
Workshops	143,520	18,530	162,050	84,850	13,105	97,955	131,830	12,180	144,010	64,350	9,762	74,112
Signboards	113,445	0	113,445	60,700	0	60,700	91,645	0	91,645	83,920	500	84,420
Checkpoints	42,205	0	42,205	13,900	0	13,900	90,150	0	90,150	52,558	0	52,558
Broadcasts	8,500	0	8,500	9,250	400	9,650	3,600	6,000	9,600	7,000	300	7,300
Helmet fund	26,390	0	26,390	30,200	0	30,200	8,100	0	8,100	10,220	0	10,220
Campaign	81,300	1,815	83,115	58,500	2,000	60,500	29,750	13,020	42,770	24,422	23,242	47,664
Total	415,360	20,345	435,705	257,400	15,505	272,905	355,075	31,200	386,275	242,470	33,804	276,274
%	95.33	4.67	100.00	94.32	5.68	100.00	91.92	8.08	100.00	87.76	12.24	100.00

Cost of changing behavior

Highlights

The intervention unit cost of helmet wearing compliance was strongly variable from community to community, both for direct community expenditures and total project expenditures per community.

Cost per unit reduction in head injuries could not be assessed due to unavailability of sufficient data on head injuries from motorcycle accidents.

Two indicators of effectiveness of the project are the increase in percentage of motorcycle riders wearing helmet and the reduction in number and severity of head injuries from motorcycle accidents.

Since each village is allocated an equal amount of grant money and helmets and joint cost for the total value at 145,700 baht per village, and since Prathai district and Waeng Yai district each has 22 villages in the study sample, the comparison of cost effectiveness of the project between the 2 districts can be done by considering the difference in helmet wearing compliance. With equal expenditures of 3.2 million baht per district, the one with greater increase in the rate of helmet wearing after the project is considered more cost effective.

Comparison of the increase in the percentage of helmet wearing before and after project implementation in Prathai and Waeng Yai districts with the increase in non-intervention site at Samrong district shows that the project intervention results in a larger increase in helmet wearing. However, the data in Table-9.10 show that the rate of helmet wearing in Samrong doubled between pre-and post project without intervention. Hence it is assumed that the same rate of increase in helmet wearing would have happened in other sites as well even without intervention. Therefore, only the increase in helmet wearing over and above double the pre-project rate is considered as the relevant increase. Using this approach, Waeng Yai district performs much better than Prathai district. Hun Huai Sai sub-district has the least change because the increase is just over doubled, while Non-sa-ard has the largest increase in percentage of helmet wearing.

Taking either total expenditures at community level, or total direct allocations plus joint cost allocations, it turns out that Prathai district has more than two and a half times higher cost per unit increase in helmet wearing than Waeng Yai district although the two districts have the same number of villages in the sample. At sub-district level, Non-Sa-ard has the least expenses per unit increase in helmet wearing, as its increase in the rate of helmet wearing is highest despite being very slow in spending the allocated money. Talad Sai and Non Thong sub-districts have almost the same costs per unit increase in helmet wearing. Hun Huai Sai, on the other hand, incurs the highest cost per unit increase in helmet wearing due to small improvement resulting from the invested resources.

Cost per unit reduction in head injuries cannot be assessed at this time due to unavailability of data on head injuries from motorcycle accidents since March 2009.

Table-9.10: Cost per Unit Increase in Helmet Wearing in THB

	% of Motorcycle Riders Wearing Helmet			THB	THB
Districts & sub-districts	(1) Pre-Project	(2) Post-Project	(3)=(2)-2(1) [a] Increase	(4) Community Expenditure per Unit Increase [b]	(5) Total Expenditure per Unit Increase [c]
Prathai	7.9	23.4	7.6	93,238	421,763
Talad Sai	9.3	30.6	12.0	36,309	157,842
Hun Huai Sai	6.0	12.8	0.8	341,131	1,639,125
Waeng Yai	4.4	27.1	18.3	36,205	175,158
Non-Thong	0.9	11.1	9.3	41,535	172,333
Non-Sa-ard	6.3	32.5	19.9	13,883	80,538
Samrong [d]	6.9	13.8	0.0	0	0
Nong Hai	7.0	14.8	0.8	0	0
Kam Pom	6.6	10.2	-3.0	0	0

Notes: (a) Assume that percent of motorcycle riders wearing helmet would have doubled without intervention as in the case of Samrong
(b) Total of explicit and implicit costs of each district and sub-district
(c) Direct allocations + joint cost allocations from project budget
(d) Non-Intervention Site

Chapter-10
Beyond the project

Highlights

- The CYHUP participatory approach created strengths among local communities to plan, implement, monitor and evaluate their initiatives.
- Evidence suggests that certain activities have the potential to be more sustainable than others without additional funding or resources.
- Various communities and schools intend to seek local funding to continue other project activities.
- The importance of the issue for communities and the level of commitment are valuable factors for sustainability of project activities.

Encountered strengths

The quality of plans and presentations showed that most communities and schools were able to effectively plan and implement a range of activities designed to address promotion of helmet use, including managing their project budget and meet accountability expectations.

Involvement in the project did raise awareness and understanding of the importance of basic data collection as a tool for identifying issues and monitoring effectiveness of efforts.

Local resource mobilization

Sustainability of project activities was a key issue discussed in experience sharing sessions. Various communities and schools expressed their intention to seek additional funding to continue key project activities, in particular from their Sub-district Administrative Organization (SAO).

There was a high level of involvement of key people from the study communities, especially the head of villages, as well as from most communities observed by the GRSP team in Khon Kaen province. Most communities and schools brought several people to experience sharing sessions and a great deal of effort was put into developing poster displays, and/or computer facilitated presentations. In additions there was also a high level of involvement from representatives of sub-district and district organizations. This appears to indicate the importance of the issue for these communities and the level of commitment, which could contribute to the sustainability of project activities.

Evidence suggests that certain activities have the potential to be more sustainable than others without additional funding or resources. Although there was variation based on the level of involvement among communities and schools, some examples are:

- Plans to continue regular social enforcement checkpoints and to resource these from the local community helmet fund.
- Communities seeking support from local police to continue enforcing helmet wearing.

- Schools that made policies about compulsory helmet wearing and an ongoing commitment to regular helmet checks, including contacting parents in case of non-compliance.
- Helmet storage/locker in schools are expected to be sustainable property.
- Signage in communities and schools that was designed to be permanent and maintained.
- The commitment of a number of villages to continue helmet wearing campaign via their community radio.

Conclusions & Recommendations

Conclusions

When revisiting the CYHUP evaluation questions, based on the findings, following conclusions were drawn:

- What are key factors that affect project implementation?

The overall CYHUP coordinating approach involving PIU, PAC, PWG, DWG, and CWG acted as a strong vehicle in mobilizing essential project support and reaching local communities.

The set of CYHUP strategies such as: awareness raising, education, policing, helmet distribution, and emergency medical services training proved to be a valuable approach.

Given the very few motorbike collusion head injuries in the project implementation area, the relevance of emphasizing emergency medical services training could be argued. On the other hand, incidence of motorcycle crashes was significantly higher than head injury cases. Further, EMS training provided a wider benefit in skilling people in communities with basic first aid.

As indicated in chapter-9, delays in project implementation in absence of required postponement of the project completion date most likely adversely affected expected project outcomes.

- Did the project deliver the expected outputs?

The CYHUP reached all 111 targeted communities (98 villages and 13 secondary schools) in terms of sub-granting community initiatives, helmet provisions, joint training and capacity building, law enforcement support, and grassroots monitoring, and went beyond expected outputs by conducting experience sharing events.

- How successful was the project in achieving its objectives?

The project clearly succeeded in increasing awareness on road safety issues within the target communities and assisted youth, their families and teachers within these communities to become agents for promoting behavior change. As a result the use of motorcycle helmets increased significantly.

