Mainstreaming Disaster Risk Reduction in the Education Sector in Lao PDR

Integrating Disaster Risk Reduction in the School Curriculum
Impacts of Disasters on the Education Sector
School Construction: Current Practices and Improvements Needed

April 2008

National Disaster Management Office
Ministry of Education
EUROPEAN COMMISSION Humanitarian Aid
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adpc

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Study on Impact of Disasters on the Education Sector
School Construction: Current Practices and Improvements Needed

Bangkok: ADPC April 2008

Execution of this study was undertaken by:

Urban Research Institute (URI),
Ministry of Communication, Transport, Post and
Construction (MCTPC),
Government of Lao PDR

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Center
CPI	Committee for Planning and Investment
EFA	Education For All
DMH	Department of Meteorology and Hydrology
FPPD	Fire Protection and Prevention Department
FDPCC	Flood-Drought Prevention Coordination Committee
JICA	Japan International Cooperation Agency
KOICA	Korea International Cooperation Agency
MOE	Ministry of Education
MAF	Ministry of Agriculture and Forestry
MDRD	Mainstreaming Disaster Risk Reduction into Development
MPWT	Ministry of Public Works and Transportation
MPS	Ministry of Public Security
NDMC	National Disaster Management Committee
NDMO	National Disaster Management Office
PTI	Public works and Transportation Institute
UNICEF	United Nation International Children Education for Fund
WAD	Waterway Administration Division

Foreword

Lao PDR is vulnerable to all kinds of disasters, e.g., fires, floods, droughts, land slides and erosion, typhoons, pets' epidemics, earthquake etc. In the past, due to disasters, the country had suffered great losses both in physical and social economic structures. Lao PDR is yet to be strong enough to prevent and mitigate disasters. Therefore, in order to combat disasters, government along with international bodies will have to work together on both structural and non structural measures.

Realizing the importance of mainstreaming as identified by RCC, the ADPC program on Advocacy and Capacity Building for Mainstreaming Disaster Risk Reduction into Development (MDRD) was launched at the 4th Meeting in Bangladesh in March 2004. Based on the recommendations of earlier RCC meetings, the program seeks to systematically promote the integration of disaster risk management into sustainable development policies and practices amongst the RCC member countries linked to other efforts at regional level and built on successful experiences with the region. The program focuses on two separate approaches relating to mainstreaming DRM, namely, into overall national development planning and into specific selected sector such as Agriculture, Health, Education, Infrastructure, Housing and Financial Services.

Cambodia, Lao PDR and Philippines have xpressed their interest to take up priority implementation project to mainstream disaster risk reduction in the education sector (i.e., MDRD Education) by integrating DRR modules into the education curriculum. The MDRD Education project includes four main activities, namely; i) Initiating Mainstreaming of Disaster Risk Reduction into Secondary School Curriculum, ii) Report on Impacts of Disasters on Education Sector, iii) Advocacy Workshop on Mainstreaming Disaster Risk Reduction into Education Sector, and iv) Stakeholder consultation as follow up to the Advocacy Workshop.

This study on impacts of disasters on the education sector in Lao PDR aims to build an evidence-based rationale to raise awareness on integrating DRR concerns into education policies, programs and plans and to advocate for changing practices in school construction especially in incorporating disaster risk resilient features in new school construction.

Acknowledgments

This study would not have been possible without the assistance and support of many organizations in Lao PDR that contributed their valuable time to provide information related to the study area, namely:

- Department of General Education, MOE
- National Educational Science Research Institute, MOE
- Department of Planning and Foreign Relation, MOE
- Department of Informal Teaching , MOE
- Department of Fire Prevention and Protection, Ministry of Public Security
- ADB
- JICA, Vientiane, Lao PDR
- UNICEF
- World Bank
- Save the Children, Australia
- KOICA
- Phiawat Secondary School
- Principals of Provincial Schools

Lastly, we would like to express our deep appreciation to local organizations, school principals and authorities for providing helpful information to successfully accomplish this study. We do hope that this document would be a vital evidence-based publication on advocating for safer schools through integrating DRR concerns into education policies, curriculum, and school construction.

PART A: OUTCOMES OF THE MAINSTREAMING OF DISASTER RISK REDUCTION IN EDUCATION PROJECT

A) PROJECT BACKGROUND

The Regional Consultative Committee (RCC) on Disaster Management was established with the initiative of the Asian Disaster Preparedness Center (ADPC) in 2000. The RCC is comprised of 30 members from 26 Countries who are working in key government positions in the National Disaster Management systems of countries of the Asian region. A key priority identified by the RCC is the integration of disaster risk consideration into development planning. To initiate action on this agreed direction, the RCC program on Mainstreaming Disaster Risk Reduction into Development Policy, Planning and Implementation (MDRD) was launched at the 4th RCC meeting in Bangladesh in March 2004. In its 5th meeting in Hanoi, the RCC adopted the Hanoi 5 statement on Mainstreaming Disaster Risk Reduction into Development in Asian Countries, which prioritizes mainstreaming of Disaster Risk Reduction (DRR) to be initiated in the national development planning process as well as in six sectors, namely agriculture, urban planning and infrastructure, education, health, housing and financial services. Within the education sector, the Hanoi RCC 5 statement identified the following sub-themes to initiate mainstreaming of DRR:

The RCC is comprised of 30 members from 26 Countries who are working in key Government positions in the National Disaster Management systems of countries of the Asian region. A key priority identified by the RCC is the integration of disaster risk consideration into development planning.

- Integrating DRR modules into the school curriculum
- Promoting hazard resilient construction of new schools
- Introducing features into schools for their use as emergency shelters

Realizing the importance of mainstreaming of DRR in the Education Sector as identified by the RCC, one of the most recent intervention was "Support to Implementation of Hyogo Framework for Action (HFA) through Mainstreaming of Disaster Risk Reduction into Development Planning, Policy and Implementation in Asia: Advocacy and Pilot Implementation Project in Education Sector in 3 South East Asian RCC member countries (Cambodia, Lao PDR and the Philippines)". The project (hereinafter referred to as MDRD-Education) has been implemented by the UNDP and ADPC, with support from ECHO.

Under the RCC umbrella this collaborative (ECHO-UNDP-ADPC) project was implemented as a major contribution to the implementation of the Hyogo Framework for Action. The project was designed with the primary focus to assist the Ministry of Education in 3 RCC countries to implement a Priority Implementation Partnership (PIP), working with the National Disaster Management Organizations, to undertake integration of DRR into the secondary school curriculum and promoting resilient construction of new schools using research on the past impact of disasters on the education sector. Building on the current and likely future initiatives to support the Hyogo Framework for Action, the MDRD-Education project includes four main activities, namely:

The MDRD-Education project includes four main activities, i) Initiating Mainstreaming of Disaster Risk Reduction into Secondary School Curriculum, ii) Study on Impacts of Disasters on the Education Sector, iii) Advocacy Workshop on Mainstreaming Disaster Risk Reduction into the Education Sector, and iv) Stakeholder consultation as follow up to the Advocacy Workshop.

i) Initiating Mainstreaming of Disaster Risk Reduction into the Secondary School Curriculum,
ii) Study on Impacts of Disasters on the Education Sector,
iii) Advocacy Workshop on Mainstreaming Disaster Risk Reduction into the Education Sector, and
iv) Stakeholder consultation as follow up to the Advocacy Workshop.

The Phase I (2007-2008) of this project helped advance the mainstreaming of disaster risk reduction in these 3 countries of Asia, strengthen networking among disaster risk reduction practitioners and enhanced the government commitment in making communities safer and upholding government responsibility to ensure public safety.

B) ACTIVITIES IN 3 SOUTH EAST ASIAN COUNTRIES

Initiation of Mainstreaming of DRR: The NCDM Cambodia, NDMO Lao PDR, NDCC Philippines, together with their respective Ministry of Education and other relevant organizations in the 3 countries were briefed about the project by ADPC. The details of the project were also shared with NGOs and international organizations in the countries such as World Bank, ADB, Save the Children - Australia, World Vision, UNESCO, UNICEF, EU, AusAid, USAID, etc. A Project Working Group (PWG) was formed in each of the 3 countries. The PWG meetings were regularly held in each country during the project period.

Project Technical Working Group: Ministry of Education with National Disaster Management Office in 3 project countries formed a Technical Working Group (TWG) to discuss the proposals for integrating DRR. TWG members consist of curriculum specialists; lessons plan writers and education specialists from MOE and DRR specialists from NDMO and ADPC.

Development of DRR Module: Each country has developed a country specific DRR curriculum. There is local flavor to the curriculum e.g., Lao PDR has added traffic accidents in the curriculum along with a chapter on alcoholism and drug abuse. Similarly, the Philippines have added a chapter on volcanic eruptions in the curriculum. This is a hazard very specific to the Philippines. The curriculum of each country reflects the needs and risk assessment of the country government.

The curriculum has been developed for the lower secondary in the three countries; specifically Grade 8 in Cambodia, in Lao PDR the module has been integrated into Natural Science and Social Studies of Grade 6, in the Philippines the DRR module has been integrated into Science and Social Sciences subjects of Grade 6.

The curriculum has been developed for the lower secondary in the three countries; specifically Grade 8 in Cambodia, in Lao PDR the module has been integrated into Natural Science and Social Studies of Grade 6, in the Philippines the DRR module has been integrated into Science and Social Sciences subjects of Grade 6. Draft modules have received comments from UNICEF, and were shared with Save the Children, local NGOs and donors.

Except for the DRR modules developed under this project, there is no educational program on integrating DRR into the school curriculum in Cambodia and Lao PDR yet. In the Philippines, only some DRR concepts can be found in existing subjects but there was no curriculum related to DRR.

The Ministry of Education of the 3 countries have endorsed the DRR module. The letters of endorsement/ proposals for integration are annexed.

Teaching of the DRR module: Starting from October 2007, the DRR module was taught in classrooms in selected schools. Before this, the teachers were trained on DRR module, lessons plan and teaching techniques on DRR curriculum in the project countries.

Country	Province Name	No. of teachers trained	No. of officials trained	TOT Venue
Cambodia	Kandal & Prey Veng	12	20	Phnom Penh
	Kandal, Prey Veng & Kratie	48	18	Phnom Penh
	Takeo, Kompong Chhnang & Kampong Cham (12 districts from 3-province)	51	10	Phnom Penh
Lao PDR	Khammoune and Vientiane	15	17	Bolikhamsay province
	3 districts from Khammoune and 2 districts from Vientiane	28	18	Bolikhamsay province
	2 districts from Khammoune & 3 districts from Bolikhamsay	15	35	Khammoune province
	Sayaboury	26	20	Sayaboury province
Philippines	Visayas	4		Southern Leyte
	Luzon	10		Albay
	Mindanao	9		Basilan
	17 regions	51	24	Antipolo City
Total		**269**	**162**	

Table 1/ Total number of Training of Trainers (TOT) conducted for teachers and officials in project countries

Monitoring of Teaching: Teaching of the DRR module in classrooms was monitored in December 2007 and January 2008 by visiting to the pilot schools. The monitoring was done by curriculum specialists from the Ministry of Education, NDMO focal point, project working group members and school principals/school directors in project countries. Based on the comments, some lesson plans were revised.

School Safety Day: A new initiative was introduced by ADPC to evaluate the teaching and the effectiveness of the module. This was done by organizing a School Safety Day which included activities such as hazard hunt, poster painting competition and a quiz in the schools. This was conducted in January - February 2008. ADPC provided concept notes of school safety week, hazard hunt, questionnaires and technical support.

A new initiative was introduced by ADPC to evaluate the teaching and the effectiveness of the module. This was by organization of a School Safety Day including activities such as hazard hunt, poster painting competition and a quiz in the schools.

During the School Safety Day in the pilot schools in project countries, students from other classes also participated in hazard hunt, quiz and poster painting competition. The (15) outstanding students from Cambodia and (9) outstanding students from Lao presented their experience of the School Safety Day to the participants of the National Advocacy Workshops. The students of Lao PDR conducted a quiz competition and asked questions to the participants of the workshop. The students of Cambodia presented skits on their understanding of mitigation measures. The 15 students from the two pilot schools in the Philippines had a poster painting competition and were evaluated during the National Advocacy Workshop. They explained their paintings and participated in a quiz.

The total number of beneficiaries is 2,636 persons; amongst them (2,205) are students from the 3 countries.

Outcomes: The total number of beneficiaries is 2,636 persons; amongst them (2,205) are students from the 3 countries. There are 431 teachers, provincial and district educational officers and other stakeholders who have also participated in DRR awareness raising sessions and have been oriented in the three project countries The details of the beneficiaries in each country are as follows:

Table 2/ Outputs/ Indicators of the Project

The detail of the beneficiaries in each country are as follow

	Cambodia	Lao PDR	Philippines
Provinces	Achieved = 3	Achieved = 2	Achieved = 3
Districts	Achieved = 4	Achieved = 8	Achieved = 3
Grade	Grade-8	Grade-6	Grade-6
Subject/country	2-subjects: Geography and Earth	2 subjects: Natural Science and Social Science	2 subjects: Science - and Social Studies
No of Schools	Target= 3 Achieved = 9	Target = 3 Achieved = 8 + 2	Target = 3 Achieved = 6
No of Students	Target = 100 Achieved = 847 (239 Girls)	Target = 100 Achieved = 738 (242 Girls)	Target = 100 Achieved = 1020 (548 Girls)
No of TOTs (Training of Teacher/Trainer)	Target = 1 Achieved = 3	Target = 1 Achieved = 2	Target = 1 Achieved = 3
No of Officials/ Teachers trained	Target = 25 Achieved: Teachers = 109 Officials = 18	Target = 25 Achieved: Teachers = 30 Officials = 18	Target = 25 Achieved = 23
No of teachers	Target = 9 Achieved = 109	Target = 9 Achieved = 30	Target = 9 Achieved = 23

Cambodia

A total (159) officials and teachers, including officers from secondary school education department, teacher's training department, provincial and district education officers, directors, deputy directors and principals from (10) pilot schools, have been trained, and 447 students (amongst them 239 are girls) have been taught the DRR module. In addition, the Senior Minister MOEYS H. E. Kol Pheng actively participated in the National Workshop.

Lao PDR

There are 484 students with 242 girls and (164) officials and teachers in Lao PDR who have participated in awareness raising, training and have been taught disaster preparedness and risk reduction. In collaboration with Save the Children Australia, NRIES provided training to (10) teachers from Sayaboury province and DRR module have been taught to 54 students at Ethic School and 200 students at Luk-sip-pet school, in Sayaboury. Thus, in total (738) students from (15) schools have learned DRR module in class rooms. In addition, the Minister of Labor and Social Welfare and Chief of Cabinet, Ministry of Education actively participated in the National Workshop.

Philippines

In the Philippines 1,020 students, including 548 girls from (6) pilot schools have been taught DRR module. In the orientation session (23) teachers participated. Regional supervisors, regional directors, school principals from pilot schools and officers from DepEd also participated in DRR teaching observation and evaluation in classrooms. A TOT has added (75) more beneficiaries that include teachers, trainers and education officers. In addition, the Secretary of the Office of Civil Defense and the Undersecretary of DepEd actively participated in the National Workshop.

Study on impact of disasters: Three studies on the impact of disasters on the education sector in the three countries were conducted under the project. Initially, the 3 institutes (namely EIC, URI and CDP) from the 3 project countries had submitted the first draft to ADPC in January 2008 and ADPC gave feedback and suggestions to them. The UN agencies and concerned Ministries in the project countries also provided inputs to the studies. The draft papers were also posted to UN agencies and NGOs for comments. The feedback was incorporated into the reports.

The draft study papers were showcased at the National Advocacy Workshop. The presentations on the study papers were made at the National Advocacy Workshop in Phnom Penh, Vientiane and Manila. The feedback obtained from the workshops has been incorporated in the final version of the reports before printing for dissemination.

The outputs of the studies have raised a wide range of DRR issues associated with the education sectors in the 3 project countries. The valuable information ranges from basic information on socio-economic and physical impacts of disasters to building codes, structural design and construction materials. The studies showcase the structure of the education sector in general, disaster reduction/management in particular along with the institutional arrangement for country specific DRR. The studies have captured the process followed in each of the project countries for school construction, the stakeholders involved, and the current and future programs on construction of schools. The studies have emphasized the need for improved hazard resilience of school construction. This need was further emphasized by the national governments during the National Advocacy Workshops. The studies and the debates on the studies in the National Workshops have recognized the importance to partner closely with the Department of School Construction within the Ministry of Education and to advocate for integrating hazard resilient construction techniques in their programs and projects. This need was reinforced by all participants of the workshops – Government, NGO, UN and donors.

Lao PDR: February 28th – 29th 2008 in Vientiane

National Advocacy Workshops: National Advocacy Workshop was conducted in the 3 project countries on the following dates:

- Lao PDR: February 28th – 29th 2008 in Vientiane
- Cambodia: March 19th – 20th 2008 in Phnom Penh
- Philippines: March 31st in Manila

Officials from the Ministry of Education, National Disaster Management Office, project working group members, curriculum specialists of MOE, officials from Ministry of Planning and Finance, Ministry of Transportation, Communication and Post, Provincial and district educational officers from pilot provinces, provincial and district disaster management officers, school Directors and Principals, representatives from UN agencies such as JICA, UNICEF, UNDP and representatives from NGOs such as World Vision, Save the Children Federation, Oxfam GB, Action Aid, AusAID, MRC, GTZ, Lao Red Cross, World Concern and Oxfam Australia participated in the workshops. Representatives from World Bank, ADB and the media also participated. They presented their on-going and upcoming projects. Study paper on impact of disasters on the education sector was presented in the workshop for feedback and comments from participants.

The key achievements of the National Advocacy workshop were:

- Showcasing the results and the experience from the implementation of the project on mainstreaming disaster risk reduction in the education sector (MDRD Education).
- Showcasing the recommendations of the study on the impacts of disasters in the education sector in the countries, with specific focus on safer construction of school buildings.
- Recommendations from the participants on the next steps for integration of DRR in the education sector.
- Sharing and learning from the experience of other NGOs and donors in integrating DRR concerns in the education sector.
- Suggestions on and an endorsement by the government of future programmatic activity for the integration of DRR in the education sector of the countries to ensure compliance with the Hyogo Frame work for Action.

During the workshop, the participants were divided into groups to discuss on further curriculum development and next steps to be undertaken by the Ministry of Education and National Disaster Management Office based on the recommendations of the country study paper. Participants highlighted the need for further actions for mainstreaming DRR in the education sector, because though the execution of the project has addressed a gap in the implementation of the HFA in the 3 countries, it has also exposed some critical deficiencies which need to be addressed through further programmatic activity. The country governments have expressed the need for expansion and continuation of the activities under the MDRD Education project.

Some students from the pilot schools also presented their knowledge on DRR under the theme "Hear the Children" at the National Advocacy workshops. Nine (9) students from (3) pilot schools in Lao PDR, (15) students from (3) pilot schools in Cambodia and (15) students from (3) pilot schools in the Philippines participated. Questions were asked relating to fire, floods, violence and causes of disasters, etc. Students were also asked the meaning of risk, hazard and disaster by the participants. Students also asked several questions to the participants. The selected posters from School Safety Day activities were also presented, and the students were asked to explain their work.

Stakeholder Consultations:

This project has played an important role in establishing linkages and networks. A representative from each country made a presentation on the experiences of integrating DRR into the curriculum at the Asia Pacific Regional Workshop on School Education and DRR, at Bangkok 8-10 October 2007. Similarly, there were presentations by the country representatives at the RCC meeting in Sri Lanka in May 2008. At the RCC meeting, the need for future programs to build on the project activities in the RCC member countries would be emphasized through presentations and interactions. Representatives also made presentations and share information during the national workshops in the 3 countries. The idea was that all 3 countries would have participated in the national workshops so they can share experiences.