Given the very few motorcycle collusion head injuries and injury related deaths within the intervention sites as well as the limitations in terms of time for impact to show, we were unable to establish correlation between the CYHUP project and its impact on head injuries and injury related deaths. However, we need to caution for misinterpretation of these findings. Based on a systematic review of the literature the WHO[4] stated that: “motorcycle helmets do reduce the risk of mortality and head injury in motorcycle riders who crash, although the effect on death may be modified by other factors surrounding the crash”. Therefore, it is safe to infer that the significant increase of helmet wearing observed as a result of the CYHUP will impact head injuries and related deaths.

- What are the project's impacts on beneficiaries?

Findings on helmet wearing clearly demonstrate a significant impact of CYHUP on behavior change among beneficiaries in the target communities.

Given the limitations in terms of time for impact to show it was not possible to establish project impact in terms of reductions of head injuries and related deaths. However, as explained above it is safe to infer that the significant increase of helmet wearing observed as a result of the CYHUP will impact head injuries and related deaths.

- Did the project contribute to local capacity building and sustainable development?

The quality of community and school plans and reports showed that most communities and schools were able to effectively plan and implement a range of activities designed to address promotion of helmet use, including managing their project budget and meet accountability expectations.

Sustainability of project activities was a key issue discussed within and among communities and various communities and schools expressed their intention to seek additional funding to continue key project activities, in particular from their Sub-district Administrative Organization (SAO) and District Office.

A high level of involvement of formal and informal community leaders indicated the importance of the issue for these communities and the level of commitment, which could contribute to the sustainability of project activities.

Evidence suggests that certain activities have the potential to be more sustainable than others without additional funding or resources; although there was variation based on the level of involvement among communities and schools.

- What does it cost to achieve project outcomes?

As evidenced in chapter-9, a trip to the grassroots costs money because significant proportions of the budget were needed to implement the coordination mechanisms required for a pilot project, while about 20% of the total cost was used directly for community sub-grants, in addition individual communities also benefited from joined expenditures for helmet purchases, transport for meetings, workshops organized for them, etc. However, it was also evident that a little money at the grassroots does go far!

The intervention unit cost of helmet wearing compliance was strongly variable from community to community, both for direct community expenditures and total project expenditures per community. Unfortunately the cost per unit reduction in head injuries could not be assessed due to unavailability of sufficient data on head injuries from motorcycle accidents.

Strategic recommendations

The evaluation team formulated the following four strategic recommendations for consideration:

- The CYHUP model shows clearly to have value in terms of mobilization of local resources, initiating behavior change, fostering capacity building, and developing a foundation for the sustainability of activities beyond the project; therefore the evaluation team recommends replicating the CYHUP model to other sites in Thailand as well as other developing countries.

- The CYHUP most successful strategies were awareness raising, education, and policing. Therefore these strategies should be considered essential if the model will be replicated. Helmet distribution, although desirable, requires further review and improvement; while emergency medical services training might provide added value since incidence of motorcycle crashes was significantly higher than head injury cases.

- There is a need to reflect on the realism of project time frames. Unanticipated delays in project preparation while maintaining rigid funding cycle deadlines risk undermining achievement of project outcomes and impacts and therefore ultimately the investment itself.

- To further enhance project sustainability; considering the importance given to the support of national, provincial, and district authorities; it would be instrumental to deliberate including quit pro quo approaches that ensure commitment of local administrations to key community helmet wearing initiatives beyond the project cycle.

Appendices

Appendix-A

Table A-3.1: Main Strategies Adopted for School Helmet Projects

Province	School	Main activities	Sub activities
Nakhon Ratchasima	Prathai School	Road safety and helmet wearing Helmet distribution and behavior modification	1. Slogan competition 2. Classroom competition
	Wang Mai Dang Withayakom School	Road safety and helmet wearing Helmet distribution and behavior modification	1. Motorcycle campaign 2. Poem composition and folksong competition
	Ban Lueam	Road safety and helmet wearing Helmet distribution and behavior modification	1. Camera shots 2. Five-minute broadcasting on driving education 3. Games
	Hun-Huy Sai Pitayakom School	Road safety and helmet wearing Helmet distribution and behavior modification	1. Essay and slogan competition 2. Helmet wearing campaign
Kon kaen	Phu Pa Man School	Road safety and helmet wearing Helmet distribution and behavior modification	1. Minute for life with GRSP 2. Insert in the regular course and subjects
	Ban Larn Witayakom School	Road safety and helmet wearing Helmet distribution and behavior modification	1. Five-minute talk before school 2. Helmet wearing training by the older students yreve yadirF
	Wangyai Witayakom School	Road safety and helmet wearing Helmet distribution and behavior modification	1. Road volunteer club 2. Slogan competition helmet wearing on the holidays 3. Teaching in the regular curriculum
	Ban Phai Suksa School	Road safety and helmet wearing Helmet distribution and behavior modification	1. Weekly campaign for helmet wearing 2. Slogan and speech competition, drama, and signage
	Non Sa-ard Witayakom School	Road safety and helmet wearing Helmet distribution and behavior modification	1. White and blue wearing helmet promotion 2. Helmet wearing training and scholarship provision
Kon kaen	Ban Phai Pitayakom School	Road safety and helmet wearing Helmet distribution and behavior modification - Slogan and sign board competition	1. Parent education and helmet wearing caravan 2. Modern youth driver club 3. Driving manual and traffic signs 4. Five-minute school talk efil rof

Province	School	Main activities	Sub activities
		Road safety and helmet wearing Helmet provision and behavior modification - workshop on emergency care at Khon Kan hospital	1. School check point and helmet wearing campaign 2. Road volunteer training for boy scouts
	Ban Sapsomboon School	Road safety and helmet wearing Helmet distribution and behavior modification student training (Prathom 6-Maathayom 1-3 together with their parents)	1. Minute for life program 2. Integration of road safety in normal curriculum margorp
	Ban Phai Industrial and Community Education College or(Ban Phai College)	Road safety and helmet wearing Helmet provision and behavior modification	1. Slogan competition 2. Helmet wearing campaign

Table A-8.1: Mean Scores of Police's Perceptions on Institutional Management of Safety and Helmet Use for Prathai and Samrong Districts

	Pre-intervention							Post-intervention						
	Prathai (n=75) District			Samrong District				Prathai District			Samrong District			
Domains	n	mean	sd	n	mean	sd	p-value	n	mean	sd	n	mean	sd	p-value
Regulation	73	17.14	2.16	84	16.92	1.93	0.693	73	16.23	2.00	67	16.85	1.84	0.0604
Strategy	74	17.57	2.07	83	17.28	1.87	0.374	74	16.61	2.14	67	16.88	2.03	0.4398
Implementation	72	40.39	4.50	77	4.01	4.45	0.515	74	39.12	3.97	67	39.37	3.54	0.6933
Resources	73	38.19	4.70	82	38.82	4.52	0.235	73	38.18	4.34	66	37.29	3.11	0.1707
Monitoring	75	18.40	2.95	81	18.70	3.14	0.282	71	17.96	2.67	67	18.69	1.98	0.0724
Cooperation	71	6.37	1.00	81	6.20	1.17	0.591	73	6.10	0.99	66	6.77	0.49	<0.0001

Table A-8.2: Mean Scores of Police's Perceptions on Motorbike and Helmet Use for Waeng Yai and Samrong Districts

	Pre-intervention							Post-intervention						
	Waeng Yai District			Samrong District				Waeng Yai District			Samrong District			
Domains	n	mean	sd	n	mean	sd	p-value	n	mean	sd	n	mean	sd	p-value
Regulation	56	16.68	2.02	84	16.92	1.93	0.484	29	16.66	1.61	67	16.85	1.84	0.6218
Strategy	58	16.86	2.12	83	17.28	1.87	0.222	29	16.48	2.11	67	16.88	2.03	0.386
Implementation	58	40.16	4.68	77	4.01	4.45	0.858	28	40.00	4.62	67	39.37	3.54	0.475
Resources	57	38.21	5.56	82	38.82	4.52	0.481	29	37.97	5.02	66	37.29	3.11	0.505
Monitoring	57	18.44	4.09	81	18.70	3.14	0.682	29	19.14	3.01	67	18.69	1.98	0.463
Cooperation	58	6.02	1.56	81	6.20	1.17	0.459	29	6.52	1.09	66	6.77	0.49	0.235