Contacts have been established with donors and other stakeholders since the initiation of the project. There have been continuous consultations with the stakeholders. Many organizations participated in the National Workshops and made presentations, contributed to the outcomes of the workshop and played an active role in the recommendations of both the study and the workshop. Stakeholder consultation has been done not only after the workshop, but more before the workshops, especially during the project implementation. The stakeholders with whom follow up meetings have been conducted, and are continuing include - UNICEF, Red Cross, Save the Children, WB, ADB, European Union, AusAid and various Government departments. The discussions have focused on:

1. Follow-up on the recommendations of the National Workshops and the Studies.
2. Discussion on the pipeline and on-going projects where there is possibility of integrating DRR.
3. Collaboration and further engagement in the future.

In addition, there are also discussions on the priorities for the future and for upscaling the achievements of this program. Some suggestions have been:

- Extension of the project activities to other countries
- Expansion of the project activities in the 3 countries to cover primary and high school
- Expansion of the project activities to higher education at University level,specifically in the Engineering and Architecture colleges

- Program on safe school buildings (including development of guidelines and codes; training programs for engineers, architects and masons; capacity building of training institutes, capacity building of governments)
- Program on school emergency planning (development of guidelines, training for teachers and officials, conduct of mock drills)

Sharing of Project Results in Regional & Global Fora:

In addition the results of the project have been showcased internationally for further consultation with stakeholders:

- The project was showcased at the Global Platform for DRR, Geneva 4-8 June 2007
- The project activities were showcased at the Asia Pacific Regional Workshop on School Education And Disaster Risk Reduction 8-10 October 2007, Bangkok, Thailand which was jointly organized by UN/ISDR, UNESCO, UNICEF, UN/ESCAP, UNCRD, UN/OCHA, IFRC, ASEAN, ADPC, ADRC and ASB. The focal points from the MOE from all 3 countries participated in the workshop, presented the work done under the project in their country, and benefited from sharing of information from over 287 representatives from the region.
- The project was highlighted in the Workshop on Education for Disaster Risk Reduction (EDRR) at the 4th International Conference on Environmental Education, 26-28 November 2007, Ahmedabad, India.
- The results of the project were showcased and discussed in the Regional Consultative Committee on Disaster Management meeting held in Colombo in May 2008. The 3 countries

  made presentations to show their results and share information with other RCC members who may want to adopt a similar approach for mainstreaming of DRR in the education sector.
- The experiences of the MDRD Education project have helped refine the RCC Guidelines on Curriculum Development. These guidelines were prepared earlier and were used to guide this project, but the lessons learned from the project were also incorporated into the guidelines. These guidelines were shared for further consultation in the Regional Consultative Committee meeting held in Colombo in May 2008.
- The results of the project were also showcased in the International Conference on School Safety May 14-16th 2008, Islamabad, Pakistan.

Mainstreaming and Linkages:

The national authorities and other stakeholders in all the three countries confirmed that the project addresses the needs and the country priority to mainstreaming DRR into the education sector and is considerably contributing to the implementation of the Hyogo Framework in, particular to priority area 3.2.

- All the three countries have confirmed with an official letter to prioritise the mainstreaming of DRR into the education sector, to disseminate and teach DRR module in the secondary school.

- Cambodia and Philippines governments have already integrated DRR in the education sector into the Strategic National Action Plan, (SNAP). Lao PDR Government is in the process of doing so, given that SNAP process is not yet finalised.
- The country authorities have expressed as well their commitment to elaborate or review the existing building codes and construction guidelines for school building, as consequences of the findings of the research studies on the impact of disaster in the education sector.

The immediate impact of the project is an increased awareness, in particular at the policy level, on the importance of mainstreaming DRR in the education sector, adopting a multi-sectoral approach. The strengthened commitments of the governments and NDMO structure in making communities safer and upholding government responsibility to ensure public safety; and the enhancement of the networking among the disaster risk reduction practitioners and governments; as well as among the government agencies.

All the three countries have confirmed to disseminate and teach DRR module in the secondary school and to prioritise the mainstreaming of DRR into the education sector.

The MDRD project has developed a good model for the mainstreaming of DRR in education with the development of research studies, tools, partners' cooperation and linkages which help to facilitate the process of the mainstreaming. In Cambodia, the project is working in synergy with Action Aid; i.e. approaches, DRR modules, training material and IEC material are shared, complemented, and used by both projects. In Lao, the MDRD project envisaged the same model with Save the Children Australia. In anticipation, teachers from the Sayaboury province of the SCA project were trained to deliver the DRR module. In the Philippines, the MDRD project complements well the other government school projects, such as integration of global warming and food security into the education curriculum.

In addition, the results of the project were shared at the Regional Consultative Committee on Disaster Management meeting in May 2008. The 3 countries shared information with other RCC members who may want to adopt a similar approach for mainstreaming of DRR in the education sector. The experiences of the MDRD Education project have also helped refine the RCC Guidelines on Curriculum Development. These guidelines were prepared earlier and were used to guide this project, but the lessons learned from the project were also incorporated into the guidelines. These guidelines were shared for further consultation in the Regional Consultative Committee meeting held in Colombo in May 2008. Thus, the project received input from the RCC but also contributed to the RCC Program on Mainstreaming DRR. A two way link has been established with the RCC, which contributes to the efforts at mainstreaming in the region and the globe, and also promotes sustainability of this effort.

ADPC and UNDP have strong and close relationship with all National Disaster Management Offices in all 3 countries and have developed close relationships with the Ministry of Education regarding the development of DRR module. The NCDM in Cambodia, NDMO in Lao PDR and the NDCC in the Philippines were actively involved in capacity building activities and facilitated TOT by providing resource persons. In addition, there was close coordination with provincial and district education officers, in all 3 countries. The project team provided training to the district officers and commune councils in collaboration with other DIPECHO funded ADPC projects in Lao and Cambodia, such as ECHO III. ActionAid, UNICEF and other agencies participated in visiting schools for monitoring, in the development of the country studies and in the national workshops. In Kratie province of Cambodia, the schools covered under ECHO-III project were also selected under the MDRD Education project to ensure synergy. In Cambodia, the Teachers Information Kit and the Flood Booklet from the FEMS project were utilized and disseminated during the TOT.

Conclusion:

According to an external evaluation the project helped considerably to initiate in Cambodia and Lao, and to advance in Philippines the mainstreaming of Disaster Risk Reduction (DRR) into the education sector by developing and testing country specific DRR modules, conducting the research studies on the impact of disasters in the education sector as well by organising national advocacy workshops in which the outcomes of the school pilot testing phase and the findings of the research studies have been presented and discussed with the main stakeholders in every country.

The external evaluation of the project has stated "The project appears to have successfully advocated the need for mainstreaming DRR in the education sector, both in the curriculum as well as in school construction.

The external evaluation of the project has stated "The project appears to have successfully advocated the need for mainstreaming DRR in the education sector, both in the curriculum as well as in school construction. The MOE in all 3 countries has adequately devoted sufficient time and effort to the project. The risks and assumptions have been overcome." The letters and orders of endorsement serve as evidence to the fact that the governments of all 3 countries have appreciated the need for DRR in policy.

C) MDRD EDUCATION PROJECT IN LAO PDR

Under the Ministry of Education (MOE) of Lao PDR, a project technical working group was formed with senior officials and curriculum developers from the National Research Institute for Educational Science (NRIES) and other senior officials from the equipment section, evaluation section and planning section of MOE. UNDP and Save the Children are also members of the Project Working Group.

DRR Module: Before 2002/2003, curriculum related to DRR was never taught in Lao PDR. The DRR module (developed under ADPC MDRD-Education Program) was piloted in schools (with Grade VI) by integrating it into the existing natural and social science subjects in 2007. Similarly, textbook for Grades 3, 4 and 5 were developed to teach DRR. These actions have not yet been institutionalized.

The final DRR module for Grade VI was integrated into Natural Science and Social Science into the following main chapters:

- Hazards and Disasters
- Landslides
- Earthquakes
- Floods
- Drought
- Fire
- Pollution
- Road accidents
- Civil unrest

Main Chapter:
- *Hazards and Disasters*
- *Landslides*
- *Earthquakes*
- *Floods*
- *Drought*
- *Fire*
- *Pollution*
- *Road accidents*
- *Civil unrest*

Lao PDR

Grade	Subject	Chapter No.	Topic No.	Name of chapter	Objective	Integrated to:	Duration	Pedagogy	Contents
Six	Natural Science	1	Before teaching lesson	Disasters	Basic understanding of disasters	Lesson 8	1 hour	Pictures, questions asked by teacher, local examples, group discussion	1.Knowledge on disasters 2. Types of disasters Effects 3. Causes 4. Prevention 5. First aid
Six	Natural Science	2	10.4.2.d	Land-slides	Learn causes and mitigation measures for landslides	Lesson 10	1 hour	Pictures, questions asked by teacher, group discussion, demonstration of soil erosion	1. Knowledge on landslides 2. Causes 3. Prevention 4.Searching for persons affected by landslide
Six	Natural Science	3	10.4.2.b	Earth quake	Learn causes and mitigation measures for earthquake	Lesson 10	1 hour	Pictures, questions asked by teacher, group discussion	1.Definition of earthquake 2. Causes 3. Effects 4. Mitigation
Six	Natural Science	4	8.1.2: Damages from water	Flood disaster	Learn causes and mitigation measures for floods & techniques of rescue from water	Lesson 8 Water for life	1 hour	Pictures, questions asked by teacher, group discussion, classroom game : Thunder & Rain, demonstration of flooding, demonstration of rescue technique in class room	1. Definition 2. Causes 3. Effects 4. Mitigation 5.Primary health care

Grade	Subject	Chapter No.	Topic No.	Name of chapter	Objective	Integrated to:	Duration	Pedagogy	Contents
Six	Natural Science	5	9.5 Air pollution	Drought disaster	Learn causes and mitigation measures for drought	Lesson 9 Air	1 hour	Pictures, questions asked by teacher, group discussion	1. Definition 2. Causes 3. Effects 4. Mitigation
Six	Natural Science	6	5	Fire	Learn causes and mitigation measures for fire	Lesson 6	1 hour	Pictures, questions asked by teacher, group discussion, demonstration of fire generation and extinguishing	1. Knowledge on fire 2. Causes 3.Making fires 4. Mitigation 5. Prevention
Six	Natural Science	7	8.4 (Lesson 8) v& 9.5 (Lesson 9)	Pollution problems	Learn causes, effects & prevention of tpollution	Lesson 8 & lesson 9	1 hour	Pictures, questions asked by teacher, group discussion, water pollution demonstration	1. Definition 2. Water pollution 3. Water quality conservation 4. Air pollution
Six	Social Studies	8		Road Accidents	Learn causes & prevention of road accidents	Lesson 19 (Things should do when traveling on the road)	1 hour	Pictures, questions asked by teacher, group discussion	1. Causes 2. Effects 3. Prevention & response to accidents
Six	Social Studies	9		Civil unrest	Learn effects & prevention of gambling & drug addiction	Lesson 18 (Social responsibility for good citizenship)	1 hour	Pictures, questions asked by teacher, group discussion	1. Gambling: Causes & effects 2. Addiction to drugs: Causes & effects 3. Prevention

An example of the Chapter on Disasters

Chapter 1: Disasters

Teaching duration: 1 hour

Integrated to: Before Teaching Lesson 8 in Natural Sciences Subject

I. Objectives

To make the learners able to:

- Tell the definition of disasters.
- Explain the causes and effects of disasters.
- Tell the methods for mitigating the damages from disasters and the first aid to be given to the victims of disasters.

II. Main Contents

- Knowledge and effects of disasters.
- Causes of disasters.
- Disaster protection or mitigation methods.
- First aid for the victims of disasters.

III. Learning - Teaching Tools

- Pictures related to losses from disaster.
- Examples of disaster events which occurred in the local area (if there are any).

IV. Learning – Teaching Activities

1. General discussion about knowledge of disaster and its effects

- The teacher discusses with students by using the following questions:
  - Does anyone know any news of an event such as flood, fire, earthquake which occurred in a local place, country or abroad? (If someone knows, the teacher will let that student narrate. If no student knows, the teacher should raise some events to narrate to the students).
  - What are the losses from each event?
  - Have you heard of the word disasters? What are the meanings of disasters?
  - How many kinds of disasters do you know? What are the disasters in each kind?
  - What are the effects of disasters?
- Students study examples of disasters in the textbook.
- Teacher concludes the meaning, type and effects of disasters.

2. General discussion on causes of disasters

- If everybody has knowledge and understand each disaster, what are the damages that happen?
- If we prepare for the occurrence of disasters, what will be the damages?
- Teacher leads students to summarize causes of disasters which results to damages.

3. Group discussion about prevention and mitigation of damages

- Students had a group discussion according to the following questions:
  - Can we prevent the occurrence of disasters? Why?
  - Can we prevent or mitigate damages from disasters? How?
- A representative from each group reports to the class.
- Teacher leads students to summarize the methods for preventing or mitigating damages from disasters in brief.

4. General discussion about first aid

The final module and Teacher's guide are on ADPC www.adpc.net

After the evalution, MOE has revised the Teachers Guide.

TOT and Training: The first Teachers' training was conducted in 27th – 29th September 2007 in Bolikhamsay Province, Lao PDR. Thirty-two (32) participants took part in the training program which included principals from the selected pilot schools, district pedagogical advisors, district and provincial officers, 2nd year secondary school teachers from pilot schools and staff from the pedagogical research institute. 2 teachers from Sayaboury province and representatives from Save the Children, Australia also participated in the training. Resource persons from pedagogical research institute and ADPC were the trainers.

Additional training for teachers and officials from Hyunbun district, Bualapha district and Mahasay district of Khammoune province was conducted at Bolikhamsay province. Eighteen (18) officials of Khammoune education division also attended. Teachers and officials from (5) districts of (3) province: Khammoune, Bolikhamsay and Sayaboury province attended the trainings at Khammoune and Sayaboury provinces. The teachers from Sayaboury province were trained in anticipation of the LANGOCA project with Save the Children, Australia.

Teaching of the Module: Based on the feedback from the first TOT and the requirements of the country, ADPC suggested that NRIES provides training to teachers from other districts and schools in Khammoune and Vientiane municipality. So, DRR module was taught in (15) schools, (12) districts from (4) provinces. The schools are:

Table 3/ Pilot schools in Lao PDR

Name of Province	Name of district	List of schools for pilot testing of DRR	Number of schools in each province
Khammoune province	■ Nongbok district ■ Sebangfay district ■ Thakeak district ■ Mahasay district ■ Hinboun district ■ Bulapha district	■ Hatsengdee lower secondary school ■ Nongbok secondary school ■ Yangkham secondary school ■ Chomthong secondary school ■ Mahasay lower secondary school ■ Thamy lower secondary school ■ Lakhang lower secondary school	7
Sayaboury province	Sayaboury district	■ Ethnic school ■ Luk-sip pet secondary school ■ Xonphao secondary school ■ Mittaphap secondary school	Teaching was completed in 2 schools. In the other 2 schools the teachers were trained, but teaching not done.
Vientiane municipality	Nasaythong district Hatsay Phong district	■ Phonthong secondary school ■ Sythantay secondary school ■ Phiawat secondary school	3
Bolikhamsay province	■ Bolikham district ■ Paksan district ■ Thapabath district	■ Banbo secondary school ■ Phosy secondary school ■ Thapabath secondary school	3
Number of schools in proposal			3
Additional schools			12
Total schools in (4) provinces			**15**

The two schools in Sayaboury province were in collaboration with Save the Children, Australia. Two (2) teachers from 2 schools were trained to teach the DRR module. The NRIES focal point, NDMO focal point, ADPC coordinator from Sayaboury province and official from Department of Labor and Social Welfare and Sayaboury district education officer visited these schools for evaluation of teaching 3rd – 4th of January 2008. The DRR module was taught to 54 students at Ethnic school and (200) students in Luk-sip pet school in Sayaboury. For the remaining 2 schools in Sayaboury, the teachers were trained only.

School Safety Day: A total of 484 students from Nongbok and Hatsengdee lower secondary school in Khammoune province and Phiawat secondary school in Vientiane municipality were evaluated on learning from the DRR module during the school safety day activities held from 11th to 14th February 2008. Level of understanding was evaluated by means of questions, hazard hunt and poster painting. Questions were asked by school committee and teachers. Students also gave some suggestions to the school committee to take appropriate action from the findings of the hazard hunt in the schools.

484 students (with 242 girls) were asked 105 questions which include lesson and general knowledge on DRR. 60% of students shown well understanding on DRR and (15) outstanding students from (3) pilot schools were selected.

There are 484 students with 242 girls and (164) officials and teachers in Lao PDR who have participated in awareness raising, training and have been taught disaster preparedness and risk reduction.

Outcomes: There are 484 students with 242 girls and (164) officials and teachers in Lao PDR who have participated in awareness raising, training and have been taught disaster preparedness and risk reduction. In collaboration with Save the Children Australia, NRIES provided training to (10) teachers from Sayaboury province and DRR module have been taught to 54 students at Ethic School and 200 students at Luk-sip-pet school, in Sayaboury. Thus, in total (738) students from (15) schools have learned DRR module in class rooms. In addition Minister of Labor and Social Welfare and Chief of Cabinet, Ministry of Education actively participated in the National Workshop.

Study on impact of disasters: This study was an initiative on basic information of disaster impacts on the education sector; therefore the recommendations of this study are made based on the findings, gaps and future needs. The recommendations in terms of structural and non-structural measures, in depth future study for education sector at different levels and others are presented in the report.

Lao PDR does not have any National Building Code to regulate construction. The Ministry of Public Works and Transport is yet to develop a Building Code that integrates DRR. The Ministry of Education has project specific guidelines for construction, but these do not fully integrate DRR concerns. These guidelines have been developed for EDP I, JICA, BEGP, EQUIP 2 and EDP 2 projects, but there is no standard national guideline for school construction. The recommendations of the study were endorsed by the participants of the workshop, including the Chief of Cabinet of the MOE.

National Workshop: The third activity, the Advocacy Workshop on Mainstreaming Disaster Risk Reduction into the Education Sector, aimed to raise awareness and build consensus and commitment of the Ministry of Education and other related Ministries in Mainstreaming Disaster Risk Reduction into the Education Sector. In this context, it is realized that for successful implementation of developmental activities for the education sector, it is essential to involve other ministries such as Planning and Finance as they take key decisions about the budgetary allocations and distribution of funds in respective sectors. This Advocacy Workshop aimed to raise their awareness on how investment in risk reduction in education as well as in disaster resilient construction can help in minimizing financial losses incurred by the Ministry of Education in the aftermath of a disaster.

Similarly, though school buildings are assets of the Department of Education, often they are built by other departments such as Public Works, or donor designated construction agencies. Hence, raising their awareness on the necessity of disaster resilient construction and revising standard school designs is necessary to achieve the primary goal of reducing risk from hazards. The workshop attempted not only to showcase the success and experience on the integration of DRR module into the education curriculum but also focused on the need for hazard resilient construction and other actions to reduce impacts of disasters in the education sector.

The workshop was a 2 day event that intended to orient the officials from the Ministry of Education, National Disaster Management Office and related ministries, identify the gaps in the present system of school construction and initiate mainstreaming of disaster risk reduction into development policies, planning and implementation in the education sector. In addition, representatives from the UNDP, UNICEF, World Bank, ADB and media were invited to the workshop.

Workshop Objectives:

- To showcase the results and the experience from the implementation of the project on mainstreaming disaster risk reduction in the education sector (MDRD Education).
- To showcase the recommendations of the study on the impacts of disasters in the education sector, with specific focus on safer construction of school buildings.
- To share, and learn from, the experience of other NGOs and donors in integrating DRR concerns in the education sector.
- To suggest future programmatic activity for the integration of DRR in the education sector of the countries to ensure compliance with the Hyogo Framework for Action.