Table A-8.3: Mean Scores of Teachers' Perception on Management of Motorbike Safety for Prathai and Samrong Witayakan Schools

	Pre-intervention							Post-intervention						
	Prathai			Samrong Witayakan				Prathai			Samrong Witayakan			
Domains	n	mean	sd	n	mean	sd	p	n	mean	sd	n	mean	sd	p
Helmet injury	100	16.27	2.37	47	17.81	1.65	<0.001	71	16.97	2.12	32	16.41	2.03	0.208
Regulation	102	12.75	1.97	46	14.00	1.73	<0.001	70	14.14	1.73	32	13.47	1.67	0.068
Strategy	102	22.75	2.73	46	23.83	2.30	0.022	72	24.07	2.94	32	22.50	2.98	0.014
Activities	102	20.76	3.56	45	23.02	3.30	<0.001	72	22.76	3.51	32	20.94	3.48	0.016
Resources	101	34.80	5.24	47	37.47	4.74	0.004	72	37.19	6.11	32	34.69	5.23	0.047
Monitoring	103	15.84	4.69	47	16.64	3.41	0.245	71	16.59	4.65	32	15.22	4.48	0.097

Table A-8.4: Mean Scores of Teachers' Perception on Management of Motorbike Safety for Non sa-ard Witayakan and Samrong Witayakan Schools

	Pre-intervention							Post-intervention						
	Non sa-ard Witayakan			Samrong Witayakan			p	Non sa-ard Witayakan			Samrong Witayakan			p
Domains	n	mean	sd	n	mean	sd		n	mean	sd	n	mean	sd	
Helmet injury	21	17.00	2.28	47	17.81	1.65	0.103	17	17.47	1.66	32	16.41	2.03	0.070
Regulation	21	13.43	1.75	46	14.00	1.73	0.215	17	14.29	1.57	32	13.47	1.67	0.100
Strategy	21	23.81	2.99	46	23.83	2.30	0.980	17	25.35	2.32	32	22.50	2.98	0.001
Activities	21	21.57	3.65	45	23.02	3.30	0.113	16	23.81	2.54	32	20.94	3.48	0.005
Resources	19	35.16	4.61	47	37.47	4.74	0.076	17	38.18	3.34	32	34.69	5.23	0.016
Monitoring	20	14.45	4.30	47	16.64	3.41	0.030	17	18.82	4.05	32	15.22	4.48	0.008

Table A-8.5: Mean Scores of Parents' Perceptions on Helmet Use

Perceptions	Pre-intervention					Post-intervention				
	Prathai (n=141)		Samrong (n= 102)			Prathai (n=181)		Samrong (n= 81)		
	mean	sd	mean	sd	p-value	mean	sd	mean	sd	p-value
How important do you think it is that (child's name) wear a motorcycle helmet when he/she rides a bike?	3.50	0.59	3.36	0.76	0.12	3.61	0.49	3.48	0.65	0.11
How important is it for motorcyclists other than your children to wear safety helmets?	3.50	0.56	3.38	0.69	0.13	3.55	0.50	3.42	0.52	0.05
Do you think wearing helmet is not necessary when riding a motorcycle in a short distance	2.39	0.76	2.46	0.85	0.54	2.42	0.74	2.44	0.76	0.81
Do you think children should wear helmet only when riding a motorcycle on a main road?	2.61	0.84	2.56	0.87	0.64	2.60	0.85	2.60	0.80	0.97
Helmet price is a problem to find a helmet for your child	2.38	0.81	2.40	0.84	0.87	2.43	0.69	2.38	0.75	0.56
There is no proper size of helmet available in the market for your child.	2.35	0.70	2.38	0.77	0.74	2.38	0.66	2.29	0.66	0.32
Helmet is too heavy for a child.	2.46	0.68	2.46	0.72	0.93	2.37	0.62	2.46	0.65	0.27
You wouldn't buy a helmet for your child because it may be lost.	2.07	0.70	2.15	0.81	0.44	2.08	0.58	2.01	0.63	0.43

Table A-8.6: Mean Scores of Parents' Perceptions on Helmet Use for Non Sa-ard Witayakan School and Samrong Witayakan School

Perceptions	Pre					Post				
	Non Sa-ard Witayakan (n=293)		Samrong (n= 102)		p-value	Non Sa-ard Witayakan (n=274)		Samrong (n=81)		p-value
	mean	sd	mean	sd		mean	sd	mean	sd	
How important do you think it is that (child's name) wear a motorcycle helmet when he/she rides a bike?	3.52	0.58	3.36	0.76	0.07	3.56	0.57	3.48	0.65	0.28
How important is it for motorcyclists other than your children to wear safety helmets?	3.42	0.61	3.38	0.69	0.59	3.49	0.61	3.42	0.52	0.38
Do you think wearing helmet is not necessary when riding a motorcycle in a short distance?	2.39	0.75	2.46	0.85	0.47	2.34	0.79	2.44	0.76	0.28
Do you think children should wear helmet only when riding a motorcycle on a main road?	2.45	0.83	2.56	0.87	0.23	2.47	0.88	2.60	0.80	0.21
Helmet price is a problem to find a helmet for your child	2.53	0.74	2.40	0.84	0.13	2.57	0.77	2.38	0.75	0.05
There is no proper size of helmet available in the market for your child	2.32	0.60	2.38	0.77	0.52	2.41	0.70	2.29	0.66	0.16
Helmet is too heavy for a child.	2.52	0.67	2.46	0.72	0.39	2.53	0.71	2.46	0.65	0.48
You wouldn't buy a helmet for your child because it may be lost.	2.06	0.60	2.15	0.81	0.30	2.08	0.68	2.01	0.63	0.45

Table A-8.7: Mean Scores of Parents' Knowledge on Helmet Use for Prathai School and Samrong Witayakan School

Knowledge Domains	Pre-intervention							Post-intervention						
	Prathai (n=145)		Samrong (n=103)					Prathai (n=145)		Samrong (n=103)				
	Mean	Cd	M	sd	p-value	Mean difference	sd	Mean	Cd	M	sd	p-value	Mean difference	sd
Helmet	3.186	1.36	3.068	0.952	0.389	0.118	1.06	3.08	1.0529	3.073	0.9658	0.9487	0.0088	1.0269
Law enforcement	2.22	0.803	2.155	0.746	0.538	0.065	0.822	2.2568	0.7298	2.3049	0.8268	0.6351	-0.048	0.761
Total	5.406	1.583	5.223	1.413	0.348	0.1836	1.515	5.3388	1.4045	5.378	1.3576	0.8319	-0.039	1.39

Table A-8.8: Mean Scores of Parents' Knowledge on Helmet Use for Non Sa-ard Witayakan School and Samrong Witayakan School

Knowledge Domains	Pre-intervention							Post-intervention						
	Non Sa-ard Witayakan (n=297)		Samrong (n=103)					Non Sa-ard Witayakan (n=280)		Samrong (n=82)				
	mean	sd	mean	sd	p-value	Mean difference	sd	mean	sd	mean	sd	p-value	Mean difference	sd
Helmet	3.0539	1.0019	3.068	0.952	0.901	-0.014	0.9895	2.857	0.83	3.07	0.9658	0.468	-0.216	0.8626
Law enforcement	2.165	0.844	2.155	0.849	0.9206	0.0096	0.845	2.3857	0.8765	2.3049	0.8286	0.4575	0.0808	0.8656
Total	5.2189	1.386	5.223	1.413	0.9778	-0.004	1.393	5.24	1.367	5.378	1.3576	0.4308	-0.135	1.365

Table A-8.9: Mean Scores of Students' Knowledge on Helmet and Law Enforcement for Non Sa-ard Witayakan School and Samrong Witayakan School

Knowledge Domains	Pre-intervention							Post-intervention						
	Non Sa-ard Witayakan (n=302)		Samrong (n=270)		Comparison			Non Sa-ard Witayakan (n=302)		Samrong (n=270)		Comparison		
	mean	sd	mean	sd	Mean Difference	sd	p-value	mean	sd	Mean	sd	Mean Difference	sd	p-value
Helmet	2.95	0.91	3.20	0.86	-0.40	0.88	0.00	2.89	0.79	3.09	0.83	-0.20	0.81	0.00
Law enforcement	2.05	0.88	2.40	0.74	-0.36	0.82	<.0001	2.43	0.72	2.30	0.77	0.13	0.75	0.04
Total	4.99	1.38	5.60	1.27	-0.61	1.33	<.0001	5.32	1.13	5.39	1.18	-0.08	1.15	0.44

Table A-8.10 Mean Scores of Students' Knowledge on Helmet and Law Enforcement for Prathai School and Samrong Witayakan School

Knowledge	Pre-intervention							Post-intervention						
	Prathai (n=425)		Samrong (n=270)		Comparison			Prathai (n=425)		Samrong (n=270)		Comparison		
	mean	sd	mean	sd	Mean Difference	sd	p- value	mean	sd	mean	sd	Mean Difference	sd	p-value
Helmet	3.12	0.98	3.20	0.86	-0.08	0.93	0.27	3.24	0.87	3.09	0.83	0.15	0.85	0.02
Law enforcement	2.16	0.79	2.40	0.74	-0.02	0.77	<.0001	2.36	0.66	2.30	0.77	0.06	0.71	0.32
Total	5.28	1.37	5.60	1.27	-0.33	1.33	0.00	5.60	1.09	5.39	1.18	0.21	1.13	0.02

Table A-8.11: Students' Perceptions on Safety and Helmet Use for Prathai School and Samrong Witayakan School

Perceptions	Pre-intervention					Post-intervention				
	Prathai n= 423		Samrong Witayakan n=270		p- value	Prathai n=423		Samrong Witayakan n=270		p- value
	mean	sd	mean	sd		mean	sd	mean	sd	
It is important that you wear a motorcycle helmet when riding a motorcycle. (safe10)	3.56	0.51	3.64	0.51	0.05	3.53	0.523	3.59	0.52	0.52
It is important for motorcyclists other than you to wear safety helmets. (safe11)	3.23	0.69	3.29	0.69	0.32	3.17	0.787	3.23	0.86	0.82
Wearing motorcycle helmet is unnecessary in a short distance riding. (safe11)	2.27	0.75	2.29	0.67	0.66	2.31	0.783	2.33	0.73	0.76
Wearing motorcycle helmet is necessary only when riding motorcycle on a main road. (safe13)	2.47	0.75	2.34	0.83	0.034	2.51	0.763	2.41	0.86	0.80
Price of helmet is unaffordable (safe14)	2.27	0.65	2.31	0.67	0.46	2.31	0.698	2.20	0.68	0.69
Style of helmet is not in fashion. (safe15)	2.30	0.70	2.34	0.71	0.44	2.38	0.698	2.37	0.70	0.70
Wearing helmet is too hot and itchy (safe16)	2.58	0.71	2.43	0.73	0.01	2.68	0.721	2.59	0.68	0.71
Wearing helmet is uneasy for seeing or hearing (safe17)	2.71	0.61	2.69	0.58	0.76	2.74	0.588	2.73	0.59	0.59
Wearing helmet looks stupid to friends. (safe18)	2.08	0.60	1.98	0.57	0.03	2.06	0.585	1.99	0.59	0.59

Table A-8.12: Students' Perceptions on Helmet Use for Non Sa-ard Witayakan School and Samrong Witayakan School

Perception	Pre-intervention					Post-intervention				
	Non Sa-ard Witayakan N=302		Samrong Witayakan n=270		p- value	Non Sa-ard Witayakan N=302		Samrong Witayakan N=270		p- value
	mean	sd	mean	sd		mean	Sd	mean	sd	
It is important that you wear a motorcycle helmet when riding a motorcycle.	3.58	0.56	3.64	0.51	0.22	3.58	0.57	3.59	0.52	0.84
It is important for motorcyclists other than you to wear safety helmets.	3.14	0.71	3.29	0.69	0.01	3.24	0.87	3.23	0.86	0.98
Wearing motorcycle helmet is unnecessary in a short distance riding.	2.34	0.85	2.29	0.67	0.49	2.26	0.82	2.33	0.73	0.29
Wearing motorcycle helmet is necessary only when riding motorcycle on a main road.	2.48	0.80	2.34	0.83	0.04	2.32	0.83	2.41	0.85	0.21
Price of helmet is unaffordable	2.37	0.72	2.31	0.67	0.30	2.39	0.76	2.20	0.68	0.00
Style of helmet is not in fashion	2.35	0.77	2.34	0.71	0.82	2.42	0.79	2.37	0.70	0.05
Wearing helmet is too hot and itchy	2.69	0.74	2.43	0.73	<.001	2.56	0.82	2.59	0.68	0.72
Wearing helmet is uneasy for seeing or hearing	2.90	0.64	2.70	0.58	0.00	2.86	0.65	2.73	0.59	0.01
Wearing helmet looks stupid to friends	2.26	0.70	1.98	0.57	<.001	2.33	0.71	1.99	0.59	<.001

Table A-8.13: Students' Practices on Motorbike and Helmet Use for Prathai School and Samrong Witayakan School

Self Reported Behavior	Pre-intervention					Pre-intervention				
	Prathai (n=425)		Samrong Witayakan (n=270)			Prathai (n=425)		Samrong Witayakan (n=270		
	no	%	no	%	p- value	No	%	no	%	p- value
Motorbike driver										
No	71	16.71	72	26.67	0.002	42	9.88	50	18.59	0.001
Yes	354	23.29	198	73.33		383	90.12	219	81.41	
Own helmet										
No	41	11.65	27	13.71	0.483	35	9.14	27	13.71	0.208
Yes	311	88.35	170	86.29	348	90.86	191	87.61		
Wearing helmet while driving										
No	136	38.42	58	29.29	0.031	88	23.04	65	30.23	0.053
Yes	218	61.58	140	70.71		294	76.96	150	69.77	
Daily average distance as a driver										
<2kms.	212	60.23	137	69.90	0.024	245	60.97	147	67.43	0.392
3-5 kms	140	39.77	59	30.1	38	36.03	71	32.57		
Motor bike passengers										
No	7	1.65	8	2.96	0.245	23	5.41	13	4.81	0.729
Yes	418	98.35	262	97.04		402	94.59	257	95.19	
Wearing helmet as a passenger										
No	282	67.46	86	70.99	0.334	220	54.73	198	77.34	0.000
Yes	136	32.59	76	29.01		182	45.27	58	26.66	
Daily average distance as a passenger riding										
<2kms.	260	64.84	188	75.20	0.006	260	64.84	188	75.20	0.006
3-5 kms	41	34.16	62	24.80		141	35.16	62	24.80	
Number of times wearing helmet out of 10 times driving motorbike										
>= 5 times	122	62.89	91	73.98	0.640	161	71.24	86	68.80	0.632
< 5 times	72	37.11	32	26.02		65	28.76	39	31.20	

Note: Total may vary due to missing information

Table A-8.14: Students' Behavior on Motorbike and Helmet Use for Non Sa-ard Witayakan School and Samrong Witayakan School