Agenda of the Workshop

National Advocacy Workshop on Mainstreaming Disaster Risk Reduction into Education Sector in Lao PDR

Date: 28th - 29th February 2008
Venue: Lao Plaza Hotel, Vientiane
Thursday, 28th February 2008

Time	Session/ Discussion
	Opening session / Chair: Hon'ble Minister
8.30 am to 9.00 am	Registration
9.00 am to 9.10 am	Welcome speech: Director of Social Welfare Dept.
9.10 am to 9.25 am	Opening Remarks by Minister, Ministry of Labor and Social Welfare
9.30 am to 9.45 am	Presentation on Background of RCC MDRD Program by ADPC
9.45 am to 10.00 am	Group Photo
10.00 am to 10.30 am	Tea/Coffee Break
	Session on Integration of DRR in school curriculum / Chair: Director of Social Welfare Dept.
10.30 am to 10.35 am	Objectives, modalities and expectations of the session (Chairman)
10.35 am to 11.00 am	Presentation on DRR Curriculum development – Mr. Aejo, Deputy Director, NRIES (Ministry of Education)
11.00 am to 11.30 am	Discussion/ Feedback
12.00 pm to 1.00 pm	Lunch Break
	Session on Study of impact of disasters on Education Sector / Chair: Chief of Cabinet (Ministry of Education)
1.00 pm to 1.05 pm	Objectives, modalities and expectations of the session
1.05 pm to 1.30 pm	Presentation of study paper – URI
1.30 pm to 2.00 pm	Discussion/ Feedback on conclusions of study
2.00 pm to 2.30 pm	Break into groups and Group Discussion on next steps based on recommendations of the study (facilitate by ADPC)
2.30 pm to 3.00 pm	Group Discussion on next steps based on recommendations of the study
3.00 pm to 3.20 pm	Tea& Coffee break
3.20 pm to 4.00 pm	Presentations by groups
4.00 pm to 4.30 pm	Concluding remarks and sum up by Chair
3.50 pm to 4.00 pm	
4.00 pm to 4.30 pm	Quiz (by students from pilot test school)
6.00 pm	Welcome Dinner (invited guests)

Time	Session/ Discussion
	Experience sharing session / Chair: ADPC
9.00 am to 9.15 am	Pedagogical Research Department, MoEYS, Cambodia (Mr. Eng Kimly)
9.15 am to 9.30 am	Department of Education, DepEd, Philippines (Dr. Corazon)
9.30 am to 10.00 am	Presentations by Save the Children and School Construction Department(ECDM), Ministry of Education, Lao
10.00 am to 10.15 am	Discussion / Feedback
10.15 am to 10.30 am	Tea/ Coffee break
	Session on Next Steps / Chair: Director of Social Welfare Department
10.30 am to 10.50 am	"Lessons learned" by students from pilot test schools (Children talk about what they have learned from the DRR module) Quiz by school children
10.50 am to 11.10 am	Presentation by NDMO on future activities, next steps and up scaling
11.10 am to 11.30 pm	Discussion and suggestions
	Concluding Session
11.30 am to 11.45 pm	Comments by DIPECHO
11.45 am to 12.00 pm	Remarks by NDMO
12.00 am to 12.15 pm	Remarks by ADPC (Mr. Aloysius Loy Rego, Director)
12.15 pm to 12.30 pm	Closing speech Chief of Cabinet (MOE)
12.30 pm	Lunch

WORKSHOP NOTES

1. The workshop was jointly organized by NDMO, NRIES, MOE and ADPC at Lao Plaza hotel in 28 - 29 February 2008 in Vientiane, Lao PDR. Participants included senior policy makers and officials from NDMO and MOE, officers from different departments of the MOE, officials from other Ministries of the Government of Lao PDR, representatives from UN agencies and NGOs, representatives from development banks, officer from prime minister office, principals, teachers and students from 3 pilot schools and members of the media. The total number of participants was 70.

2. Day 1: 28 February 2008

2.1 Inaugural:

In 28 February morning the workshop was inaugurated by H.E. Minister of Labor and Social Welfare. The Director General of Social Welfare Department, Mr. Prasit Detphommatheth, welcomed the participants to the workshop. He explained the role of the NDMO in disaster risk reduction. He welcomed the role and achievements of the MDRD Education project. The opening remarks were made by H.E. Minister of Labor and Social Welfare. She discussed the challenges faced by Lao PDR in the field of disaster risk reduction. She expressed satisfaction with the outcomes of the MDRD Education project, and emphasized the importance of such actions. She reiterated support to the Ministry for the recommendations of the workshop, for ensuring further mainstreaming of DRR into the education sector in Lao PDR. The Chief of Cabinet of the Ministry of Education also gave his remarks and support for the action.

3. Presentations:

3.1 The workshop began with the presentation on "Background of RCC MDRD Program" by the Director of ADPC.

3.2 The second presentation focused on the process and the lessons learned from development and testing of the DRR module in Lao PDR under the MDRD-Education Project. This presentation was made by Mr. Aejo, Deputy Director of National Research Institute for Education, MOE. Dr. Corazon, the focal point of DepEd Philippines, emphasized that TOT is very important for the future success of the action, and should be institutionalized in the MOE.

4. Group Discussions on Curriculum Development:

The participants were divided into four groups and discussed the following questions:

4.1 Group 1: Now that the curriculum is developed what are the next steps to be undertaken in the Ministry of Education for full integration of the DRR module into the National Curriculum?

The Group suggested the following next steps:

- Final revision of the curriculum and then recommendation to MOE for publication by CACIM
- Training of Teachers to get better understanding of DRR
- DRR module should be integrated into all levels-primary, secondary and university
- Should have TOT at the Teacher's Training Centre so all teachers can be trained
- Establish a technical committee for constant evaluation of teaching once curriculum is finalized.

Process for full integration: Based on the comments, next steps for DRR curriculum are 1) to revise teacher's guide and text books based on feedback and 2) submit to CACIM committee for approval of curriculum and instructional materials. CACIM members are from department of general education, department of teacher's training, department of planning, department of printing, department of non-formal education and department of private education and curriculum specialists from NRIES, MOE. CACIM will give recommendation to the Ministry of Education for final approval by Minister of Education. Approval of the document should be followed by the training of the teachers in teachers' training centers.

The members from the Philippines explained that in their country the Instructional Materials Council Secretariat (IMCS) will approve the material before printing.

Training Needs:

- DRR should be taught through Regional Teachers Training College (RTTC) and Provincial Teachers Training College (PTTC). Ministry of Health, Ministry of Education and Ministry of Transportation should stake responsible steps on this matter.
- Pedagogical department should develop materials for training of teachers
- DRR topics should be integrated in regular training programs of the MOE Resources needed:
- HR (Pedagogy Research Institute)
- Budget (Govt. should allocate along with NGOs and Donors)
- Materials (PRI has to produce more documents with the help of NCDM)

4.2 Group 2: What material is already available both in government and non-government sector, which can be used to supplement the DRR curriculum? (Audio visual, work books, activity books, comics etc.)

The comments are:

- Story telling, VCD and posters are helpful for primary classes, and need to be developed
- MOE can use some materials from Action Aid, after editing, for grade 4, 5 and 6
- DRR should be taught to primary schools, even in grade 1 and 2
- More visual aids need to be developed for teaching support-some posters have been developed by NRIES
- CD can be developed as cost is low, though availability of electricity is a constraint
- DRR related books are essential in schools and for TOT
- Teachers and students need more material for further reading and reference
- Funds needed from different organization as MOE alone cannot support

4.3 Group 3: For integrating DRR in the school construction which are the steps to be taken and the possible stakeholders – government and non-government?

The suggestions of the group were:

- Multi-hazard mapping is needed. Other ASEAN countries (such as the Philippines) have capacity to do mapping in case Lao needs assistance in this task. The map must be shared with all stakeholders.
- Building codes are needed which set the standard for all construction.
- All engineers and architects should be trained and they should be aware of how to integrate DRR in the construction. Simple non-technical training can be given to masons, teachers, community leaders.
- Training must also be given to private constructers. Building maintenance guidelines must be prepared by MOE/NDMO which cover all constructions-private, government and donor funded.
- There is need for integration of DRR in all on going and future construction projects.
- Stakeholders: MOE, MOF, MOP, Provincial Education Services, NDMO, UN agencies, donors, teachers, community leaders, village authorities and private construction agencies and contractors.

4.4 Group 4: What additions should be made to the school building design so that it can be used as an emergency and evacuation shelter without affecting teaching?

The suggestions of the group include:

- In Lao, temples are used as evacuation shelters as they have strong structure and are located on the best, high level land.
- Strong building structure is essential so the school can be used as an emergency shelter. The roof and doors must be in good condition.
- Evaluation should be based on location-as construction practice may vary due to local condition.
- We need to learn from other countries on building design. Many standards are available.
- Need for specific designs for earth quake, floods and wind storm to reduce the effect. This will depend on hazard mapping.

5. Country Study Paper: Impact of Disasters on the Education Sector in Lao PDR

Study paper on "Impact of disasters on the education sector in Lao PDR" was presented by Urban Research Institute (URI), Ministry of Communication Transport Post and Construction. Many feedback and comments were given by participants including ADB, UNICEF and the Ministry of Foreign Affairs. Based on these comments, study paper will be updated and finalized.

6. The activities of the workshop day 1 were summarized by the Chair, Chief of Cabinet, MOE.

7. Day 2: 29 February

Representative from DIPECHO, Ms. Cecile Pichon also participated on the 2nd day of the workshop.

8. Presentations:

8.1 The 2nd day of the workshop opened with a presentation on "Experience sharing on challenges and experience of developing DRR module" presented by focal points of Cambodia, Mr. Eng kimly, Deputy Director from Pedagogical Department, MoEYS and Dr. Corazon Echano Supervising Education Program Specialist, Department of Education, Philippines.

8.2 Save the Children Australia presented "Disaster Risk Education for children" based on their project in Sayaboury Province, which is a Project in collaboration with ADPC.

8.3 School Construction Department:

School construction presentation was made by head of ECDM, Department of Finance, Ministry of Education. He emphasized that Lao PDR does not have any national Building Code to regulate construction. Ministry of Public Works and Transport is yet to develop a Building Code that integrates DRR. Ministry of Education has project specific guidelines for construction, but these do not fully integrate DRR concerns. These guidelines have been developed for EDP I, JICA, BEGP, EQUIP 2 and EDP 2. There is no national guideline for school construction. His presentation had the following highlights:

- **GENERAL INFORMATION**
  1. Objectives and Strategy
  2. Education Development Projects in Laos

- **INTEGRATED DEVELOPMENT APPROACH**
  1. Integration of components
  2. Approach to implementation
  3. Implementation Structure and Responsibilities

- **SCHOOL CONSTRUCTION**
  1. Characteristics, Requirements, Architectural Concept
  2. The Need
  3. Expectation, Plan

- Expectation and plans for next steps for education sector were also presented. The plan is as follows:
  - Establish a data base of school buildings
  - Develop a specific school regulation concerning disaster prevention and protection
  - Establish national guidelines for school design, school standards and disseminate it to provinces and districts.
  - Budget allocation for school construction and maintenance
  - Develop a Maintenance manual for MOE
  - Have an annual forum with all donors

9. Hear the Children:

"Hear the Children" Nine students from 3 pilot schools demonstrated what they have learned from the DRR module by answering the questions and quiz on Do's and Don'ts before, during and after the disaster.

The last part of the workshop was "Hear the Children", a lessons learned session from school children. Nine students from 3 pilot schools demonstrated what they have learned from the DRR module by answering the questions and quiz on Do's and Don'ts before, during and after the disaster. Students also asked the following questions from the participants:

- what are the important items to keep in the emergency kit?
- how many days water should we keep in emergency kit?
- what is flash floods?
- disaster can be prevented or not?
- in case of floods what should you do?
- if you are in landslide what should you do?
- in case of fire what should you do?
- if your friend get burned what should you do?
- what is a tsunami?
- in case of lightning what should you do?

10. "Disaster Risk Reduction in Lao PDR: Focus on Education Sector" was jointly presented by NDMO (Mr. Sengkham) and NRIES. The presentation emphasized:

- Safe construction of schools in on going and future construction projects.
- Establish a forum for interaction between donors, Ministry of Education, the construction agencies and the NDMO for ensuring DRR in all future projects.
- Ministry of Education should develop National Guidelines for School Construction to ensure safe buildings. The guidelines must be applicable to all projects irrespective of donor.
- Ministry of Post and Construction should develop the National Building Code which integrates DRR.
- Train technical staff in charge of maintenance of schools, as well as the education community, on DRR
- Awareness about disasters should be part of curriculum at all levels of schools – primary, senior secon dary and university.
- There should be development of national guidelines for emergency planning in the school so that all schools can be prepared for disasters.
- Development of curriculum for students with disabilities.
- Development of extra curricular activities and visual aids for teaching DRR.
- Training of all teachers on teaching DRR.
- Support needed for development of curriculum and printing of textbooks for all students

11. The 2 days workshop ended with closing remarks by DIPECHO, NDMO, ADPC and Chief of Cabinet, MOE. The Chief of Cabinet assured the participants of the continued commitment of the MOE, Government of Lao PDR to the complete mainstreaming of DRR in the Education Sector. He assured that the suggestions of the workshop and the groups would become priority of the Government. He thanked all the participants.

Stakeholder consultation: There is an Education Donor Working Group (EDWG), which is composed of representatives from Ministry of Education and from the Donors. However, this group is not discussing issues of DRR and this lacuna was exposed during the national advocacy workshop. In Lao PDR both the EU and UNICEF suggested that working through the Donor Working Group is not required. They explained that working though this group is of value when the government is to be convinced about certain steps that should be taken. They pointed out that in the case of this project the government has already endorsed the mainstreaming of DRR in the education sector, through the national workshop. Hence, now the next step should be for the government to detail its requirements to the donors. Further follow up will be done by ADPC to facilitate this action by the government.

Mainstreaming: The Chief of Cabinet, Ministry of Education issued the certificate for the mainstreaming disaster risk reduction into the curriculum for lower secondary level in the Science and Social Science subjects in Lao PDR. It also stated that to continue disaster awareness strengthening for teachers, students and communities, the education sectors, especially the educational curriculum development sectors are expected to integrate these disaster modules into the National Curriculum.

Some schools were used for validating the DRR module under Phase I. Lao PDR has a total of 980 secondary schools. Institutionalization (i.e., training of teachers and incorporating the DRR module into the national curriculum) is required to cover all the schools in the country.

The implementation of the Phase I of Mainstreaming DRR in the Education Sector in Cambodia, Lao PDR and the Philippines ended in April 2008. While the execution of the project has addressed a gap in the implementation of the HFA in the 3 countries, it has also exposed some critical deficiencies which need to be addressed through further programmatic activity. The country governments have expressed the need for expansion and continuation of the activities under the MDRD Education project.

PART B:
IMPACT OF DISASTERS ON THE EDUCATION SECTOR IN LAO PDR

Section I: Background of the Study

1.1 THE CONTEXT

Lao PDR with a population of about 5.7 million (2005) is a mountainous country, where elevation below 200m accounts for only 16% of total area. Having a total area of 236,800 sq km, Lao PDR shares its borders with Thailand, Burma, China, Cambodia and Vietnam.

Topographically, most of the country is mountainous, with elevations above 500 meters, characterized by steep terrain and narrow valleys. The majority of population lives in lowland areas along the Mekong River and about 90 percent of the rural population practices farming dependent on rainwater for cultivation. Though the geographical location of the country provides protection from typhoons and windstorms, the country is exposed to various hazards, of which river floods and droughts are primary hazards causing widespread agriculture losses. Other important hazards include fires, landslides, rodent infestations, human and animal epidemics, UXO, opium addiction, and road accidents.

Natural disaster prevention and protection in the Lao PDR is anchored in the Environmental Protection Law of the country. Disasters are extremely harmful incidents which occur either naturally, by man made causes or caused by other reasons. They affect health, life, belongings, etc. Disasters in Lao PDR include floods, droughts, land slides and erosion, fires, typhoons, pets' epidemics and earthquakes. Disasters that have been mentioned here are affecting seriously the communities, schools, paddy fields and others. The details of commonly happen disasters in Lao PDR and Disaster Risk Reduction with a focus on Education Sector are in Annex A. In this report the main focus is only on urban fires, floods, windstorms and earthquakes since these are striking the country on a regular basis.

1.2 DISASTERS IN LAO PDR

Hazards:

Flood and drought are considered the main natural hazards to which the country is exposed. Floods mostly occur in the alluvial plains of Mekong and its tributaries during the May-September monsoon season. Thirteen major floods have occurred over the past 35 years. The area most affected (central and southern regions) accounts for the zone of greatest economic activity in the country, where 63% of the country's population live. Typhoons that enter the country from Vietnam can compound the rainfall pattern and cause additional flooding. Given the situation explained above, flood should be a concern for the future within the lower Mekong River basin.

The areas most prone to drought are the western provinces and some of the higher elevations of the southern provinces. Drought affects about 20% of the country's population, adversely affecting agricultural production. Other potential disasters are fire (both urban and forest fire), agricultural pests and epidemics. During 1997-2000, more than 500 cases of fire were reported.

Since last decade the changing climate and environment in the region and within the country, along with human made intentional or unintentional factors have worsened the situation. The degradation of the environment, opening more spaces, over logging, continuation of slash and burn cultivation practices, weakness on enforcement of using chemicals and fertilizers among others made people more vulnerable and increased losses. For example, the recent flash flood and land slide that occurred in Houaphanh, Luangprabang and Vientiane Provinces were never seen before in Laos. The flash flood and land slide in July 2001 in Vangvieng and Kasy districts of Vientiane Province destroyed 8 houses, all the cultivation area, cut of national road for sometime and impacted more than 200 families in 4 villages.

Box 1: Strategic Plan on Disaster Management of Lao PDR for 2010 to 2020

- Safeguard sustainable development and reduce the damage of natural or mandate disasters to community, society and country's economy
- Shift strategy from relief and mitigation after disaster impact to preparedness of the community, society and economy before the disaster strike (emphasizing on flood, drought, landslide and fire) and with continuing mitigation in post disaster periods
- Turn from responsibility of only government agency to people centered preparedness/ mitigation in dealing with disaster by building capability for community
- Promote protection of the environment and country such as forest, land and water

Source: National Disaster Management Office, 2000

Vulnerability:

Majority of the country's population do not have the capacity to cope with disasters due to poverty. Most inhabit the floodplain areas, making them more vulnerable to the annual flooding. The high population growth rate puts additional strain on environmental condition. Difficulties in access and communication are major constraints in the country's development and in response to disasters particularly. Only a limited part of the country can be reached by "all weather" roads, and large parts of it become inaccessible in times of disaster.

Background of Flood:

In the last three decades, Laos has experienced serious floods with an average recurrence of every 1.4 years. Flood from the Mekong River and its tributaries take place during the monsoon season and have the greatest macro-economic impact on the country and affect a greater number of people, as the areas affected are primary locations of economic activity and inhabit 63% of the country's population.

Twenty-seven "major" floods have occurred in Lao PDR during 1966 to 2002, of these historic floods only 6 of them were large floods 966,1971,1978,1995,1996 the coutry saw the worst flooding in central and southern provinces with other 28% of the country paddy crop destroyed and causing extensive damages to roads and public infrastructures. Estimated the more serious recent floods, the flood in year 2000 affected 12% of the population and destroyed about 8% of the national wet season cultivation area.

Box 2: Historic Flood Pattern

During the last 30 years (1966 to 1995), 22 notable floods have occurred with an average frequency of once in 1.4 years. Of these 22 historic floods, only four (occurred in 1966, 1971, 1978 and 1995) were large, covering the whole country and giving an average frequency of once in every 7.5 years. The 1966 flood is recalled as one of the most disastrous and probably the longest. It caused unprecedented water levels in the Mekong, inundation of large areas and extensive damage. Agriculture and agricultural infrastructure suffered the worst damage. The Laotian flood pattern is also distinct from that of Thailand or Cambodia since floods in Laos tend to be more 'flashy' and frequent than in Thailand. This is due to relatively high rainfall in the Lao mountains and the lack of regulation on its tributaries.