Self Reported Behavior	Pre-intervention					Post-intervention				
	Non Sa-ard Witayakan (n=302)		Samrong Witayakan (n=270)		p- value	Non Sa-ard Witayakan (n=302)		Samrong Witayakan (n=270)		p- value
	No.	%	No.	%		No.	%	No.	%	
Motorbike driver										
No	52	17.22	72	26.67	0.006	44	14.57	50	18.59	0.1963
Yes	250	82.78	198	73.33		258	85.43	219	81.41	
Own helmet										
No	54	21.60	27	13.71	0.032	36	13.95	27	12.39	0.615
Yes	196	78.4	170	86.29		222	86.05	191	87.61	
Wearing helmet while driving										
No	151	60.40	99	39.60	0.000	70	27.24	65	30.23	0.473
Yes	58	39.60	140	70.71		187	72.76	150	69.77	
Daily average distance as a driver										
<2kms.	193	77.51	137	69.90	0.069	184	71.32	147	67.43	0.359
3-5 kms	56	22.49	59	30.10		74	28.68	71	32.57	
Motor bike passengers										
No	5	1.66	8	2.96	0.295	7	2.32	13	4.81	0.105
Yes	297	98.34	262	97.04		295	97.68	481	95.19	
Wearing helmet as a passenger										
No	247	83.16	186	70.99	0.000	200	67.80	198	77.34	0.013
Yes	50	16.84	76	29.01		95	32.20	58	22.66	
Daily average distance as a passenger riding) rider3)										
<2kms.	237	80.07	186	70.99	0.013	231	78.57	188	75.20	0.352
3-5 kms	59	19.93	76	29.01		63	21.43	62	24.80	
Number of times wearing helmet out of 10 times driving motorbike										
>= 5 times	50	53.76	91	73.98	0.002	104	68.87	86	68.80	0.989
< 5 times	43	46.24	32	26.02		47	31.13	39	31.20	

Note: Total may vary due to missing information

Table A-8.15: Percentage of Helmet Use among Secondary School Children by Districts

Districts	Pre-intervention					Post-intervention				
	Not wearing helmet		Wearing helmet		p-value	Not wearing helmet		Wearing helmet		p-value
	number	%	number	%		number	%	number	%	
Waeng Yai	3953	95.6	183	4.4	<.0001	1958	72.9	727	27.1	<.0001
Prathai	4445	92.1	380	7.9	0.0004	2500	76.6	762	23.4	<.0001
Samrong	3693	93.1	275	6.9		2139	86.2	342	13.8	

Table A-8.16: Reported Fines due to Violation of Helmet Law by Districts

Districts	Pre-intervention		Post-intervention	
	number	%	number	%
Waeng Yai	852	46.0	1001	54.0
Prathai	50	18.7	218	81.3
Banphai	2190	54.5	1827	45.5
Total	3092	50.4	3046	49.6

Table A-8.17: Reported cases of mortorbike accidents from January 2007 to March 2009

	Prathai		Waengyai		Samrong	
	Hun Huey Sai	Talad Sai	NoneTong	None Sa-ard	Kham Pom	Nong Hai
Year	No.	No.	No.	No.	No.	No.
2007	0	1	7	7	0	1
2008	2	0	7	2	2	6
2009	0	0	1	3	2	5
Total	2	1	15	12	4	12

Table A-8.18 Reported cases of head injuries due to motorbike accidents from January 2007 to March 2009

Year	Prathai				Waengyai				Samrong			
	Hun Huey Sai		Talad Sai		NoneTong		None Sa-ard		Kham Pom		Nong Hai	
	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no
2007	0	0	0	1	0	7	0	7	0	0	0	0
2008	0	2	0	0	0	7	0	2	0	2	1	5
2009	0	0	0	0	0	1	0	3	0	2	1	4
Total	0	2	0	1	0	15	0	12	0	4	2	9

Table A-19 Reported cases of motorbike injuries by levels of Glasgow coma scale scores from January 2007 to March 2009

Year	Prathai						Waengyai						Samrong					
	Hun Huey Sai			Talad Sai			Nonethong			None Sa-ard			Kham Pom			Nonghai		
	Coma scale			Coma scale			Coma scale			Coma scale			Coma scale			Coma scale		
	<5	6-10	>10	<5	6-10	>10	<5	6-10	>10	<5	6-10	>10	<5	6-10	>10	<5	6-10	>10
2007	0	0	0	0	0	1	0	0	7	0	0	7	0	0	0	0	0	0
2008	0	0	0	0	0	0	1	0	6	0	0	2	0	0	2	0	0	6
2009	0	0	0	0	0	0	0	0	1	0	0	3	0	0	2	1	1	3
Total	0	0	0	0	0	1	1	0	14	0	0	12	0	0	4	1	1	9

Appendix-B

Questionnaire 1:
Self Assessment Tool Police Officers

	Community Youth Helmet Project Regulations, Strategies and Actions	Assessment scale			
		Strongly disagree	Disagree	Agree	Strongly agree
	Perceptions on motorcycle use and motorcycle head injuries				
1	It is very important for motorcycle drivers and passengers of all age groups to wear safety helmets				
2	Law enforcement has an important role in raising awareness on motorcycle helmet use among youth				
3	Most youth in our district use a helmet when riding a motorbike				
4	Most youth in our district use a proper standard motorcycle helmet				
5	Most deaths from road accidents in Thailand are among motorcycle drivers				
	Regulations				
6	Law enforcement of motorcycle helmet-use is an important aspect of police work				
7	Motorcycle helmet-use enforcement is a priority in our police department				
8	Motorcycle helmet-use regulations must be introduced to all police officers				
9	Our police department has developed & distributed education materials for police on motorcycle safety				
10	Our police department has developed & distributed education materials for police on motorcycle laws and enforcement				
	Strategies				
11	It is very important for motorcycle helmet-use regulations that police departments have Information/Education/Communication (IEC) strategies in place to raise public awareness				
12	Our police department has implemented campaigns to increase the awareness of motorcycle helmet use				
13	Our police department supports IEC activities to raise awareness on motorcycle helmet use among the public				
14	It is very important for motorcycle helmet-use in our district to have enforcement strategies in place to improve compliance				
15	Our police department has enforcement strategies in place to make the public comply with helmet use regulations				
16	It is very important for a police department to collaborate with other organizations for motorcycle helmet-use (such as schools, health services, businesses, community organizations etc.)				
17	Our police department is involved in multi-sector efforts to improve coordination and cooperation of motorcycle helmet use initiatives				
18	Our police department is part of a joint taskforce with schools to improve motorcycle safety among school youth through information/education/and communication activities				

	Community Youth Helmet Project Regulations, Strategies and Actions	Assessment scale			
		Strongly disagree	Disagree	Agree	Strongly agree
19	Our police department is involved in community–based programs to improve motorcycle helmet use				
	Activities				
20	Periodical information/education/communication (IEC) on motorcycle helmet-use should be part of police work				
21	Our police department organizes periodical IEC activities for the public on motorcycle helmet use regulations				
22	Our police department has implemented a campaign to increase awareness of unsafe driving behaviors and their consequences				
23	To improve compliance with motorcycle helmet use regulations enforcement mechanisms have to be in place				
24	Our police department has identified locations where there are major motorbike safety concerns				
25	Our police department has implemented countermeasures at locations with disproportionate numbers of motorcycle accidents				
26	Our police department has implemented countermeasures to minimize motorcycle helmet use violations				
27	Our police department reports non-use of motorcycle helmets among minors to their parents/caretakers				
	Resources				
28	It is very important to allocate financial resources for awareness raising on motorcycle helmet use				
29	In our police department budget for awareness raising on motorcycle helmet use is part of our normal working budget				
30	In our police department we have a special budget for awareness raising on motorcycle helmet use				
31	In our police department we have no financial means to implement awareness raising on motorcycle helmet use				
32	It is very important to allocate resources persons for awareness raising and enforcement on motorcycle helmet use				
33	Our police department has sufficient number of traffic police officers allocated for awareness raising and enforcement on motorcycle helmet use				
34	Traffic Officers dealing with enforcement of motorcycle helmet use received special training for this task				
35	In our police department officers and school teachers jointly organize IEC activities on motorcycle helmet use for students				
36	It is very important to have didactic materials to make awareness raising on motorcycle helmet use effective				
37	In our department we use visual aid such as posters, photographs, video-tapes for awareness raising on motorcycle helmet use				
38	Our department uses demonstration helmets for awareness raising on motorcycle helmet use				
	Monitoring				
39	Undertaking road safety activities to promote motorcycle helmet use without periodical monitoring of activities and outcomes is like walking in the dark				
40	In our department we systematically collect information on IEC activities for motorcycle safety				
41	In our department we systematically collect information on motorcycle helmet use				
42	In our department we systematically collect information on head-injuries from motorcycle accidents				
43	In our department we periodically report monitoring outcomes on motorcycle helmet use and motorcycle accident head-injuries among our officers				

	Community Youth Helmet Project Regulations, Strategies and Actions	Assessment scale			
		Strongly disagree	Disagree	Agree	Strongly agree
	Coordination				
44	Promoting inter-sector communication to improve understanding of safety data issues and uses is very important				
45	In our department we periodically report monitoring outcomes on motorcycle helmet use and motorcycle accident head-injuries among youth to schools				
46	In our department we periodically collect reports from the provincial/district health offices on motorcycle accident head-injuries and deaths				
47	Our police department participates in inter-sector communication to improve understanding of safety data issues and uses				

Questionnaire 2:
Self Assessment Tool Teachers

	Community Youth Helmet Project Regulations, Strategies and Actions	Assessment scale			
		Strongly disagree	Disagree	Agree	Strongly agree
	Perceptions on motorcycle use and motorcycle head injuries				
1	It is very important for motorcycle drivers and passengers to wear safety helmets				
2	Schools have an important role in raising awareness on motorcycle helmet use among youth				
3	Most students use a helmet when riding a motorbike				
4	Most students use a proper standard motorcycle helmet				
5	Most deaths from road accidents in Thailand are among motorcycle drivers				
	Regulations				
6	Motorcycle helmet-use regulations for students should be part of schools' rules and regulations				
7	Our school has clearly stated motorcycle helmet-use regulations for students				
8	Motorcycle helmet-use regulations for students must be introduced to all teachers				
9	All teachers have been introduced to our school's motorcycle helmet-use regulations for students				
	Strategies				
10	It is very important for motorcycle helmet-use regulations that schools have educational strategies in place to raise students' awareness				
11	Our school provides educational activities to raise awareness on motorcycle helmet use among students				
12	It is very important for motorcycle helmet-use regulations that schools have enforcement strategies in place to improve student compliance				
13	Our school has enforcement strategies in place to make students comply with helmet use regulations				
14	It is very important for a school to collaborate with other organizations for motorcycle helmet-use among students (such as police, health sector, community organizations etc.)				
15	Our school is involved in multi-sector efforts to improve coordination and cooperation of youth motorcycle helmet use initiatives				
16	Our school is part of a joint taskforce with police to improve motorcycle safety among school youth through information/education/and communication activities				
17	Our school is involved in community–based programs to improve motorcycle helmet use among students				
	Activities				
18	Periodical information/education/communication (IEC) on motorcycle helmet-use should be part of the school's education activities				
19	Our school organizes periodical IEC activities for students on motorcycle helmet use regulations				

	Community Youth Helmet Project Regulations, Strategies and Actions	Assessment scale			
		Strongly disagree	Disagree	Agree	Strongly agree
	Activities				
20	Our school has implemented a campaign to increase awareness of unsafe driving behaviors and their consequences				
21	To improve compliance with motorcycle helmet use regulations among students schools must have enforcement mechanisms in place				
22	In our school teachers supervise motorcycle helmet use among students at school premises				
23	Our school reports non-use of motorcycle helmet among student to their parents				
24	Our school applies punitive measures for students who repeatedly are non-compliant with motorcycle helmet use regulations				
	Resources				
25	It is very important to allocate financial resources for awareness raising on motorcycle helmet use in schools				
26	In our school budget for awareness raising on motorcycle helmet use is part of our normal working budget				
27	In our school we have a special budget for awareness raising on motorcycle helmet use				
28	In our school we have no financial means to implement awareness raising on motorcycle helmet use				
29	It is very important to allocate resources persons for awareness raising on motorcycle helmet use				
30	Our school has sufficient number of teachers allocated for awareness raising on motorcycle helmet use among students				
31	Teachers' dealing with motorcycle helmet use awareness raising received special training for this task				
32	In our school teachers and police officers jointly organize IEC activities on motorcycle helmet use for students				
33	It is very important to have didactic materials to make awareness raising on motorcycle helmet use among students effective				
34	In our school we use visual aid such as posters, photographs, video-tapes for awareness raising on motorcycle helmet use among students				
35	In our school we use demonstration helmets for awareness raising on motorcycle helmet use among students				
	Monitoring				
36	Undertaking road safety activities to promote motorcycle helmet use among students without periodical monitoring of activities and outcomes is like walking in the dark				
37	In our school we systematically collect information on school's IEC activities for motorcycle safety				
38	In our school we systematically collect information on motorcycle helmet use among our students				
39	In our school we systematically collect information on head injuries from motorcycle accidents among our students				
40	In our school we periodically report monitoring outcomes on student motorcycle helmet use and motorcycle accident head-injuries among our teachers				
41	In our school we periodically report monitoring outcomes on student motorcycle helmet use and motorcycle accident head-injuries among our students and their parents				
42	In our school we periodically collect reports from the police department on motorcycle helmet use and motorcycle accidents and the provincial/district health office on motorcycle accident head-injuries				

Questionnaire 3:

Self Assessment Tool Students

1. School's name ……, In what grade are you?
2. What is your sex? ① Male ② Female
3. How old are you?
4. Who is your guardian
   ① parents
   ② relatives
   ③ Others
5. Parental education ……
   ① Not schooling
   ② Primary school
   ③ Secondary school
   ④ College or higher
6. Parental Occupation ……..
   ① Unemployed ② Unskilled labors
   ③ Skilled labors ④ Professionals
   ⑤ Own business ⑥ Farmers ⑦ Others
7. Do you ride a Motorcycle? ① Yes ② No
8. Do you own a helmet? ① Yes ② No
9. Do you wear helmet when you ride a motorcycle? ① Yes ② No
10. As a driver, what in the longest distance you daily ride a motorcycle?
    ① Between 1-2 Kilometer from home
    ② Between 2-5 Kilometer from home
    ③ Between 5-10 Kilometer from home
    ④ More than 10 Kilometer from home
11. Have you ever be a passenger? ① Yes ② No
12. Do you wear helmet when you are a passenger? ① Yes ② No
13. As a passenger, what is the longest distance from have?
    ① Between 1-2 Kilometer from home
    ② Between 2-5 Kilometer from home
    ③ Between 5-10 Kilometer from home
    ④ More than 10 Kilometer from home
14. Out for every ten times when you ride a motorcycle, how many times do you wear helmet?

Student's Perception on Safety and Helmet Use

1. It is important that you wear a motorcycle helmet when riding a motorcycle
   ④ strongly agree ③ agree ② disagree ① strongly disagree
2. It is important for motorcyclists other than you to wear safety helmets
   ④ strongly agree ③ agree ② disagree ① strongly disagree
3. Wearing motorcycle helmet is unnecessary in a short distance riding
   ④ strongly agree ③ agree ② disagree ① strongly disagree
4. Wearing motorcycle helmet is necessary only when riding motorcycle on a main road
   ④ strongly agree ③ agree ② disagree ① strongly disagree
5. Price of helmet is unaffordable
   ④ strongly agree ③ agree ② disagree ① strongly disagree
6. Style of helmet is not in fashion
   ④ strongly agree ③ agree ② disagree ① strongly disagree

7. Wearing helmet is too hot and itchy

④ strongly agree ③ agree ② disagree ① strongly disagree

8. Wearing helmet is uneasy for seeing or hearing

④ strongly agree ③ agree ② disagree ① strongly disagree

9. Wearing helmet looks stupid to friends

④ strongly agree ③ agree ② disagree ① strongly disagree

Questionnaire 4:

Self Assessment Tool Parents

1. What is your sex? ① Male ② Female
2. How old are you?
3. What is the highest year of school that you completed?
   ① Not schooling
   ② Primary school
   ③ Secondary school
   ④ College or higher
4. What is your occupation?
   ① Unemployed ② Unskilled labors
   ③ Skilled labors ④ Professionals
   ⑤ Own business ⑥ Farmers ⑦ Others
5. Are you currently married, single, divorced, separated, widowed, or something else?