Flooding in the Mekong River and its tributaries are recurrent events and causes damages each year

Flooding in the Mekong River and its tributaries are recurrent events and causes damages each year in varying degrees to agricultural production, rural infrastructure and human settlements. It also results in losses in livestock and human lives. The common floods occur during the monsoon period from August till November and are caused by the typhoons originating in the South China Sea.

The 1995 and 1996 floods were exceptionally serious. An analysis of the level of floods in the Mekong River over the past 35 years shows that only in 1961 and 1966 similar flood levels were reached. The floods of the recent years show an upward cycle and the flood level in 1994, 1995 and 1996 had been well above the average. The damage to agricultural production has been substantial and exceptional, in particular in 1995 and 1996.

Land use	Damage	Percentage
Transplanted area	42,337 ha	41.14%
Stream, swamp, bamboo, grassland	10,140 ha	9.85%
Clear forest, hill and pasture area	31,354 ha	30.47%
Residential and other areas	19,081 ha	18.54%
Total flood area	102,912 ha	100%

Table 4/ Flood damages in Lao PDR

Source: JICA executives' seminar on public works and management, jgy 2005

In Laos, flooding by the Mekong River in 1994 had damaged about 28,000 ha of crop lands. The floods in 1995 and 1996 were the worst since 1966; those had seriously affected the agricultural areas along the Mekong and its tributaries in the Prefecture of Vientiane, and the provinces of Vientiane, Bolikhamxay, Khammouane, Savannakhet and Champassak. An estimated 87,300 ha were inundated in 1995 and 76,000 ha in 1996. Flooding in the Vientiane Plain in 1995 affected 153,398 persons, where 26,603 households and 427 villages were reported to be affected.

Flash floods have also occurred in the upper reaches of the Mekong tributaries where the effects are destructive but brief and localized. There is a trend towards more frequent flash floods; this might have been caused by severe deforestation in the hill areas of northern Laos.

Fire:

Between 1997 and 2007, there were more than 2000 incidents of fire in the country. Since the last decade the issues associated with climate change along with man made interventions have led to degradation of environment in Lao PDR. The larger open spaces due to increased forest logging, slash and burn cultivation practices and weakness in enforcement of using chemicals and fertilizers have made the communities more vulnerable.

Year	No. of incidents	No. of death	No. of injuries	Cost of damage (million kip)	No. of building was fired
2001	136	1	9	54.351	149
2002	141	3	4	16.932	207
2003	129	3	6	11.894	294
2004	131	7	3	11.910	321
2005	95	0	5	6.337	347
2006	114	1	1	13.891	1.232
2007	207	10	10	19.598	326

Table 5/ Statistic of damages caused by fires

Table 6/ Causes of fire

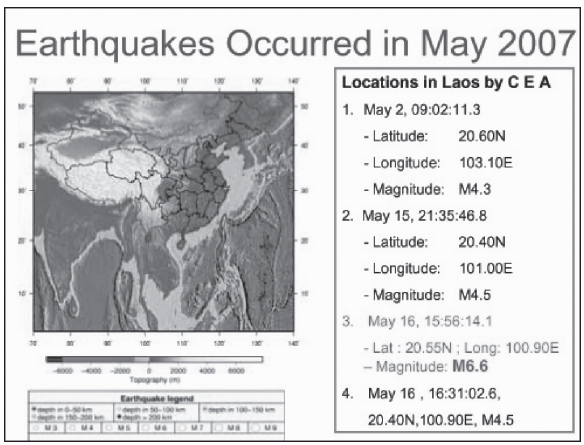
Source: Department of Fire Prevention and Protection, 2008

Year	Cigarette	Electricity	Cooking	Candle light	others	Total
2001	3	19	22	20	76	136
2002	2	22	10	2	105	141
2003	2	29	18	29	31	129
2004	5	24	54	22	26	131
2005		20	25	23	27	95
2006		35	15	22	42	114
2007		33	65	20	69	207

Earthquake:

Records show there were 4 earthquakes in May 2007 and 2 earthquakes in early June 2007

Even though the occurrence of earthquakes is not frequent in Lao PDR and it has not affected the country yet; it is still necessary to study about earthquake. Since Laos has no seismographic station, data and information of earthquakes occurring in Laos, there is information from neighboring countries, which is alarming. Some similar information from the nearby locations has been acquired through websites of the surrounding countries such as China and Thailand. And the records show there were 4 earthquakes in May 2007 and 2 earthquakes in early June 2007



1.3 MDRD EDUCATION PROJECT AND THIS STUDY

As part of the MDRD Education Project, this research study on impact of disasters into the education sector in Lao PDR is jointly produced by the MoE, NDMO, ADPC and URI. This study aims at raising awareness on the necessity of integrating DRR into education sector policy, programs and projects.

MDRD-Education stands for "Mainstreaming Disaster Risk Reduction into the Education Sector", which is a Program of the ADPC Regional Consultative Committee on Disaster Management (RCC). Along with Cambodia the MDRD-Education Program has been implemented in 3 Asian countries with the title "Support to Implementation of HFA through Mainstreaming of DRR into Development Planning and Implementation: Advocacy and Pilot Project Implementation in Education Sector in 3 South East Asian RCC member countries - Phase I"

The Phase I (2007-2008) of this project helped advance the mainstreaming of disaster risk reduction in these 3 important countries of Asia, strengthen networking among disaster risk reduction practitioners and enhanced the Government commitment in making communities safer and upholding Government responsibility to ensure public safety.

The implementation of the Phase I of Mainstreaming DRR in the Education Sector in Cambodia, Lao PDR and the Philippines ended in April 2008. While the execution of the project has addressed a gap in the implementation of the HFA in the 3 countries, it has also exposed some critical deficiencies which need to be addressed through further programmatic activity. The country governments have expressed the need for expansion and continuation of the activities under the MDRD Education project.

1.4 OBJECTIVES OF THE STUDY

To illustrate the impacts of Disasters on Education Sector is the main activity for this study. The specific objectives of this study are:

a. to build up evidence-based rationale to raise awareness on integrating disaster risk reduction concerns into Education sector policy
b. to advocate for changing practices in school construction and integrating disaster risk resilient features in school construction

1.5 STUDY METHODOLOGY

The methodology for this study is mainly based on secondary data and discussion with involved authorities. The detail methodology included:

- Review of secondary materials from Ministry of Education and other sources
- Interview with key informant officials from Ministry of Education and other agencies
- Interview of selected school children and teachers

The following table (Table 2) has stated the section of the study report, sources of data and the methodology used for each section.

Report Section	Sources	Methodology
Introduction		
The Department of Education: Structures, Functions Relations with other departments, Major Programs and methods and system	MOE	Review of Secondary materials from DOE and other sources Interview with Key Informant Officials of DOE and other agencies
Social and Economic Impact		

Table 7/ Section of the study report, sources of data and the methodology

Table 5/ Continued...

Report Section	Sources	Methodology
Basic Statistics	NDMO	Secondary Materials
Disruption/Impact of Disasters	School at Khammoune province, Champasak province and Vientiane province	Secondary Materials Survey Questionnaires for selected 3 schools
Physical Impact		
Organizational Structure of Dept of Education for Building Construction	Department of Personal and Organization	Secondary Materials Interview with Key Informant Official
Impact of Past Disasters	Department of General Education	Secondary Materials Interview with Key Informant Official
Analysis of the Budget for Education and Building	Department of Planning and Foreign Relations	Secondary Materials Interview with Key Informant Official
Process of School Building Construction	Department of General Education	Secondary Materials Interview with Key Informant Official
Review of Standards and Guideline	Department of General Education, Department of Teacher Training, JICA, UNICEF, KOICA, World Bank, ADB, Save Children Australia	Secondary Materials Interview with Key Informant Official
Review of Typical Plans for School Building	Department of General Education, Department of Teacher Training, JICA, UNICEF, KOICA, World Bank, ADB, Save Children Australia	Secondary Materials Interview with Key Informant Official
Pipeline and Continuing Projects for Building Construction	Department of General Education, Department of Teacher Training, Department of Planning and Foreign Relations	Secondary Materials Interview with Key Informant Official and reviewing different documents
Recommendations	Department of General Education, Department of Teacher Training, JICA, UNICEF, KOICA, World Bank, ADB, Save Children Australia School Principles	Interview with Key Informant Official
Case Studies		Secondary Materials

SECTION II: INSTITUTIONAL ARRANGEMENT FOR DISASTER MITIGATION AND EDUCATION IN LAO PDR

2.1 ORGANIZATIONS RELEVANT TO DISASTER REDUCTION

The management of disaster in Lao PDR is based on the Law on Environmental Protection issued by the Prime Minister (No. 158 in year 1999). The responsibilities of the key actors are structured on who will respond for disaster management at national level and local level. The National Disaster Management Committee (NDMC) was set up to work on disaster mitigation, prevention and reduction. The NDMO structure and detail policies are in Annex A.

National Disaster Management Committee (NDMC) has the following tasks:

- NDMC as a center of coordination for disaster preparedness and management at national level.
- Making plan on disaster management
- Collecting all data on disaster victims and make requests for assistance.
- Mobilization from individuals, organizations, internal and external in kinds and money for disaster management.
- Setting-up public awareness program on disaster mitigation. And integrate the subject on disaster management, environment and natural conservation into school curriculums.
- Preparing the direct relief operation plan, preparedness, response and rehabilitation by using govern-ment budget and with contribution of concerned agencies and International organizations and non-governmental organizations.
- Coordinate and enhance provincial governors to establish provincial and district disaster management committee.

The roles and responsibilities of NDMC members are different from each other based on their organization. The MOE has following roles and responsibilities to cope with disaster:

- Appoint DM Contact Person in MOE and coordinate for establishment of focal points at province, district, and educational institutions as needed.
- Responsible for integrating DM concept into education programs in schools,organize DM training on safe living with hazards and managing of the nature and environment for teachers and students.
- Responsible for organizing evacuation of students and population when disaster strikes, temporally using educational building to shelter victims.

The National Disaster Management Organization (NDMO), under the umbrella of MLSW, has the overall responsibility on disaster management for all hazards at the national and local level.

The National Disaster Management Organization (NDMO), under the umbrella of MLSW, has the overall responsibility on disaster management for all hazards (i.e., Floods, Drought, Fire, and road accident) at the national and local level. One of the main functions of NDMO is to create a good atmosphere for cooperation and to build a culture for coordination between various sectors in disaster management. Organizations which have been developed at the central and provincial levels are functioning through a focal point, who initiates monthly or bi-monthly meetings under the NDMO umbrella.

As a central coordination unit, the NDMO has set up a link with the provincial authorities. A good example worth mentioning is, since the floods in 2000 and 2001, the information and data collection of the flood were conducted more effectively and accurately compared to previous years.

Ministry of Agriculture and Forestry (MAF) serves as the key organization for undertaking mitigation measures related to floods and droughts. In recent years, the national level Flood-Drought Prevention Coordination Committee (FDPCC), established by the Prime Minister's Decree No. 29/PM, 2002, has played an important role in response to flood and drought. The Minister of MAF issued a decision for the establishment of FDPCC.

The Minister of MAF is the president of this committee who is responsible to address flood and drought prevention. FDPCC includes staff from MAF with the post of chairman held by Vice Minister of MAF. The role and responsibility of this committee includes follow-up on events, advice on the methodology and measurement of flood prevention country-wide, coordination with relevant organizations to encourage civil society to participate on prevention, mitigation and affect from flood. The committee has divided the country into 4 zones and sub-committees (general and secretariat and one committee in each zone). The general committee coordinates with each zone committee that report to the Minister. The committee in each zone coordinates with the Department of Agriculture and Forestry of provinces, municipality, provincial governor and district governor to formulate the plan for implementing flood and drought prevention and mitigation measures. The general committee also coordinates with relevant organization to mobilize resources and equipment for preparedness and mitigation of floods and drought.

The Ministry of Public Security (MPS) is responsible for the security and safety of society in case of disaster. The tasks are as follows:

- Appoint Disaster Management Contact Person in management and coordinate to establish focal point at the province, district and other units.
- Responsible for National Search and Rescue Team (NASRET).
- Responsible for training on Disaster Management and organizing simulation exercise joining by policemen and civilians.
- Responsible for joint emergency operation in disaster situation and mitigation in post disaster period.

Fire Prevention and Protection Department (FPPD) has been established under MPS. It is responsible for the prevention, protection, mitigation and risk management of fire hazards. The key pre-disaster activities include the preparation and the provision of material and equipment support for fire hazards.

Department of Meteorology and Hydrology (DMH) and the Waterway Administration Division (WAD) is responsible for hydrological and meteorological data collection. DMH is assigned to provide hydro meteorological and advisory services to the Minister of MAF. DMH operates 74 hydrological stations, 86 rainfall stations and 34 meteorological stations while the WAD operates 64 hydrological stations and 23 rainfall stations, all installed along the Mekong River and its tributaries.

The Ministry of Public Work and Transport (MPT) is responsible to study the policy and strategy relevant to communication, land, water, and train transport, housing, urban planning and water supply propose to government for consideration. Manage, improve and expand all level of road, bank protection activities. Manage a system of transport on land, water, sea, air and trail. Manage driving license and all type of vehicles for transportation (except vehicle of National Force, and National Security). Manage housing, building construction, urban planning and water supply throughout the country.

Public Work and Transport Institute (PTI) is mandated to undertake town planning, developing zoning regulations and undertake research and training activities throughout the country. PTI has also developed decision support tools for disaster reduction such as a hazard maps and disaster risk communication tools for public information. The main hazards where they have focused includes fire, floods and road accidents in urban areas.

The Ministry of Public Health (MOH) is responsible for relief and disease prevention in case of disaster occurs. The tasks are as follows:

- Appoint disaster management contact person in MPH and coordinate for establishment of focal points at province, district, institutions and major hospitals as needed.
- Responsible for direct involvement of medical teams in emergency operation: first aid, health care and issues “DIED CERTIFICATE” for victims.
- Responsible for stockpiling some medical equipments and medicines for emergency.
- Responsible for hygiene activity and control of disaster born dieses and organizing specialized training for medical teams working in emergency and in post disaster period.

2.2 DISASTER MANAGEMENT, MITIGATION AND VULNERABILITY OF THE COUNTRY

The Lao PDR, similar to the other countries in the lower Mekong River Basin, is either experiencing floods or bracing for them as the monsoon sets in and the rains increase. This is due to a combination of factors including very heavy rains in southern China and northern Laos, tropical storms over the South China Sea and the effects of ‘El Nino’.

In dealing with disaster problem in Laos in the past, much depended on the perception of the authority in an organization and the community themselves. The government was paying more attention on disasters to disadvantaged groups of people who had been victims of natural disasters with emphasis on relief and mitigation after disaster struck. For example, supply of water, seeds, rice, medicines, chemicals, distribution of relief goods, building of weir and embankment, irrigation and other. Since 1993 government has allocated annual budget for those activities from 500 to 1000ml kips for emergency relief to victims of disaster in country. In implementing those activities, other government and private agencies, international organizations, friend countries, international NGOs also participated and contributed with their resources which could help provide food and shelter to victims, allowing for victims to recover and return life cycle to normalcy after disaster. Nevertheless, while managing disaster we still were not proactively dealing with problems, beside that the lacking of necessary regulation, codes in implementing and procedures in coordination are also required to understand the real causes of the problems.

Box 3: Opportunities and Lessons learned

- Representatives of several sectors in the NDMC are still not clear about their roles and responsibilities
- Weak cooperation and collaboration between sectors
- Need to improve early warning information and its dissemination to the grass roots level
- Public awareness and education especially on the consequences of floods and drought
- Appropriate solutions (e.g. relocation of village, disaster risk reduction strategies, and new or adapted cultivation techniques) are needed.
- Integrating Disaster Management concept into other projects of urban and rural development with focused on flood, drought, fire , land management, bank erosion, water management. Protection of environment, forest and other natural resources.
- Appropriate legislation should be drafted that provides financial resources for disaster preparedness and mitigation.

Source: NDMO presentation, workshop on Policy, Legal and Institutional Arrangements and Planning for Disaster Management, 2004 Vientiane Lao PDR

The National Policy on Disaster Management adopts an all-hazards and people-centered approach to disaster management, and recognizes that disaster risk and vulnerability reduction are essential to sustainable development planning. The National Plan for the period 2001-2020 has been formulated, while provincial disaster management plans, which mirror the national plans but are made specific to the risk, hazard and vulnerabilities of the particular province, are under development.

Priorities for action are capacity building of disaster management personnel from national to community levels, early warning systems for floods and drought, public awareness, among other preparedness, prevention and mitigation, and response and recovery activities identified.

Major deficiencies concern the limited capacities and financial mechanisms at the provincial and district levels for carrying out management and development activities at local levels, continued appropriate training and establishment of support services are needed at the provincial and district level. This needs to include training on the interpretation of data and information collected to allow the identification and classification of focal sites to form the basis for promoting land use, water resources and forestland management plans to be tailored to different recommendation domains

For the legal enforcement related to the natural disaster prevention and protection, Lao PDR has acceded to many legislation and national priority programs, which address issues essential to the country's present and future environment well being. Currently, very little implementation, legislative or physical, has been undertaken. Many elements of disaster protection management have not yet been addressed legislatively, and should be dealt with right away. (NDMO country report 2004)

"Majority of the country's population does not have the capacity to cope with disasters due to poverty." Most inhabit in the floodplains, making them vulnerable to the annual flooding. "Difficulties in access and communication are a major constraint in the country's development and in response to disasters particularly". Only a limited part of the country can be reached by "all weather" roads, and large parts become inaccessible in times of disaster.

"Majority of the country's population does not have capacity to cope with disasters, due to poverty.

Only a limited part of the country can be reached by "all weather" roads, and large parts become inaccessible in times of disaster.

2.3 THE MINISTRY OF EDUCATION (MOE)

The Ministry of Education (MOE) is a state organization at the central level within the government apparatus, which is responsible for the macro-management of education throughout the country, focusing on capacity building and the improvement of social and scientific knowledge of the nation, increasing patriotism and solidarity among ethnic groups, increasing international solidarity, awareness of national benefits and the obligations of the community, preserving national cultures, educating people to be economical and aware of public and individual benefits, aware of self-reliance and self-motivation, the availability of theoretical and scientific-technical knowledge, the physical health of the nation, creative capacity and intelligence.

MOE has the following functions and scope of authority:

- To study and implement the party's guidelines and policies, laws, decrees,resolutions and orders, and regulations enacted by the government;
- With regard to national policies, to provide training both inside and outside the country in relevant fields at all levels, to increase and improve the knowledge of technicians, engineers and professional staff;
- To administer and manage schools and institutes at all levels, and across all sectors including:
  - Managing and inspecting general education schools throughout the country;
  - Directing the management of teacher training schools and colleges, vocational schools, and other education institutes belonging to MOE;

- Supervising the educational methods and the educational regulation principles for private schools;
- In cooperation with other ministries, managing educational methods and regulations for those schools which are not under MOE;
- Assisting the Lao Buddhist Relations Organization to manage schools and colleges for monks;

- ***To identify standards and approve the design of buildings, the selection of locations,*** and any materials used in teaching and leaning activities.
- To mobilize the whole society, particularly the parents of students, to participate in education development;
- To liaise with, cooperate, seek funding sources, and exchange experiences with other countries, international organizations, and education development agencies;
- ***To approve the design of buildings, their location, equipment and material for teaching and learning purposes.***

Organization structure

The organization structure of the education sector at the ministry level consists of:

1. Office of the Minister
2. Department of Organization and Personal
3. Department of Finance
4. Department of Planning and Foreign Relations
5. Educational Inspection Committee
6. Department of Teacher Training
7. Department of General Education
8. Department of Informal Education
9. Department of Vocational and Higher Education
10. Department of Private Education
11. Department of Physical Education

Organizations at the department level that belong to the Ministry of Education include:

1. National Educational Science Research Institute
2. The Secretariat of the Lao National Committee for UNESCO

Organizations at the local level consist of:

1. Provincial, municipal education offices
2. District offices of education

2.4 THE STRUCTURE OF THE EDUCATION SECTOR

The Ministry of Education (MOE) is responsible for formal and non formal education at all levels. Formal education in Lao PDR consists of five stages: primary education (five years), lower-secondary education (three years), upper -secondary education (three years), post-secondary education (one to two years) and tertiary education (three to seven years). Primary school is compulsory, while the private sector is encouraged to provide nursery and kindergarten schools. Specialization starts following lower secondary or upper secondary school levels, where three stands are offered: academic, vocational and teacher training. Non-formal and technical education complements and supplements the general schooling provision. Non-formal education (NFE) and training includes basic literacy and innumeracy training, and a wide range of programs for youth and adults. The National University of Laos offers tertiary education.