Parents' perception on helmet use

1. How important do you think it is that (child's name) wear a motorcycle helmet when he/she rides a bike?
   ④ strongly agree ③ agree ② disagree ① strongly disagree
2. How important is it for motorcyclists other than your children to wear safety helmet?
   ④ strongly agree ③ agree ② disagree ① strongly disagree
3. Do you think wearing helmet is not necessary when riding a motorcycle in a short distance?
   ④ strongly agree ③ agree ② disagree ① strongly disagree
4. Do you think children should wear helmet only when riding a motorcycle on a main road?
   ④ strongly agree ③ agree ② disagree ① strongly disagree
5. Helmet price is a problem to find a helmet for your child?
   ④ strongly agree ③ agree ② disagree ① strongly disagree
6. There is no proper size of helmet available in the market for your child.
   ④ strongly agree ③ agree ② disagree ① strongly disagree
7. Helmet is too heavy for a child.
   ④ strongly agree ③ agree ② disagree ① strongly disagree
8. You wouldn't buy a helmet for your child because it may be lost.
   ④ strongly agree ③ agree ② disagree ① strongly disagree

Appendix- C

Remarks on the Community Youth Helmet Use Program: Lessons Learned from Khon Kaen Province

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1. Timeline of main events of the program

February 15th, 2007	GPRS proposed the program to World Bank and JSDF to review
July 25th, 2007	First meeting for stakeholders.
July 22nd-24th, 2008	Collaboration with GRSP team to survey the target areas and prepare the operational plan.
October 30th, 2008	Meeting of the working sub-group for planning processes.
November 1st, 2008	Cooperation of all agencies and committee election in the district/ province level. The vote result was signed by the provincial governor.
December 4th, 2008	First meeting of the provincial committee. Provincial committee met every month during 10 Dec 2008 - Sep 2009 in Khon Kaen. The content of the meeting related to trail process.
July 26th-29th, 2009	Selection of outstanding village/ school and consent of results were as follows: ❑ First prize for the most outstanding village at the district level in Amphur Ban Phai: Ban Kok klang, Moo 9 Tambon Kan Nua. ❑ First prize for the most outstanding village at the district level in Amphur Wang Yai: Ban Paa Mai Ngam village, Moo 8 Tambon Non Thong. ❑ First prize for the most outstanding village at the district level in Amphur Phu Pha Man: Ban Non Kom village, Moo 1 Tambon Non Kom. ❑ First prize for the most outstanding school at the district level in Amphur Ban Phai: Ban Phai Wittayakom school. ❑ First prize for the most outstanding school at the district level in Amphur Ban Wang Yai:Non Sa-ard school. ❑ First prize for the most outstanding school at the district level in Amphur Phu Pha Man: Phu Pha Man school.
Aug.7, 2009	Learning exchange with a team from Khon Kaen and selection of outstanding village and school at the provincial level. The winners were from Ban Paa Mai Ngam village, Amphur Wang Yai and Phu Pha Man school.
August 20th, 2009	Representatives from the outstanding village and school, received tokens of appreciation from the Prime Minister as community models in promoting safety helmet use during the 9th National Seminar for Road Safety, National Conventional Center Bitec, Bangna, Bangkok.
September 7th, 2009	Learning exchange and selection of community outstanding villages and schools in Nakhon Ratchasima province. The winners were from Pra Tai District was Ban Nong Muang Yai village Moo 6, Tambol Hun Huay Sai. The winner from Ban Leum District was Ban Ton village Moo 3, Tambol Ban Leum.
September 9th, 2009	Committee meeting in Khon Kaen to conclude the remark and propose the strategic planning for the near future.

September 24-25th, 2009 Learning exchange and conclusion of selected community of outstanding villages and schools in Nakhon Ratchasima and Khon Kaen provinces. Summary of the results:

- The most outstanding village at the district level in Nakhon Ratchasima: Ban Ton village, Moo 3, Tambon Ban Leum, Ban Leum District.
- The most outstanding village at the district level in Khon Kaen: Ban Paa Mai Ngam village, Moo 8, Tambon Non Thong, Wang Yai District
- The most outstanding school for educating in safety helmet campaign consisted of three schools: (1) Phu Pha Man School, Khon Kaen, (2) Ban Leum Pitthayasun School, Nakhon Ratchasima, and (3) Ban Phai Suksa School, Khon Kaen.

November 12th, 2009 Committee joined meeting between Khon Kaen and Nakhon Ratchasima provinces for discussion and learning exchange.

November 13th, 2009 Stakeholder meeting and complete the program.

2. Summary of lessons learned and observations from the operations

2.1 Project part

2.1.1 Important factors indicating the successfulness of the project

(1) Determination of clear goals and objectives among the committee.

(2) Management and creation of the mechanisms for driving the project with the committee in all four levels (e.g. central level, provincial level, district level and community level).

(3) Appointing to the committee at each level e, especially for the provincial, district and community level to set up regular meeting in order to follow up the operational action according to the plan and to achieve the effective and possible approaches to persist the driven tasks until the completeness of the program.

(4) Strong support from the local organization in the community in all four levels such as the cooperation with the Road safety Network in the provincial level, whereas in the district level, the cooperation was accomplished with local health centers, police stations and schools. In the community level, the cooperation was obtained with public health volunteers, local administrative organization network, village headmen and village chiefs who well understood and realized the motorcycle accident problems. Community project also included the safety lesson and project management experience. These led to the determination of primary responsibility for the team and teamwork despite a short period of running time. Moreover, all contributed personnel certainly expressed their enthusiasm for their responsibilities.

(5) Community plan construction to closely drive a community action process; for example meeting, supervision, visiting, training and evaluation).

(6) Capacity building process for the community such as polices and teachers. This led to the development of strong knowledge and experience for the community

(7) Potential representatives from GRSP in the area and GRSP team from the central had skillful techniques and experiences in tracking and evaluating the area.

(8) A forum for teams in the area to present their progresses and performances were set up. This had led to the motivation for the learning exchange between communities.

(9) Contests for prizes that encouraged momentous and continued practices throughout the period of operation of the program.

(10) Budgets that supported the operations.

(11) Evaluations from the forum committee and forum for the learning exchange in order to conclude the substantial issues to the success/limitations of the project.

2.1.2 Limitations of the operations

(1) Operational time was relatively short, rendering incomplete educational strategies to reach the highest level for realization and sustained behavior change.

(2) Each team had so much routine workload that they could not dedicate full time to the project.

(3) Overlapping of the operational period during two schools' semesters, with a short time during the semester along with a big gap during the summer break. This caused some difficulties to perform any actions for the schools' plans.

2.1.3 Additional suggestions

(1) If the external evaluation team had participated during the operation of the project, various comments and recommendations could have helped increase community's effectiveness.

(2) If public relation team had participated in distributing news and issues to be available to the public, this would have been more informative and helpful.

2.1.4 Summary of learning issues

From the operation in this project, it was definitely confirmed that the changes of behavior in youth and people in the community to wear helmets could take place by relying on the strong and crucial strategic plans and the participation of the communities despite the fact that law enforcement strategies were not yet completely forceful and reach effectively to the community.

2.2 Community part

2.2.1 Factor involving successfulness in working at communities

(1) Strengthening, diligence and attention of community leaders and committee at all levels.

(2) Simple, smooth and good cooperation.

(3) Good teamwork.

(4) Giving motivation (e.g. cash reward, prize and compliment).

(5) Strong community network and participation.

(6) Continuous and updated activities such as: public broadcast tower for the community, radio stations, flyers, activities in the schools.

Ongoing campaigns.

- Learning exchange and observation of activities between villages and schools.
- Internal checkpoints within the community setting.
- Law enforcement.
- Social strategies on the punishment and rewarding.
- Regular meetings between the committee and workers. Any suggestions from the meeting, including progresses, limitations, problem solving, would return to the community forum.