In addition to the public provision of education, there is also a private sector provision, for which MOE has oversight responsibility. During the past 12 years, with the assistance of international organizations, investments have been made in basic education programs, school construction, the establishment of Community Learning Center and the production and distribution of textbooks, with the result that access to basic education has shown some improvement. However, education services are still insufficient to meet the needs of the population.

MOE has prepared the Education for All National Plan of Action (EFA NPA) for 2003-2015 which seeks to accomplish three major tasks: equitable access, improved quality and relevance, and strengthened education management.

MOE has prepared the Education for All National Plan of Action (EFA NPA) for 2003-2015 seeks to accomplish three major tasks: equitable access, improved quality and relevance, and strengthened education management.

2.5 THE EXISTING INFRASTRUCTURE OF THE EDUCATION SECTOR

During the past 12 years, with the assistance of international organizations, the government has put a lot of effort and investment into basic education programs, particularly school construction, the establishment of Community Learning Centers (CLCs) and the production and distribution of textbooks. Although access to basic education has shown some improvements, it needs to further expand in order to achieve the “95% survival rate to grade 5” government target. Only through continued concerted effort will the country begin to achieve this desired level.

1. Education for All National Plans of Action (EFA NPA) for 2003-2015 has targets and programs to improve access and participation as following:

EFA is the National Plan for the Education Sector which was issued by the MOE, therefore this plan has to be followed by stakeholders in the education sector. The EFA mentions 5 main programs that are related to school construction.

Program 1: Access and participation in Early Childhood Care and Development

- Plan the development of early childhood care and development
- Build new kindergartens and improve existing ones
- Train, recruit and deploy pre-school teachers to meet increased demand
- Mobilize communities in favor of ECCD and pre-school education and promote the development of kindergartens and pre-school community centers

Program 2: Access and participation in formal primary education

The purpose of program is to generalize access to, participation in and completion of primary education.

Table 8/ Primary Target- enrollment, Recruitment of Teachers/staff and classroom construction

School year	Total enrollments	No. of teachers to recruit	Replacement teachers	No of classrooms
2004/05	872,665	1,736	1,942	1,335
2005/06	865,764	1,628	1,922	1,335
2006/07	857,295	1,575	1,901	1,335
2007/08	844,647	1,435	1,871	1,335
2008/09	838,974	1,657	1,858	1,335
2009/10	842,746	1,969	1,865	1,335
2010/11	852,907	2,267	1,890	1,335
2011/12	867,869	2,340	1,918	507
2012/13	878,056	2,213	1,937	362
2013/14	885,733	2,149	1,950	285
2014/15	888,979	2,016	1,954	263
2015/16	891,469	1,993	1,957	263

- Develop the school network in such a way as to provide all children aged 6+ accessibility to a complete multi-grade or single grade primary school, in accordance with agreed upon norms of minimum and maximum class size
- Train, recruit and deploy primary teachers according to needs, as determined by the annual school mapping program
- Promote demand for primary education from girls, ethic groups and poorest families
- Improve access of children with special needs in all provinces to complete at least primary school
- Increase access of socio-economic difficult children to complete at least primary school

Program 3: Access to and participation in lower secondary education

The purpose of the program is to progressively increase access to and completion of lower secondary education, while eliminating gender disparities and promoting the participation of ethnic groups and the poorest children.

School year	Total enrollments	No. of teachers to recruit	No of classrooms
2004/05	251,625	1,015	328
2005/06	262,500	1,092	360
2006/07	277,715	1,319	472
2007/08	298,147	1,603	611
2008/09	313,890	1,493	531
2009/10	321,501	1,219	364
2010/11	414,924	5,023	2,462
2011/12	421,109	1,178	150
2012/13	430,609	1,337	230
2013/14	450,031	1,792	471
2014/15	479,666	2,281	719
2015/16	514,186	2,560	837

Table 9/ Lower secondary target - enrollment, Recruitment of Teachers/staff and classroom construction

Source: Education for All, MOE 2002

- Develop the Lower Secondary Education (LSE) school network in such a way as to provide all children aged 6+ accessibility to a complete multi-grade or single grade primary school, in accordance with agreed upon norms of minimum and maximum class size
- Train, recruit and deploy LSE teachers according to needs, as determined by the annual school map ping program
- Reduce dropout rates in lower secondary schools, especially in rural and remote areas
- Increase enrollment of disabled children

Program 4: Youth and adult literacy

- Develop a comprehensive non-formal education policy, strategy and plan
- Advocate for strong political commitment to organize promotion campaign to motivate youth and adults to participate in Non-Formal Education (NFE) literacy and adult vocational skills training programs
- Revise, develop and produce sufficient national and local NFE curriculum, adapting to specific needs of target groups
- Establish a standard system for training NFE staff, trainers, facilitators and teachers
- Establish a non-formal school system for school dropouts and children not attending formal primary schools
- Provision of non-formal primary education to children and youth in disadvantaged areas
- Raise the literacy rate of adult population

Program 5: Skills development program for disadvantaged groups

- To improve and develop an effective vocational and rural skills training program to disadvantaged groups

- Coordinate actions with those ministries involved in providing vocational and rural skills training and micro-finance services for disadvantaged groups

2. Number of schools, students and teachers

Based on the information from MOE, EFA, the number of students in primary school classes increased more than expected, from an expectation of 735,500 in 2000 to an actual increase of 889,600 by 2015. There are strong disparities between gender, ethnic groups, poor, non-poor, urban, rural and remotes areas. Low enrollment and completion rates are concentrated among children in rural, remote and ethnic group areas, particularly children from low income families and ethnic group children in poor districts. School facilities in rural areas, in general, are mostly temporary facilities lacking play and learning material as well as basic sanitation facilities like clean water and toilets.

Table 10/ Number of schools, teachers and students in school year 2005-2006

School types	No. of schools	No. of teachers	No. of students
Kindergarten	1,087	2,882	49,197
Primary	8,651	27,776	891,881
Secondary school	980	15,132	345.488

Source: Planning and Foreign Relation Department, MOE 2007

Table 8 has represented the basic statistics of school types including students and teachers during 2005-2006. The details data are in **Annex D.**

3. Basic Education (Girls) Project (BEGP)

The BEGP was funded by ADB in parallel with AusAID which has already been completed. The objective of the project was to contribute to the improvement of equitable access, relevance, quality, efficiency, and management of primary education in 50 districts. The main components of the project which have been accomplished are (i) construction and equipment of facilities of 486 new multi-grade primary schools and 57 five-classroom schools; construction and equipment of new 45 District Education Bureau (DEB); training of 486 village representatives in school construction, supervision and maintenance; provision of assistance grant to children from the poorest family in 869 villages; (ii) recruitment and training of 486 (326 female) ethnic teachers to teach at the project schools, support in-service training of 4,100 primary teachers; and provide both core textbooks to all schools in 11 project provinces; (iii) deliver capacity building across a range of core management skills to schools, central, provincial and district officers. The construction works under this project were carried out in the following provinces: Phongsaly, Luangnamtha, Houaphanh, Oudomxay, xiengkhouang, Borikhamxay, Khammouane, Saravane, Sekong, Attapeu, and Xaysomboun.

EQIP II is funded by Asian Development Bank (ADB) in parallel with SIDA, and will run till June 2010.

4. Second Education Quality Improvement Project (EQIP II)

EQIP II is funded by the Asian Development Bank (ADB) in parallel with SIDA, and will run till June 2010. The objective of the project is to improve the relevance, quality, and efficiency of education by integrating the supply of good quality teachers nationwide with increased access to

and participation in primary education under the decentralized education management. The Project focuses on Bokeo, Luangprabang, Xayaboury, and Savannakhet provinces. The main component of the project is to (i) expand access and encourage participation by provision of education facilities such as construct 1,000 classrooms and rehabilitated 1,400 classrooms, equipped furniture and teaching and learning materials, and upgrading facilities in eight Teacher Training Institutes, construct and equip new 56 school resource centers (ii) provide in-service training for both primary and secondary teachers and principals, improve quality of education through supporting 8 Teacher Training Institute, support 60 education officers, including teachers to do master degrees; (iii) strengthen capacity of education officers at all level through various training namely planning, budgeting, accounting and data collection.

5. Basic Education Development Project (BEDP)

BEDP, funded by Asian Development bank (ADB), will run from 2008 to 2013.

BEDP, funded by Asian Development bank (ADB), will run from 2008 to 2013. The objectives of the project are to supplement the policy initiatives being supported under the program and to enhance equitable access to, and quality of, lower secondary education through: (i) expansion of lower secondary education opportunities to improve access and equity; (ii) the integration of basic education curriculum to account for low secondary expansion from 3 to 4 grades improved quality and relevance of low secondary education; (iii) capacity building at central, provincial and district level in critical areas (EMIS, budgeting and financial management and planning), The project focuses on 20 districts in six provinces such as Attapeu, Bokeo, Chapasack, Khammouane, Luang Namtha, and Savannakhete provinces. The total budget of the project is about 12.9 million US$ with provision of 28 new low secondary education school, 144 low secondary education classrooms in existing low secondary education schools; The project plans to provide approximate 1,600 scholarships for ethnic and poorest pupils; train more than 5,000 lower secondary teachers in project districts, and reprint textbooks and teacher guides for lower secondary years 1-3.

6. JICA

The objectives of the project are to construct new primary schools in Vientiane Capital and Vientiane province, transforming them from deteriorated and temporarily built structured classrooms to an improved educational environment for primary school education and to maximize the number of students attending the permanent school.

Continuous efforts of the Education Strategy Planning of the Laos Government are gradually expanding access to primary education. However, school facilities for primary education have not been well developed, and construction of about 6,000 new school buildings is required in order to achieve the targeted enrollment ratio in the future. Thus, Vientiane Capital and Vientiane Province are the target areas of the project supported by JICA. The number of schools constructed by JICA's fund is summarized in the table below:

Table 11/ Primary schools c • Construction of school building

Source: JICA, Project document, 2003.

	Vientiane Capital	Vientiane Province	Total
Number of program schools	38 schools	39 schools	77 schools
Number of classrooms	179 classrooms	212 classrooms	391 classrooms
Number of teachers' room	29 rooms	26 rooms	55 rooms
Number of toilet buildings	14 toilet buildings	27 toilet buildings	41 toilet buildings
Total floor area	12,083.56 m2	13,930.15 m2	26,031.71 m2

A classroom type in each school was planned according to the number of insufficient classrooms of each school, based on combinations of "5 classrooms + teachers' room" (6 classrooms when a teachers' room is diverted for classroom purposes) and "3 classrooms + teachers' room" (4 classrooms when a teachers' room is diverted for classroom purposes).In addition, teachers' room and toilets were planned only when the schools had no available teachers' room and toilet.

7. KOICA

KOICA provided 2 primary schools in Luangprabang Province and Vientiane Capital with total budget of US$ 98,500 and one vocational training center in Vientiane Capital with the total budget of US$ 200,000.

8. Save the Children, Australia (SCA)

SCA provided assistance to improve the quality of primary education; the organization mainly focus on remote and poor areas. Sayaboury District is the location of the project which aims to construct and repair schools. The details of this activity are in **Annex B.**

Number of school constructions supported by the project from 2001-2007

- Constructed 5 primary schools, with total cost of 150,000,000/kip per school.
- Repaired 6 primary schools.
- All schools settled at Sayaboury District,
- School building includes three class rooms and one library.
- Structure of building comprise of concrete column, brick wall, and galvanized iron sheet roof.
- A plan of school building developed from MOE format, which apply for primary school in the whole country, especially room dimension.

2.6 BUDGET ALLOCATION FOR SCHOOL CONSTRUCTION AND MAINTENANCE

The allocation for school construction and maintenance projects is not clear in the budget line of the MOE but due to the requirement of donor agencies, the government of Lao PDR has to contribute at least 5 to 30 percent of the total cost of related projects. Within the MOE budget from 2000-2005 (please see the Table 16- Table 20), there is no line item for new school construction due to limited budget allocation from central government

With in the MOE budget from 2000-2005 there is no line item for new school construction due to limited budget allocation from central government.

Construction of new schools is totally based on the donor agency's funding. The government of Lao PDR also has a policy of encouraging private sector to invest in the education sector; therefore the private sector constructs a number of schools at different levels including kindergarten, primary, secondary and intensive schools. Due to the absence of a specific regulation for school construction, some of the private schools are in bad condition and have a high risk exposure to fire because of inflammable construction materials. Most of the schools do not have the resource to cover the regular maintenance cost, therefore, public schools have to collect money, material or any kind of contribution from students and parents.

Construction of new school is totally based on the donor agency's funding.

SECTION III: PHYSICAL IMPACT OF DISASTERS ON EDUCATION SECTOR

3.1 DOCUMENTATION OF DAMAGES TO STRUCTURE

A detailed documentation of damages to school structures is not properly recorded. Related data were not considered seriously, and only simple and key information were recorded. However, the information from the years 2002-05 indicates that 103 schools were affected from floods and 60 schools were affected from windstorms. The most affected parts of the school structures include roofs, walls and floors. There were great losses considering the cost of the structures. The socio-economic impacts of those disasters such as their effects on the daily life of communities, children, and teachers were also not well recorded.

The information from the years 2002-05 indicates that 103 schools were affected from floods and 60 schools were affected from windstorms.

Table 12/ Cost of loss from natural flood and windstorm to schools in 2002-2005

Provinces	No. of school effected by flood	No. of school effected by windstorm	Cost in LAK Unit '000	Cost in U$ (1U$=9270 LAK)
Vientiane Province				
Phonehong		6 schools	255,000	27,508
Viengkham		1 school	6,615	713
Kasi		4 schools	83,105	8,964
Feung		7 schools	252,247	27,211

Table 12/ Continued...

Provinces	No. of school effected by flood	No. of school effected by windstorm	Cost in LAK Unit '000	Cost in U$ (1U$=9270 LAK)
Sanakham		3 schools	163,840	17,674
Mad		1 school	5,000	539
Thoulakhom		2 schools	52,000	5,609
Khammoune Province				
Thakhek District	3 schools		5,950	641
Hinboun	19 schools		145,065	15,648
Nongbok	20 schools		96,980	10,461
Sebangfai	8 schools		12,592	1,358
Mahasai	29 schools		117,550	12,680
Boilapha		3 schools	32,400	3,495
Savanakhet Province				
Khanthabouly		3 schools	100,000	10,787
Xaibouli	19 schools		222,100	23,959
Bolikhamxai Province				
Paksanh District	1 school	1 school	No cost reported	
Thaphabat		3 schools	No cost reported	
Pakading		6 schools	No cost reported	
Bolikhan		4 schools	No cost reported	
Khamkeut		3 schools	No cost reported	
Saravanh Province				
Vapi		1 school	30,235	3,261
Luangprabang Province				
Luangprabang		1 school	8,000	862
Nanh		2 schools	7,500	809
Pak-Ou		1 school	2,600	280
Xekong Province				
Thateng		1 school	24,674	2,661
Vientiane Capital				
Nasaithong District	1 school		No cost reported but school delay opened	

Provinces	No. of school effected by flood	No. of school effected by windstorm	Cost in LAK Unit '000	Cost in U$ (1U$=9270 LAK)
Pakgeum	2 school		No cost reported but school delay opened	
Sikhothabong	1 school		No cost reported but school delay opened	
Oudomxai Province (2006)			135,036	14,567

Table 12/ Continued...

NO	Description	Damage in 2005
1	Province	8
2	Districts/Villages	84/2510
3	Families/people affected	85.533 households/480.913 persons
4	Rice fields affected	87.725 ha flooded (panting areas in 2005 is 684.555 hectares)
5	Damaged rice fields	54.755 hectares damaged
6	Livestock damaged	14.941 heads (buffalo,cattle,pings and poultry)
7	Fish ponds damaged	4289 sites = 609 hectares
8	Irrigation affected	1.421 projects sites
9	Irrigation damaged	117 schemes
10	Irrigation channels	15.124 meter affected by landslide
11	School affected	102 schools
12	Route affected	225.726 kilometed

Table 13/ Flood damages in 2005 (source: MAF and NDMO)

Damaged cost: 218.304 USD
Data sources from MAF,October 2005

Year	No. of incident	No. of damages	Place
2000	None		
2001	None		
2002	None		
2003	1	1 nschool building	Vientiane Capital
2004	1	1 school building	Vientiane Capital
2005	None		
2006	None		
2007	1	1 class room	Houaphan Province

Table 14/ Number of Schools affected by fire in 2000-2007

Source: Department of Fire Prevention and Protection, 2007

The number of schools affected by fire is not a big number; it may because the recording was not well prepared. Department of Fire Prevention and Protection has annual plan to evaluate school condition relative Fire Protection and Prevention.

3.2 PRESENT METHODOLOGY OF SCHOOL DESIGN AND PROCESS

The design of building for housing and school are quite similar. There is no building code in the country. There is no organization responsible for risk assessment mapping for disasters in the country.

At present, the design of school building (for primary school) can be divided into two major sectors as follows: (i) government sector, and (ii) Private and other sector.

(i) School investment by government

New design: the design of building is responsibility of the Provincial education office but most will hire a private company to design and draw the plan but they have to follow the guideline of MOE. Then, the project document will be submitted to the Division of Design and Construction Management (under Department of Finance) for comment. After that, building plan will be sent to Provincial Education Office for approval.

Adopt a plan from standard of MOE: the Provincial education office will adopt a plan from standard of MOE, appropriate to the location. Majority of adaptation is only material for wall, roof, and furniture, for main structure such as column, beam, floor, and other structure which need to be resistant to disaster.

(ii) School investment by donors and private sectors

New design: the design of building is responsibility of project consultants (project engineer) following the Guideline of Donors or MOE. The plan will be submitted to relevant organization for approval such as Department of General Education approves for UNICEF project, EQIP II, and JICA. Department of Planning approves for project of EDP II. Department of Teacher Training approves for project of EQIP II. The details of the school building under different projects are in **Annex C.**

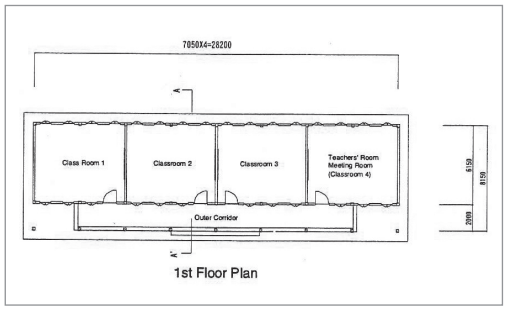
The design process of school by various projects can be summarized as follows:

1. Site selection

The selection of school location is an important step in the construction, therefore, most school location are provided by villagers. Most new schools are constructed in the existing school area, due to (i) some old buildings can be used for teaching during the construction of new school, (ii) or it will be used for storage equipment and material.

2. Classroom design

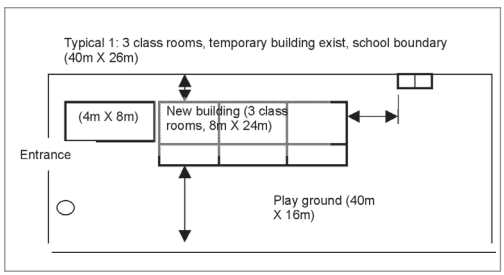
The number of classroom in each school will be calculated by number of pupils. The number of pupils per one classroom will be 40 (one classroom per one grade), and 70 (one classroom per two grades, for example grade 1 and 2 are taught in one classroom by one teacher). Classroom dimension (7 x 6 meter) is WB standard, which is applied for classroom design by other projects such as JICA, ADB, and UNICEF.



Classroom types depend on the project such as: (i) JICA project designs for 4 rooms (3 classrooms + administrative room), and 6 rooms (5 classrooms + administrative room). (ii) ADP II project designs for 3 rooms (2 classrooms + administrative room), and 6 rooms v(5 classrooms + administrative room). (iii) ADP II project design for 6 rooms (5 classrooms + administrative room).

3. Master plan design

Master Plan design will focus on facilities of school building, water source, playground, and entrance direction. The design of master plan will vary from project to project, and location to location based on dimension of plot, and topography of land. Location of school building will be based on an agreement of site engineer and village committee in accordance to community preferable and safety for disasters ***(mainly for flood protection).***



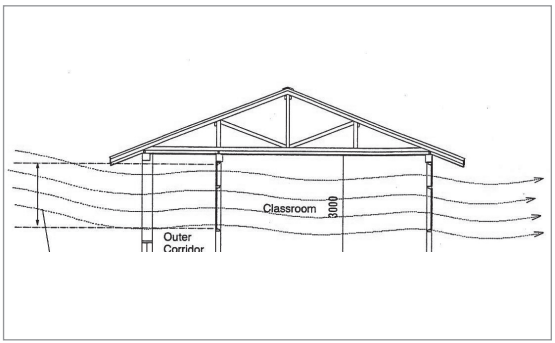
The school mostly locate near the boundary of plot with distance at least 2 meter, because, major land is needed for play ground and student activities. Toilet will be located at the back of school building, approximately about 2 meters from fence and at least 30 meters from water source. Water source should be located near the entrance, incase this source is shared with village.

Other consideration of designing master plan is natural conditions which may affect students and teachers. To avoid direct strong sun light, school building should locate along East-West axis. The building should design for natural ventilation and natural light.

4. Structure design

The design of building structure is the most important part of design process, because the resistant of building is very important to life of students and teachers. The Architect or engineer who did the design must calculate the resistance of structure, **Therefore, the main structure of building such as foundation, ground beam, column, roof beam and roof structure must be strong and resistant to disaster such as earthquake, windstorm, land slide, and flood.**

As most of the schools constructed were only one floor therefore wind force and earthquake force were not taken into account for designing and construction.



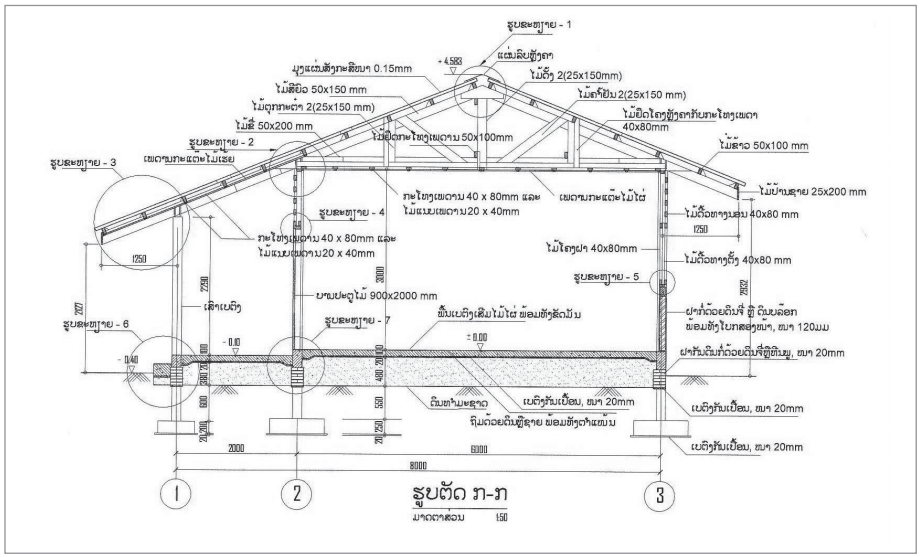
As most of the schools constructed were only one floor therefore wind force and earthquake force were not taken into account for designing and construction. Structure of school usually tries to focus on design for ventilation and light.

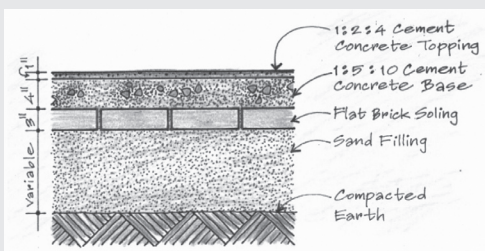
Designing the foundation is based on the experiences of local contractors because they know the capacity of foundation to carry weight of school structure.

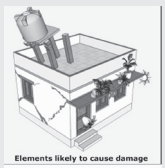
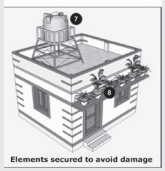
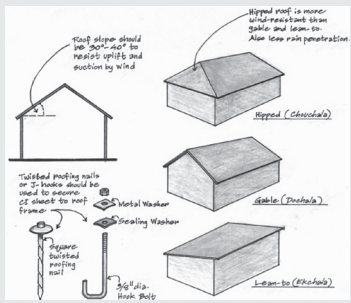
The factors considered for designing a school building are as follows:

- Life span 20 to 25 years.
- Building types vary such as a Block method (BL method), a Reinforced Concrete method (RC method), and a Pre-cast Concrete method (PC method)
- Hard wood roof structure
- Roof materials are fiber cement/ galvanized iron sheet tile
- Floor is concrete
- Wall is plastered brick or limestone/ wooden plank and upon the existing variable local materials
- Ceiling: plank wood/ woven bamboo
- Door and window: wooden plank/ply wood

School structure design mainly tries to protect people from windstorm and flood but earthquakes and landslide hazards are not taken into account, while schools in urban areas are designed to prevent and protect everyone from fire. School structure design in Lao PDR is based on the local environment and natural condition, experiences on practical construction, technical guideline provided by MOE for school construction. Generally most schools constructed by international projects are safe from flood and windstorm. The details of the school building under different projects are in **Annex C.** Even though there was no great loss of schools from earthquake, flood, landslide and fires, we need to be equipped in terms of being prepared for unexpected damages. In the past the losses include damages to schools in flood prone areas, particularly wreckage to roofs and at times to the entire school structure. Therefore learning experiences from other countries will help Lao PDR to reduce the losses. There are two sources of such lessons - India and Bangladesh which could be helpful in the areas of Earthquake Preparedness Guide (India) and Safe schools in Uttar Pradesh and a Handbook on design and construction of housing for flood-prone rural areas of Bangladesh (Box 4).



Earthquake preparedness Guide (India) and Safe schools in Uttar Pradesh	Handbook on design and construction of housing for flood-prone rural areas of Bangladesh
The new design incorporated modifications in the configuration, construction material and use of reinforcing measures including: • Doors and windows were shifted at least 60 cms. from vertical joints • A steel rod was provided from the foundation to the slab at each vertical joint. • Three horizontal bands with steel rods were made to run across the building walls at the plinth, sill and lintel levels to bind the structure • Jambs were provided at each door & window from sill band to lintel band	This hand book try to provide the options for safe housing in flood prone area, and **appropriate construction options** can be lesson learned for school construction in Lao PDR as:  • Plinth: 1. Cement stabilization (Mixture of earth and cement), 2. Brick Perimeter wall: around) • The typical earthen plinth resists erosion from the side), 3. Brick and concrete

Earthquake preparedness Guide (India) and Safe schools in Uttar Pradesh	Handbook on design and construction of housing for flood-prone rural areas of Bangladesh
  • Ratio of cement in the RCC foundation and slab was increased. Mixture of cement, sand and stone blast in the proportion of 1:4:8 was provided instead of 1:5:10 used earlier in the foundation. In the slab the proportion was changed to 1:1.5:3 in place of 1:2:4 used earlier	• Posts: coating lower end, concrete stump, reinforced concrete  • Roof: Chemical treatment of thatch, wind resistant roofing, rain water gutter • Wall: protection against rain water plashing and flood, chemical treatment of bamboo mat wall, cross bracing, strengthening earthen wall

3.3 SCHOOL CONSTRUCTION PROCESS

Lao PDR has many models of primary school buildings: permanent, semi-permanent and temporary buildings. Their designs vary upon the location, climate and donors. Based on experience with a number of projects, it is mentioned that the design should be simple, easy to build and maintained by locals as well as materials should be cheap and suitable to the financial or economic and socio-cultural conditions of the country. There is not a common design for the whole country; only the district and villages know very well which design is appropriate. In practice, the availability of local material and labor, the contributions of the community and accessibility to the road determine the model of school buildings. During the construction phase it is really important to have local villagers get involved in the process by either contributing in cash, material, labor or in kind.

The construction process for a school can be summarized as follows:

1. Selection of contractor

Local contractors are a priority for school construction. However, a contractor should have some knowledge, experience, capital funds, a number of engineers and construction equipment, in order to be able to compete in terms of management, execution and materials procurement abilities.

2. Quality of construction

All projects have provided their own site engineer to supervise contractor in order to control the quality of construction.

SECTION IV: SOCIAL AND ECONOMIC IMPACT OF DISASTERS ON EDUCATION SECTOR

4.1 BASIC STATISTICS

There is no record or information on the number of students who dropped out due to disasters that occurred in the past. Some schools were closed for about 2 to 3 weeks during the disasters; some of the schools used temple halls as classrooms but some of the temples could not be used because they had daily activities for monk. So the teachers had nothing to do during flood.

Khammoune province is most affected by annual flood due to location of province in disaster prone area. Local authority is willing to work on disaster mitigation and prevention. Khammoune is also a priority area of government to reduce loss from disasters.

There is no documentation regarding school location in disaster prone area but from the past disaster in 2002 to 2005, map no. 1 can indicate the schools in flood prone area.

Box 5: What is school safety?

There are two broad areas of school safety: first of all, buildings are seismically safe and there is system in place to handle primary rush in case of an emergency. Secondly, building leadership and skill of the children, teachers and school management committees to save their own lives and handle emergency situations in community

Source: School safety approach and the scaling up strategy, Nepal 2007

District	Number of Schools
Thakhek	2
Mahaxai	32
Nongbok	21
Hinboun	18
Yommalat	
Boualapha	1
Nakai	
Xebangfai	13
Xaibouathong	

Table 15/ Number of Schools damaged by disaster (Khammoune Province)

Source: Annual Report of Disaster Management Khammoune Province

4.2 IMPACT OF DISASTERS

Mr. Khamphai Sawady of Hoiuhaii Primary Schools expresses his opinion based on number of years experience in flood disaster of his place

We have over 308 students and 14 teachers in this Hoiuhaii Primary School which locate in flood prone area, every year we are staying with flood lasting more than 2 to 3 weeks.

"We have over 308 students and 14 teachers in this Hoiuhaii Primary School which locate in flood prone area, every year we are staying with flood lasting more than 2 to 3 weeks. Flood damaged the structure of building, playground, textbook and others but most important students and teachers have to stop school while flood occurred. Both teachers and students have nothing to do only waiting for flood to stop, but some years we can organize the school in community temple but due to temple also has daily activities for monks we can not organize class when the flood occurred. Not only classroom risk to disasters but also students and teachers are risk too because there is lack of awareness about emergency safety and preparedness. Pedagogy of school safety is not yet in the curriculum. We do need to have both structure and non-structure measures for safety"

Table 16/ Interview of the school principles affected by flood

Name of the School	Hoiuhaii
Type of School (Primary/Secondary)	Primary
Location of the School (Name of the District &Province)	Soukhoumma, Champasak Province
Number of Student	308 Students (school year 2006-07)
Number of Teacher	14 Teachers
Number of School Building:	3 buildings
Type of School Building (building materials):	2 constructed by concrete, 1 construct by wood
School building constructed by (MOE or others):	1 school funded by Poverty Alleviation Fund 1 school funded by central fund and community fund 1 school funded by community
Number of Classroom:	13 classrooms
Whether there is a playground in the school or not:	Yes
Is the School affected by Flood/cyclone Every Year? (yes/no)	Almost every year
If the School is affected by Flood/cyclone, how long it remains under water?	1-4 weeks
Is the School closed during flooding? (yes/no)	Yes
If the School is closed during flood, is there any alternative to continue the classes? (yes/no)	Yes, some of the class will open at temple
What type of damage is caused to the school building during most recent Disaster (flood/cyclone)?	Wall, roof, floor
Name of the School	**Nonglom**
Type of School (Primary/Secondary) :	Primary
Location of the School (Name of the District &Province):	Nongbok, Khammoune Province
Number of Student:	250 Students (school year 2006-07)
Number of Teacher:	7 Teachers
Number of School Building:	2 buildings
Type of School Building (building materials):	2 constructed by concrete, galvanized iron sheet for roof
School building constructed by (MOE or others):	2 schools funded by HCR project in 1978-79
Number of Classroom:	7 classrooms
Whether there is a playground in the school or not:	Yes
Is the School affected by Flood/cyclone Every Year? (yes/no)	Almost every year

Table 14/ Continued...

Name of the School	Nonglom
If the School is affected by Flood/cyclone, how long it remains under water?	15-20-30 days
Is the School closed during flooding? (yes/no)	Yes, during September to October
If the School is closed during flood, is there any alternative to continue the classes? (yes/no)	Yes, no alternative
What type of damage is caused to the school building during most recent Disaster (flood/ cyclone)?	Wall, roof, floor, blackboard, textbook
Name of the School	**Bandone**
Type of School (Primary/Secondary) :	Primary
Location of the School (Name of the District &Province):	Hatsaifong, Vientiane Capital
Number of Student:	50 Students (school year 2006-07)
Number of Teacher:	3 Teachers
Number of School Building:	1 buildings
Type of School Building (building materials):	1 constructed by concrete with galvanized iron sheet for roof
School building constructed by (MOE or others):	1 school funded by central fund
Number of Classroom:	4 classrooms
Whether there is a playground in the school or not:	Yes
Is the School affected by Flood/cyclone Every Year? (yes/no)	Almost every year because it locate near Mekong River
If the School is affected by Flood/cyclone, how long it remains under water?	3 weeks
Is the School closed during flooding? (yes/no)	Yes
If the School is closed during flood, is there any alternative to continue the classes? (yes/no)	Yes, no alternative
What type of damage is caused to the school building during most recent Disaster (flood/cyclone)?	Wall, roof, floor, textbook

PART C: SCHOOL CONSTRUCTION

Section V: Guidelines for School Construction

5.1 GUIDELINES FOR COMMUNITY ON PARTICIPATORY SCHOOL CONSTRUCTION AND MANAGEMENT (EDUCATION DEVELOPMENT PROJECT PHASE II (EDP II)

Based on the Education for All (EFA) and National Plan of Action 2003-2015 Lao Government implements the Education Development Project by receiving assistance from World Bank. EDP II has three components:

a. increasing rate of school attendance and completion of primary school in 19 poorest districts by contract to community for school construction and management

b. Improving quality of teaching in primary school by editing the textbook and guideline for teachers

c. strengthening and capacity building for policy analysis and administration to education sector

The development of a guideline for communities on Participatory School Construction and Management is one of the activities of the project. This guideline aims to provide them information and procedure on participatory school construction and management.

Participatory Procedure for school construction

- **Calculation of classrooms need for construction**

Head of Village (Naiban) has to prepare a student list and other information needed to calculate number of classroom and toilet for the new construction.

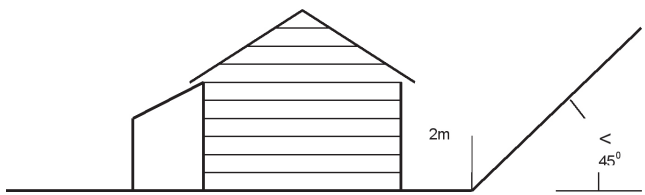
- **Participation in school location and plan design**

Village committee has to help with regard to concerns related to construction location. The village committee has to clear and compensate the land owner to avoid problems after the construction. The village committee has to be involved in the school plan; Site engineer will help the village to design the school plan and master plan in accordance with community preferences and safety considerations.

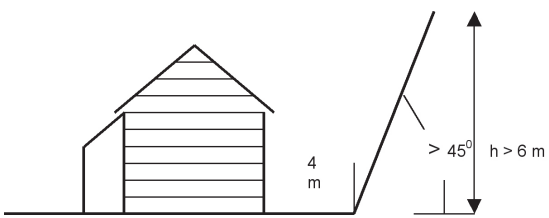
- **Master plan of new school**
  - The area of school must be appropriate: not in flood prone area and safe from other disasters;
  - Must have information about landslide of this location;
  - Sun and wind direction;
  - Water resource.

- **Step for designing of school master plan**
  - Design is specific for each location. Site engineer and village committee have to check the following items:
    - plan of school boundary,
    - plan of existing building,
    - plan of toilet,
    - location of water resource,
    - distance between building,
    - play ground, and
    - direction arrow

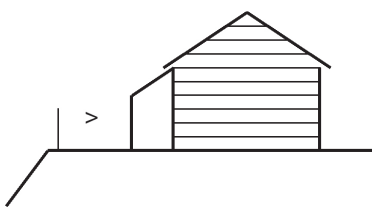
  - General principle for drawing and construction plan:
    - Building must be located at the back of the land and the distance between building and fence should be at least 2 meters;



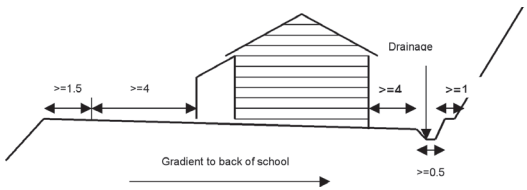
    - If the slope of land is more than 45 degree and higher than 6 meters, the distance should more than 4 meters;

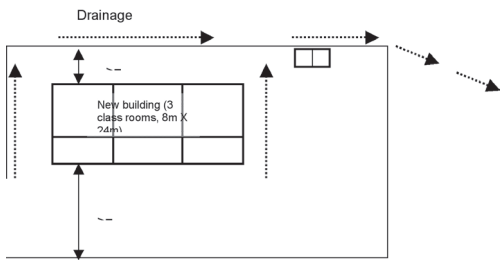


    - If can not provide play ground in front because of limited land, and then the building must have the set back from fence at least 4 meters;



- Toilet should be at least 30 meters far from water resource;
- Toilet should be located at the back of school building;
- If water resource is to be shared with community, entrance should be provided in front near water resource;
- To protect from land erosion (school play ground), land surface should be gradient to the back and drainage system should be provided.





5.2 CRITERIA FOR VILLAGE SELECTION AND PROPOSED MODELS FOR SCHOOL CONSTRUCTION AND REHABILITATION, EDUCATION QUALITY IMPROVEMENT PROJECT, PHASE II (EQIP II) (FUNDED BY ADB)

Criteria for village selection for school construction and rehabilitation

A. The project will support (i) completion of primary schools; (ii) building new primary schools; (iii) extending over-crowded schools; and (iv) giving matching grants to communities for building classrooms and rehabilitation of primary schools.