2.2.2 Problems and limitations in the community

(1) Operations did not comply with the controlled scheme due to the overlapping community activities (such as local festivals, communities' urgent operation from the district), these might change the programmed activities of the project schedule.

(2) Some areas had changed some events without notifying or attaching those changes to the central such as warrant spending that was not related to that issued by the central. If information was changed (e.g. activity, budget), it should be reported and signed by the committee in provincial and district level.

(3) Lacking of community equipment such as photo recording. This had caused the lacking of photo evidences; for example, at the setting checkpoints, when those who did not wear helmets were being warned.

(4) Some community leaders only merely understood and had no acquaintance in writing work plan or project proposal according to GRSP. This led to the delay in work plan submission. It is suggested that they be appointed to create the work plan at the district's office and to assign mentors or facilitators in filling out the forms.

(5) Some community leaders lacked the recognition in keeping financial evidences they should be advised to keep those financial materials in same place for assessing purpose.

(6) Difficult and strict protocol in utilization of expense were one of the issue in implementation for people in community, for example buying or hiring with value over 3,000 Baht must be compared between each vendors in village, district. However, there were not enough vendors in those areas for comparison.

2.2.3 Suggestion from the community

(1) The starting of the project was too late, the preparation for work plan should have been done by November and started the project in December which would have been consistent for implementation of the project during the seven dangerous days during New Year holiday festival.

(2) The community leaders should be recruited based on the proper qualification, not by the position due to the community leaders should be equipped with potential and determination in time devoting.

(3) Financial documents/ Community operating procedure/ Writing work plan/ miscellaneous suggestion e.g. financial aspects, financial log book, expense report should be provided as a training course for community at the beginning of project or during training of community leaders.

(4) Some activities for example setting the check point should not be done alone by committees, people in community such as students, highly respect group of people in community, household group, group of people who had been affected by accident, governmental officers should involve in the activities.

(5) Community should take part in fund-raising activity to facilitate the continuity of the project by:

(a) Self-reliance: any household with motorcycle should donate 10 baht for the project.
(b) Request for governmental or non-governmental support.

(6) Community enforcement processes should be implemented seriously and continuously, and must be made under community's consensus to be considered as agreement among people in community.

(7) Follow up and evaluation process should be done on a regular basis to enable analysis and presentation of problem along with setting the solution for such problems (previously evaluation has done by GRSP).

3. Innovations as a result of the project

3.1 Administrative innovations and driven-processes of community

3.1.1 Setting community's consensus as an agreement for practice could lead to activities for solving problem e.g. driving vehicles regulation, safety helmet's fund, providing of safety helmets in case of helmet's loss, lacked of helmet for another rider, impaired helmets program.

3.1.2 Creating of connection on helmet wearing with other community e.g. when people from nearby village visited community without wearing helmets, names of riders would be recorded along with warning. Additionally, name list would be forwarded to head of community and head of community would be invited to wearing helmet program. Later, survey would be conducted after completion of the program.

3.1.3 Supporting people in community to wear helmets in which all parts of community were responsible to enhance the continuity of project e.g. being informed of occurred issues, finding solutions together for particular issue and participating in structured plan strictly, could lead to reduction in accidents due to good adaptation in driving behavior.

3.2 Innovations in term of activities in community

3.2.1 Community could create their own plan along and be able to present their plan to be implemented in Local Administrative Organization plan. This action could lead to solve the issues which beyond their capabilities as well as issues which gathering of people in community could solve the problem itself.

3.2.2 Increasing awareness and knowledge in prevention of road accidents and significance of helmet wearing by setting up the training course on etiology, impact of road accident, worth of wearing helmet, transportation law, traffic and safety driving law. Moreover, project had planned to provide car checking, fixing, exchanging car accessories service, inviting highly respected monks in community to bless drivers, riders as well as giving statement in prevention of road accidents and significance in wearing helmet, daily information regarding road accident prevention on radio announcement, flyers, door to door advertisement, promotional campaign by having people in community wearing helmet, turn on front light drive through every road in community and nearby village, promotional billboard, implementation of local wisdom e.g. using chicken's cage as a giant helmet model and placed in every check point, using recycled materials to produce helmet's storage area, assistance of traditional song singers to promote via radio broadcasting.

3.2.3 Setting up check point to warn, advice, record name of riders, lent helmet for people in community in case of not wearing helmet for both the riders and passengers.

- First time of breaking the rule: warning level
- Second time of breaking the rule informing head of household
- Third time of breaking the rule: fining to helmet fund

3.3 Administrative innovations and driven-processes in school

3.3.1 Meeting of leaders and school administers to establish plan and implement the plan eventually.

3.3.2 Establishment rules of bringing vehicles to school in which permission of school committees and parents were required prior to bringing vehicle to school, and in case of riding without wearing helmet could lead to the deduction of behavior's score.

3.3.3 Creating of connection_by holding volunteering activity "from senior to junior in wearing helmet". Students in high school would look after younger students in same village who rode motorcycles, and being cautious to them on wearing helmet, expanding connection and campaign to nearby school in other villages.

3.3.4. Group of student leaders in school supports wearing helmet campaign with teachers' assistance and persuaded other group of students to join the campaign which could finally expand to the primary students. This could indirectly build up the pride of students and awareness in prevention of road accidents. Moreover, student leaders could create proposal to request for supportive budget from local administrative organization and received budgets in implementation of improving school quality.

3.4.1 Group of student leaders, school committees, and parents held the meeting of tri-parties to train other personnel including students every Friday, invite highly respected monks to state the blessing and raised the awareness in danger of riding without wearing the helmet, set up the parade throughout the community.

3.4.2 School cooperated with community to create fashion show, radio program "This Morning with Safe Life" every morning, "Turn on the front light, and wear the helmet" every noon, helmet registry to survey number of students without helmet in school, held a providing of helmet ceremony, helmet log, survey students' behavior in wearing helmets.

3.4.3 Setting up check point by leaders and schedule each one to warn riders without helmet on regular basis during 7.00-8.00 and when school's over.

4. Suggestion for future plan

Critical points for consideration

- What was the strategy to enhance the continuity and the sustainability of the campaign in all targeted areas?
- How could this campaign expand to every area in the country?

Challenging points

- What sort of knowledge could this campaign deliver to other developing countries which were facing motorcycle problems as seen in Thailand?

Suggestions

1. Community level
Community should assure that prevention the road accidents plan had been incorporated into an annual work plan of local administrative organization to guarantee the sustainability and continuity of the campaign especially the financial aspect from external source.

2. District level
District should maintain the strength of team and district committees to implement not only the prevention in road accidents but also any other type of injury and should be expanded the model to other area.

3. Provincial level
Province should maintain the strength of team and provincial committees to implement not only the prevention in road accidents but also other type of injury and Province should expanded the campaign to other districts provincial-wide. Moreover, province should set up the meeting where people in community could present the progress, exchanged the idea regarding the prevention of road accident or perhaps setting up the best community, best school award to stimulate the effective and continuous campaign implementation.

4. Central level
If the committee could conclude that the model from this project contribute to loss reduction due to motorcycle's accident which caused loss tremendously to country, considered public health's issue, economic issue, then format of the project, conclusion received from the project should be expanded and implemented to other provinces in the country. Furthermore, this may be used to incorporate to National Road Safety Strategic Plan item 4 in prevention of road accidents at provincial level. Supportive budget and substantial budget for administrative, evaluation, monitoring the indicators, awarding to the best practice should be considered.

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To enhance the continuity of the campaign, the ending of the campaign should not occur yet. The campaign should be supported continuously in which the 2nd phase of the campaign would have an objective in creating the supportive process for bringing out the knowledge and result from 1st phase of campaign.

If the conclusion could be made that this campaign had created productive outcome toward community in any other countries which might experience same issue in community level as seen in Thailand, guideline for prevention in community level which composed of lesson, analysis, conclusion on principle should be distributed to other countries in connection for further implementation.

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