B. The prior conditions for supporting construction activities are as follows:

- The village/ community actively supports the proposed activities and is willing to help in the construction, operation and maintenance;
- The sites are located in underserved and/or ethnic minority areas; and
- In the cases of the completion of existing schools and the construction of new schools or classroom, sufficient number of teachers (qualified or unqualified)must be available either through the provin-cial education service or from the local community

C. Priority will be given to completion of incomplete schools, as this is an area where one of the greatest increases in efficiency can be expected. Below are the criteria for selection of schools in the program:

- The schools are not currently operating up to grade 5;
- The schools have viable numbers of students in its existing classes; and
- There is no practical alternative school to which the children can transfer to complete their education,because other schools are too distant for children to transfer to (generally over 3 Km, but depending on local conditions and the age of the children) or that the alternative school is full and has no spare places

D. The project will support the building of complete schools in villages where children currently have no practical access to primary education. Where appropriate, multi grade schools will be constructed. Target villages should meet the following criteria:

- The village should have at least 50 children (6-10 years old) able to enter in the primary school or be situated in an area between villages where there are at least 100 children (6-10 years old); and
- It should to be a long-term settlement.

E. The project will support the building of additional classrooms in fully constructed schools, if average class numbers are over 50 students per class. In case where overcrowding in grades 1 and 2 is acute, the project will support the construction of a room that can be considered a day care center

F. The project will support the use of at least 20 percent and not more than 40 percent of construction funds being allocated as matching grants to local communities, who wish to renovate or extend their schools. The funds may also be used to construct simple day care facilities to shelter younger siblings to enable girls to attend school.

Proposed models for school construction and rehabilitation

Two options of flexible model are proposed as follows:

1. Village having access road

The medium standard of permanent building shown in Annex E (E1-6) is appropriate; the life span is more than 25 years. The elements are:

- Floor: concrete
- Column: concrete
- Roof frame: hard wood
- Wall: plastered brick or limestone/ wooden plank and upon the existing durable local materials
- Roof materials: Fiber cement/ galvanized iron sheet
- Ceiling: plank wood/wooden plank/ woven bamboo
- Door and window: wooden plank/ply wood
- Toilet outside: permanent building (one unit per classroom)

- Water supply: well/ rural water pipe/ public water supply connection
- Electricity: public electricity connection if available
- Furniture: local fabrication
- Playground: the minimum size should be 10 times of covered area
- Classroom size: in urban area 7x 8 sqm; in the rural area: 6x7 sqm

Community contributions:

- Land acquisition and site cleaning
- Local materials
- Water supply: build the well/pipe installation
- Fence construction
- Provide labor to the contractor

2. Village does not have access road

A big problem for the construction is the materials transportation. For these cases we propose the semi permanent building with different standard and having life span more than 25 years for the main structure (Table 15).

Table 17/ Standard Models for school construction

	Elements	Standard A	Standard B	Standard C
A	Floor	Cement plastered	Cement plastered/soil compacted	Cement plastered/soil compacted
B	Column	Concrete/hard wood	hard wood	hard wood
C	Roof frame	hard wood	hard wood	hard wood
D	Door	Wooden plank	Simple wooden plank	Simple wooden plank
E	Window	n.a	n.a	n.a
F	Wall (1.5 M high)	Brick/mud plastered/soft wooden plank/woven bamboo	Mud plastered/soft wooden plank/ woven bamboo	Mud plastered/soft wooden plank/ woven bamboo
G	Ceiling	Woven bamboo	Woven bamboo	Woven bamboo
H	Roof Materials	Galvanized iron sheets	Galvanized iron sheets	Galvanized iron sheets*
I	Classroom size	6x7 SQM	5x6 SQM	4x5 SQM
J	Toilet	Rural standard, 1 unit per classroom	Rural standard, 1 unit per classroom	Rural standard, 1 unit per classroom
K	Water supply and cistern	Well/rural water pipe	Well/rural water pipe	Well/rural water pipe

Notes:

Standard A: Big village having more than 50 households
Standard B: Medium village having 20 to 50 households
Standard C: Small village having less than 25 households
* 10% are transparent plastic sheets for getting natural light

Community contributions:

- Land acquisition and site cleaning
- Local materials
- Water supply: build the well/pipe installation
- Fence construction
- Provide labor to the contractor

5.3 THE PROJECT FOR CONSTRUCTION OF PRIMARY SCHOOLS IN LAO PDR BY JICA

A detail presentation was made by ECDM, DoF, Ministry of Education on Primary School Construction, which is shown in Annex F. Below here are some criteria used by JICA funded Projects in Lao PDR while constructing Primary Schools.

A. Criteria for the selection of schools/sites covered by the Project agreed with Lao PDR are as follows:

1. Urgent needs estimates for additional classrooms due to classroom shortage;
2. Necessary number of classrooms at present and in future can be confirmed by population growth rate, number of school aged-children, enrollment ratio and other relevant data;
3. Sufficient teachers, budget allocation, and necessary cooperation from local residents in order to operate and maintain the facilities properly;
4. Topographical appropriateness and sufficient size of land to construct the facilities;
5. Legally confirmed ownership of land to construct and site the facilities;
6. Proper access roads in order to transport construction materials and equipment to respective sites;
7. Timely demolition and removal of existing facilities if required.
8. Temporary classrooms during the construction period can be prepared if the demolition of existing classroom is required.
9. No other program pr plan of new classroom construction by other donors, NGOs and so forth in the Project's site;
10. No security problem and threat of natural calamity to endanger the smooth implementation of the Project.

B. Natural Condition

1) Consideration for sunlight and natural ventilation

To avoid the direct strong sun light, schools' longitudinal side will be placed along East-West axis. As the monthly mean of daily maximum temperature exceeds 30°C and humidity in the rainy seasons (from May to September) is very high, consideration of natural ventilation must be given for planning of the facilities and the size of the window and eaves for natural light and protection from storm rain intrusion.

2) Consideration for wind and earthquake

For the design of the one-storied primary school structures in Lao PDR, it is a usual practice that wind force and earthquake force are neglected. There are no records of earthquake in the project area, which is Vientiane Capital and Vientiane province, therefore, earthquake force will not be considered in the structure design. However wind force will be considered for structural planning, taken as 20m/sec, based on the recorded data of past monsoons.

For the design of the one-storied primary school structures in Lao PDR, it is a usual practice that wind force and earthquake force are neglected.

3) Soil bearing capacity

The stratum for Vientiane Capital and Vientiane Province consists of gravel and clay layers overlaid by red colored late rite soil. Local structural design practice does not take into account detailed soil bearing capacity for small scale one storied primary school. Thus, the school is designed based on the soil bearing capacity of 5 MT/m2.

C. Test Construction

Trial construction was implemented as part of the basic study to weigh three construction methods, a Block method (BL method), a Reinforced Concrete method (RC method), and a Pre-cast Concrete method (PC method) and identify construction abilities of local contractors. It was found that (1) an improved PC method would be structurally identical to the RC method and (2) both of the improved PC method and BL method did not present quality issue while having the same cost on the basis of total operating expenses. Therefore, it was determined that which method to be selected would be left to the discretion of tender in order to boost price competitiveness among those three methods. In addition, it was revealed that if construction works by local contractors were controlled under the proper supervision of a consultant, local contractor could be unitized for implementation of this project. So, it was determined that this project would basically adopt a local standard design and develop a work execution plan under local contractors familiar with school construction using standard design.

D. Quality

PC method is generally used as construction method and if rigidity has improved, there is no problem in quality control. Although BL method is not generally used for the school, it is easily constructed and has no problem for quality if the structure strength of concrete block is appropriately controlled.

	WB standard	This project	Reason for usage
Main structure, column and beam	RC structure	Reinforced concrete / Pre-cast reinforced concrete	Local standard spec
	RC structure (wood beam)	RC structure	Local standard spec

Table 18/ Comparisons of WB standard specification method and RC/ PC method in this project

Table 18/ Continued...

	WB standard	This project	Reason for usage
Foundation structure	Independent foundation	Independent foundation	Local standard spec
Exterior wall	Brick wall	Brick wall	Local standard spec
Roofing structure	RC structure (wood beam)	Steel truss	Assure construction precision and reduction of construction period
Floor	Slab on grade	Slab on grade	Local standard spec

Table 19/ Comparisons of the method by Grass root grant aid and BL method in this project

	Grass root grant aid	This project	Reason for usage
Main structure, column and beam	CB structure	CB structure (reinforced corner by RC)	Structurally reinforced
	none	RC structure	Structurally reinforced
Foundation structure	Foundation (continuous)	Foundation (continuous)	Local standard spec
Exterior wall	Concrete block	Concrete block	Local standard spec
Roofing structure	Steel truss	Steel truss	Local standard spec
Floor	Slab on grade	Slab on grade	Local standard spec

Structural calculation will be done in Japanese design standard because, building construction code are not provided in Lao PDR. Locally available materials, which are not uniform in quality and strength, will be selected based on either JIS standard or similar to the JIS standard.

Structural design conditions and material specifications are shown below:

■ **Design conditions**

a. Earthquake load : not considered (In accordance with WB design standard)
b. Wind load : Vo= 20 m/sec (In accordance with the record of strong wind)
c. Bearing capacity of soil : 50 KN/m2 (In accordance with WB design standard)

■ **Material specifications**

a. Concrete : JIS or equivalent (fc = 21 N/mm2)
b. Concrete block : JIS B class or equivalent (fc = 6 N/mm2)
c. Reinforcing bar : JIS SR235 or equivalent (fy = 235 N/mm2)
: JIS SR235 or equivalent (fy = 295 N/mm2)
d. Steel frame : JIS SS400 or equivalent (fy = 235 N/mm2)

E. Mechanical and electrical plan

There are almost no schools with electricity installed in the classrooms, except for a few teachers' rooms. Actually, there are almost no schools providing double shift schooling or adult education, therefore night-time use of electricity is not expected. Electric works will not be planned in this project, considering very low electricity usage.

F. Classroom building

Roof of the classroom building is a gable and overhung roof as locally practiced. The shape and width of the opening such as window, etc. will be planned considering light, wind, ventilation, etc.

G. Policy for operation and maintenance

Primary schools belong to the village in principle, and residents of village and persons in charge of school have responsibility to operate and maintain the facilities. Specific budget is scarcely provided by MOE, PEO, or DOE. However, the system is not yet set up to instruct and monitor the maintenance of the school facilities under its jurisdiction. Therefore, the school facilities are practically maintained by the villagers who contribute both money and labour.

School facilities are cleaned by the pupils in the of morning and during lunch break. Classrooms are cleaned by the pupils on duty once a week. The field and toilets are cleaned by those pupils who are not on duty for classroom cleaning. In the project, the instruction to maintain and clean the facilities and equipment will be included in the plan, considering the villagers' role in facility maintenance.

Section VI: Case Studies

Case study 1: Phiatwat Secondary School, Vientiane Lao PDR

History

Phiawat Secondary School was established in 1950s by Catholic Religious Organization. At that time, it was a modern and famous school in Vientiane. It is located next to a Catholic Church in Phiawat village, Sisattanak District, Vientiane. After Lao People's Democratic Republic was established in 1975, Phiawat school has become a secondary school.

Present Situation

The school has a border with 3 roads, smaller roads in the east and south having 6 meters width, good condition, asphalt road and good drainage system. In the north, it has border with the main road, which is 9 meters in width, good condition, two layers of asphalt road and also with concrete drainage system. In the west, the school is bordered by a Catholic Church.

Table 20/ *Number of Students and teachers in Phiawat Secondary School in 2007-08*

Number of Student			
Grade	Total	Girl	No. of Classroom
M1	166	77	3
M2	151	83	3
M3	144	71	3
M4	297	157	7
M5	245	135	6
M6	279	152	6
Number of Teacher			
Bachelor	37	18	
High Edu.	9	6	
	11	9	

There are two gates: one in the south that has smaller entrance for motorcycles, bicycles and pedestrian and another in the east, which is the main gate of this school with 4 meters width. It is also used for motorcycles, bicycles, pedestrian and teacher's cars. Phiawat School has 5 buildings, among which three buildings have 3 stories and other two buildings are 2 stories. The master plan of the school was designed with a play ground in the middle of the campus. Most of the buildings are constructed with concrete, brick wall and roofs with tiles. This school was used for both primary and secondary level student but now it is only used for lower and upper secondary level. The school facilities include classroom, principal room, teachers' room, administrative office, library, toilets, parking place for motorcycles, bicycles, and car parking in the play ground.

During the fiscal year 2007-2008, the total number of students accounts 1,282 persons among which 675 are girls. In total, 57 teachers are in this school out of which 33 are female. The total number of permanent staffs is 55. The ratio of teacher and students is 1/46. Like other schools in the country, the teaching period starts on 1 September and closes in June. The subjects and timetable of teaching are similar to others that follow the regulations and guidelines of MOE.

Past Experiences of Disaster

Fortunately Phiawat Secondary School has not faced any disaster in the past. Moreover, the school has 2 convenient entrances and also it is located in a low traffic density area. The roads are strong enough for disaster responses such as speedy evacuation and access of fire fighting vehicles. However, the buildings are very old and each has only one access (staircase) which is dangerous for fire preparedness. According to the principal, "the electricity system is now quite safe but some parts are vulnerable to fire such as the main switches, etc."

Good Practice of Disaster Risk Reduction

Phiawat Secondary School is one of three schools selected to test the DRR (Disaster Risk Reduction) Module into the existing natural and social science subjects. The objective of that module is to make students aware and understand the causes and effects of disasters on lives and property in general, and understand the prevention methods and mitigation measures from disasters. This will help them to be ready to cope with disasters which may occur in the future and to help the community in planning for disaster prevention and mitigation measures. The module is composed of nine chapters focusing on disasters such as landslide, flood, drought, earthquake, fire, pollution, road accident and social violence.

Disaster modules were taught in 3 classrooms at secondary level 1 (M1), which included 166 students and among which 77 were girls.

An evaluation of testing the integration of DRR module for one semester teaching has been conducted; the summary results are as follows:

For students: Most students are able to understand the subject. The evaluation result shows good scores in the monthly and quarter examination. Students were very interested and enthusiastic during the lessons; many students raised the example from their home and experiences.

For teachers: Most of the teachers have limited experience and knowledge about disasters; mostly teaching was the only way following text books. To raise an example from their knowledge was still limited. Therefore teachers need more training and it is essential to train those teachers who had been involved. It is necessary to have more visual materials for teaching such as colored posters, video and others.

PART D: RECOMMENDATIONS AND SUGGESTED NEXT STEPS

Section VII: Recommendations

Since this study is only an initiative on basic information on disaster impacts to the education sector in Lao PDR, therefore the recommendations of this study are made based on the findings, gaps and future needs. In addition, there were discussions during the National Workshop which focused on the following suggestions:

Group 1: Now that the curriculum has been developed, what are the next steps to be undertaken in the Ministry of Education for full integration of the DRR module into the National Curriculum?

The group suggested the following next steps:

- Final revision of the curriculum and then recommendation to MOE for publication by CACIM
- Training of Teachers to get better understanding of DRR
- DRR module should be integrated into all levels-primary, secondary and university
- Should have TOT at the Teacher's Training Centre so all teachers can be trained
- Establish a technical committee for constant evaluation of teaching once curriculum is finalized.

Process for full integration: Based on the comments, next steps for DRR curriculum are: 1) revise teacher's guide and text books based on feedback, and 2) submit to CACIM committee for approval of curriculum and instructional materials. CACIM members are from department of general education, department of teacher's training, department of planning, department of printing, department of non-formal education and department of private education and curriculum specialists from NRIES, MOE. CACIM will give recommendation to the Ministry of Education for final approval by Minister of Education. Approval of the document should be followed by the training of the teachers in teachers' training centers.

Training Needs:

- DRR should be taught through the Regional Teachers Training College (RTTC) and Provincial Teachers Training College (PTTC). The Ministry of Health, Ministry of Education, and Ministry of Transportation should take appropriate steps on this matter.
- Pedagogical department should develop materials for training of teachers
- DRR topics should be integrated in regular training programs of the MOE
- Resources needed:

- HR (Pedagogy Research Institute)
- Budget (Govt. should allocate along with NGOs and Donors)
- Materials (PRI has to produce more documents with the help of NCDM)

Group 2: What material is already available both in government and non-government sector, which can be used to supplement the DRR curriculum? (Audio visual, work books, activity books, comics etc.) The comments are:

- Story telling, VCD and posters are helpful for primary classes, and need to be developed
- MOE can use some materials from Action Aid, after editing, for grade 4, 5 and 6
- DRR should be taught to primary schools, even in grade 1 and 2
- More visual aids need to be developed for teaching support-some posters have been developed by NRIES
- CD can be developed as cost is low, though availability of electricity is a constraint
- DRR related books are essential in schools and for TOT
- Teachers and students need more material for further reading and reference
- Funds needed from different organization as MOE alone cannot support

Group 3: For integrating DRR in the school construction, which are the steps to be taken and the possible stakeholders – government and non-government?

The suggestions of the group were:

- Multi hazard mapping is needed. Other ASEAN countries (such as the Philippines) have capacity to do mapping in case Lao needs assistance in this task. The map must be shared with all stakeholders.
- Building codes are needed which set the standard for all construction.
- All engineers and architects should be trained and they should be aware of how to integrate DRR in the construction.Simple non-technical training can be given to masons, teachers, community leaders.
- Training must also be given to private constructers.
- Building maintenance guide lines must be prepared by MOE/NDMO which cover all constructions-private, government and donor funded.
- There is need for integration of DRR in all on-going and future construction projects.
- Stakeholders: MOE, MOF, MOP, Provincial Education Services, NDMO, UN agencies, donors, teachers, community leaders, village authorities and private construction agencies and contractors.

Building codes are needed which set the standard for all construction.

All engineers and architects should be trained and they should be aware of how to integrate DRR in the construction.

Training must also be given to private constructers.

Group 4: What additions should be made to the school building design so that it can be used as an emergency and evacuation shelter without affecting teaching?

The suggestions of the group include:

- In Lao, temples are used as evacuation shelters as they have strong structure and are located on the best, high level land.
- Strong building structure is essential so the school can be used as an emergency shelter. The roof and doors must be in good condition.
- Evaluation should be based on location-as construction practice may vary due to local condition.
- We need to learn from other countries on building design. Many standards are available.
- Need for specific designs for earthquake, floods and wind storm to reduce the effect. This will depend on hazard mapping.

Establish national guidelines for school design, school standards and disseminate it to provinces and districts.

A presentation on School construction was made by head of ECDM, Department of Finance, Ministry of Education with the following next steps suggested:

- Establish a data base of school buildings
- Develop a specific school regulation concerning disaster prevention and protection
- Establish national guidelines for school design, school standards and disseminate it to provinces and districts.
- Budget allocation for school construction and maintenance
- Develop a Maintenance manual for MOE
- Have an annual forum with all donors

The NDMO and NRIES have made the following recommendations in the Workshop:

- Safe construction of schools in on-going and future construction projects.
- Establish a forum for interaction between donors, Ministry of Education, the construction agencies and the NDMO for ensuring DRR in all future projects.
- Ministry of Education should develop National Guidelines for School Construction to ensure safe buildings. The guidelines must be applicable to all projects irrespective of donor.
- Ministry of Post and Construction should develop the National Building Code which integrates DRR.
- Train technical staff in charge of maintenance of schools, as well as the education community, on DRR
- Awareness about disasters should be part of curriculum at all levels of schools – primary, senior secondary and university.
- There should be development of national guidelines for emergency planning in the school so that all schools can be prepared for disasters.
- Development of curriculum for students with disabilities.
- Development of extra curricular activities and visual aids for teaching DRR.
- Training of all teachers on teaching DRR.
- Support needed for development of curriculum and printing of textbooks for all students

The recommendations in terms of structural and non-structural measures, in-depth future study for education sector at different levels and others are presented below:

- Further detailed study on schools' location in disaster prone areas (flood, fire, and earthquake) should be carried out. Detailed and large-scale multi-hazard risks mapping is necessary for the whole country, which is very expensive to conduct. An example of such map including seismic, volcanic and tropical storm risks is shown in Annex H. Determining the location of school is most important because flood hazard is considered as most serious and most frequent for Lao PDR. In the development of a plan, it is necessary to know the location of flood prone areas in order to avoid the flood impacts on the construction of new schools and to protect existing schools. The Design and Construction Management Division which is under the umbrella of the Department of Finance and the Ministry of Education should be the main agency in-charge of the study in collaboration with the local DoE and PEO. If human resources and financing are available, the study should begin as soon as possible and serve as the baseline data for education development in the future.

Lao PDR does not have Building Code for building construction yet

Building Code should be endorsed and enforced as soon as possible.

- As Lao PDR currently does not have a Building Code for building construction, it is proposed that the Ministry of Public Works and Transport develop a Building Code that integrates DRR. Responsible agencies should include the Department of Housing and Urban Planning and the Ministry of Public Work and Transport. The Building Code should be endorsed and enforced as soon as possible. In addition, the Ministry of Education should develop a Specific School Construction Regulation concerning disaster (flood, fire, and earthquake) prevention and protection as soon as possible. Responsible agency should be the Design and Construction Management Division which deals directly with the design and construction management work.

National Guideline for School Design and construction should be made by Design and Construction Management Division, Ministry of Education

- ***A National Guidelines for School Design and Construction*** should be developed by the Design and Construction Management Division and the Ministry of Education. The guidelines is intended to protect or prevent disasters and to avoid overlapping and shortage of school construction procedures. The earthquake preparedness guidebook of India can provide lessons for earthquake mitigation as Laos does not have much experience in this kind of disaster. The Handbook on Design and Construction of Housing for the flood-prone rural areas of Bangladesh is also a good example that MOE can adapt.

- There is a lack of information on disaster impacts on schools, students and teachers, because data collection and recording are not systematic yet. The ***regular official reporting and proper data collection and recording systems*** should be enhanced for better understanding of school vulnerability.

- ***Regular Monitoring systems for schools*** affected by disasters have to set up Mitigation and Preparedness Development Plan and plan the capacity building of the sector.

- Train technical staff in charge of maintenance, as well as the educational community, on natural hazard information management.

- ***Disasters Subject*** should be added to the curriculum for all school levels.

- Integration of DRR in the primary school curriculum. The primary grade is the most important venue to convey the message of DRR to students. Students in the primary classes are the most vulnerable to disasters. Of significance, is the fact that in developing countries, there is a high drop out rate after primary school. If DRR is not taught at the primary level, then a substantial number of potential targets are missed. In addition, it is worth noting that the curriculum development cycle in Cambodia and Lao PDR is in the process of being reviewed. In the Philippines, the curriculum development cycle starts next year. This is the best time to add topics on DRR in the curriculum, for all classes.

- Integration of DRR in the senior ***secondary school curriculum.***

- Integration of DRR in the ***university curriculum***, especially in the curriculum for courses in architecture and engineering.

- Development of ***curriculum for students and teachers with disabilities***, especially for those who are visually, hearing impaired and mentally challenged. This is a major gap. Some work has been done in Indonesia, but there are glaring deficiencies in other countries.

- Development of ***extra curricular activities for students*** which complement the DRR curriculum e.g. games (board and CD), quizzes, etc. The need for such activities has been expressed by teachers, education department officials and the NDMOs of the three countries.

- Development of ***training modules***. The training modules can be used by teacher training institutes to guide teachers in the use of the DRR curriculum. This will also involve capacity building of the teachers training institutes and development of master trainers and resource persons who can train other teachers. The modules are needed for newly appointed teachers as well as for in-service teachers.

- Development of ***guidelines for emergency planning*** in schools. This would help complement the teaching of DRR in schools. This will also require a training module for teachers on school emergency planning and capacity development of the teachers training institutes on this topic.

- The ***structural measures*** that need to be addressed by future programs and/or projects include:

- Development of guidelines for the construction of safe school buildings. This should be the task of the Design and Construction Management Division and it should be completed within 2009.

Development of guidelines for the construction of safe school buildings should be the task of Design and Construction Management Division and it should be completed within 2009.

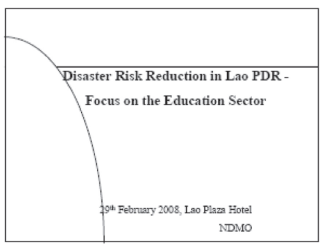
- Development of training modules and capacity development of training institutes on safe construction practices which integrates DRR. The training modules will be for architects, engineers, masons and the community; it should be prepared by relevant departments of the MoE in coordination with the donor agencies.

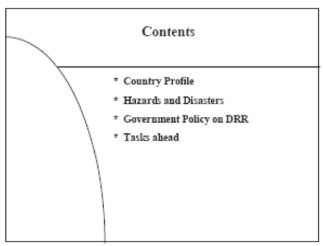
- Development of guidelines for assessment of vulnerability of school buildings and retro-fitting of the buildings based on the results of the assessment. It should be the task for of Design and Construction Management Division and it should be completed within 2009.

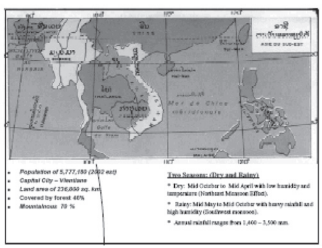
- Guidelines for design of schools so the buildings can be used as emergency shelters. It should be the task of Design and Construction Management Division and it should be completed within 2009.

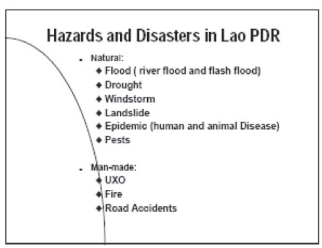
Annexes

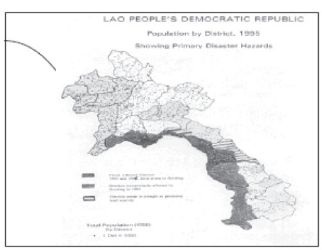
Annex A: Common Disasters and Disaster Risk Reduction in Lao PDR - Focus on the Education Sector

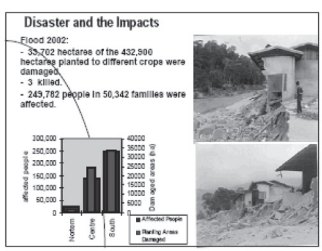


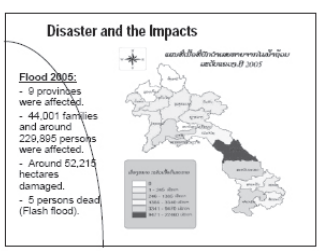


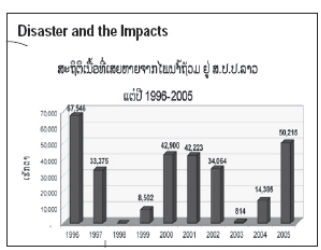








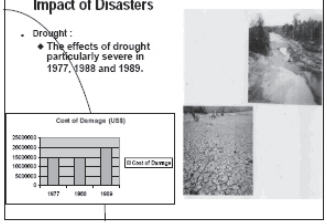




Annex A: Continued...

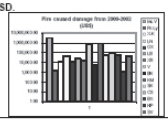
Impact of Disasters

- Drought :
  - The effects of drought particularly severe in 1977, 1988 and 1989.



Disaster and the Impacts

- Fires: (urban)
  - Other disasters include Fires that occur in some of the major cities and cause extensive damage due to the lack of sufficient fire fighting equipment.
  - From 2000-2002, fire caused damage of 3,402,695 USD.



Disaster and the Impacts

Unexploded Ordnance:

- UXO is a legacy of the Indochina war in 1960's and early 1970's.
- More than 2 million tons of ordnance dropped over the Lao PDR.
- 30% of this did not detonate on impact.
- 2001, 35 people were killed and 87 people were injured by UXO.

Government Policy on Disaster Risk Management

- Since Lao PDR Inaugurated 1975 - Govt.'s Policy on Social Welfare:
  - Help after war migration (Permanent Resettlement)
  - Relief people affected by natural disaster (food, shelter and basic need).
- 1995, MLSW took responsibility – Mitigation and Relief Activities widely implemented with NGOs partners. (post Disaster).
- In the process of developing its capacity to perform this role, NDMO was established in 1997, supported from UNDP.

Government Policy on Disaster Risk Management

- Disaster Reduction work in Laos is based on some main documents;
  - The Govt. Decree No 158/PM dated 22 August 1999.
  - The National Disaster Management Committee (NDMC) assignment No 097/MLSW dated 30 June 2000.
  - The Country Strategy Note on Disaster Management No 1139/MLSW dated 18 April 2003.

National Disaster Management Committee

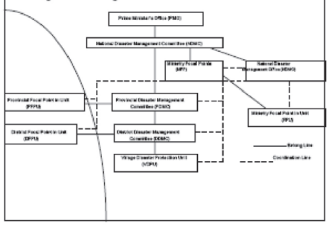
- The NDMC consisting of representative from 13 key ministries:

Minister of MLSW	Chairman
Vice-Minister of MAF	Vice-Chairman
Chief of Cabinet of MFA	Vice-Chairman
Chief of Cabinet of MOD	Member
Chief of Cabinet of MOI	Member
Chief of Cabinet of MOE	Member
Director of Budget Dept. MOF	Member
Director of Transport Dept. MCTPC	Member
Director of Industry Dept. MIH	Member
Director of Hygiene Dept. MOH	Member
Director of Mass Media Dept. MIC	Member
Director of Social Welfare Dept. MLSW	Member
Chairman of Lao Red Cross	Member

Government Policy on Disaster Risk Management

- Function and Roles of NDMC:
  - *Coordinate and cooperate* with INGOs, NGOs and all government Ministries and Agencies on Disaster Management in the phases of: *preparedness, emergency assistance and mitigation.*
  - NDMC is responsible for gathering data, statistic and information on impact of natural and manmade disasters and proposes resources for mitigation.
  - *Develop policies*, including national disaster management plan, and provides overall direction for provincial and district plans.
  - *Raising public education and awareness on DM* for all society aiming to enhance self-resilience capability to disaster for them, parallel with integrating DM and environmental protection concept into education.
  - *Responsible for major operational decisions during an emergency.*
  - Decides on allocation of relief resources.
  - Facilitation for establishing PDMC and DDMC by provincial governor and supporting on building capacity for those committees.

Diagram of Organization on DM in Laos



Annex A: Continued...

Government policy on DRR

- To reduce the impacts of disasters, the Government is implementing different programs :
  - Capacity building for Government and local people in affected and vulnerable areas,
  - Public Awareness and Education,
  - Early Warning information dissemination,
  - CBDM with emphasis on empowering community to prepare for, response and mitigate disasters.
  - Building and improving embankments,
  - Repairing road, irrigation, introducing innovative agricultural technique including new seeds.

Raising Awareness on Disaster and Disaster Management for School Children

Fire Drill exercise

Teaching on DM in primary school

Art competition for road and fire accident reduction

Tasks ahead - Education sector

- Safe construction of schools in on going and future construction projects.
- Establish a forum for interaction between donors, Ministry of Education, the construction agencies and the NDMO for ensuring DRR in all future projects.
- Ministry of Education should develop National Guidelines for School Construction to ensure safe buildings. The guidelines must be applicable to all projects irrespective of donor.
- Ministry of Post and Construction to develop the National Building Code which integrates DRR.

Tasks ahead

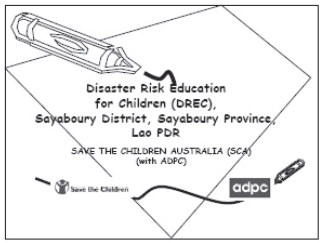
- Train technical staff in charge of maintenance, as well as the education community, on DRR.
- Awareness about disasters should be part of curriculum at all levels of schools – primary, senior secondary and university.
- Development of national guidelines for emergency planning in the school so that all schools can be prepared for disasters.

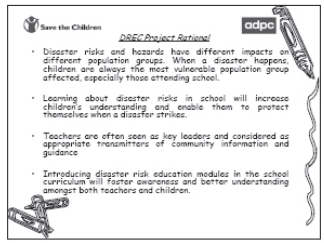
Tasks ahead

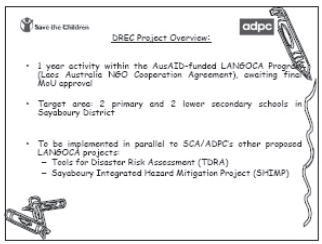
- Development of curriculum for students with disabilities.
- Development of extra curricular activities and visual aids for teaching DRR.
- Training of all teachers on teaching DRR.
- Support needed for development of curriculum and printing of textbooks for all students

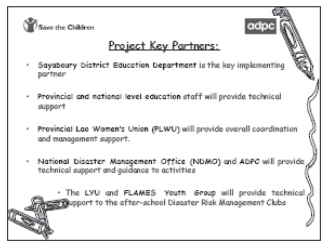
Thank You

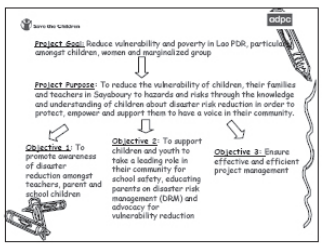
Annex B: Disaster Risk Education for Children (DREC), Sayaboury District, Sayaboury Province, Lao PDR

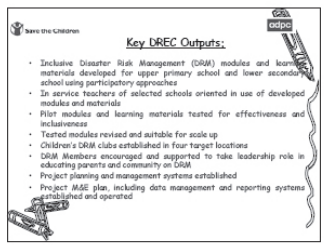


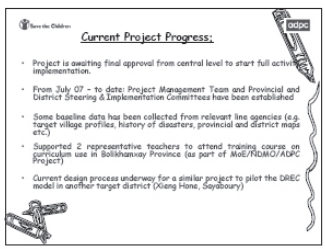






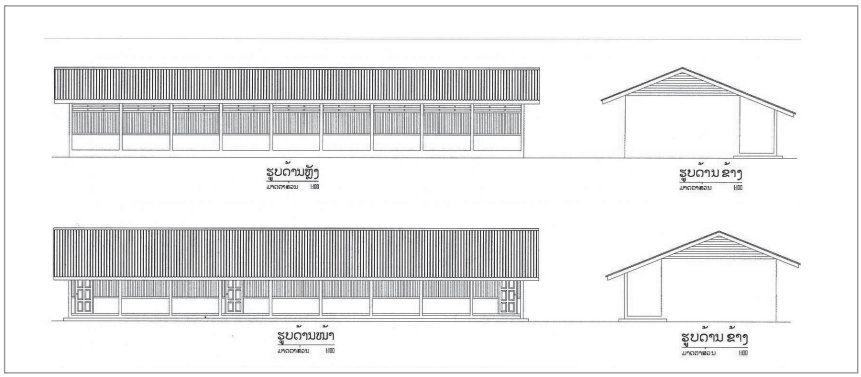


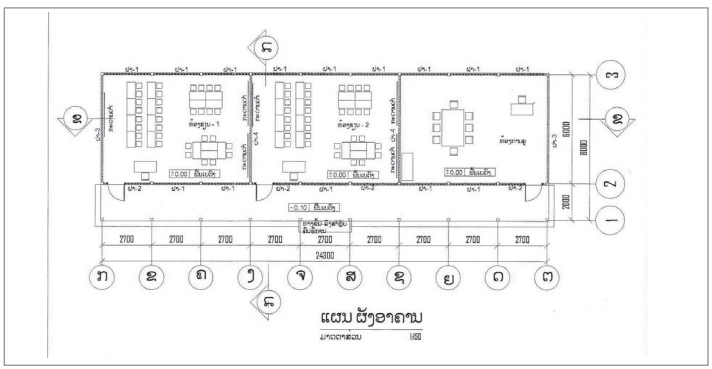


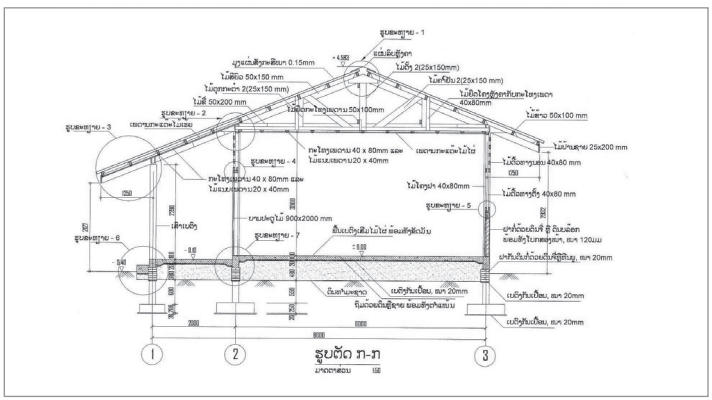


Annex C: School Building Designed by Projects

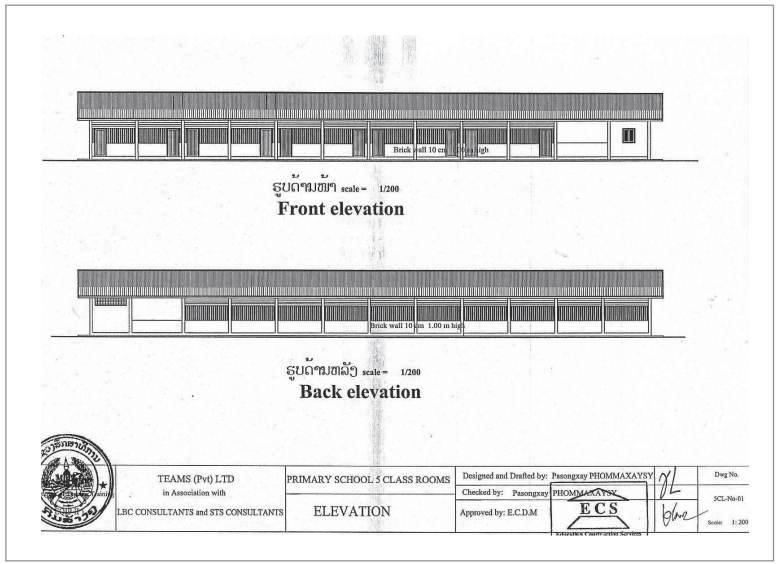
Annex C.1: Education Development Project (EDP 2) (Supports by World Bank) (Typical: 3 class rooms)

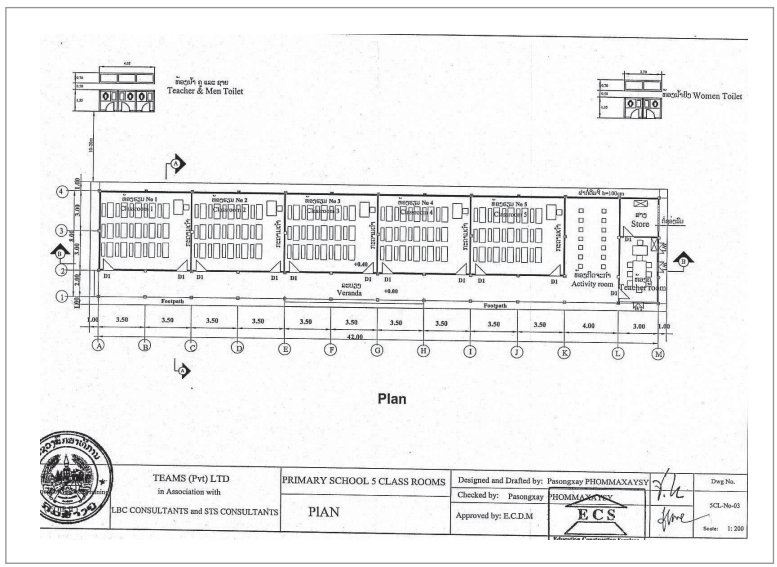




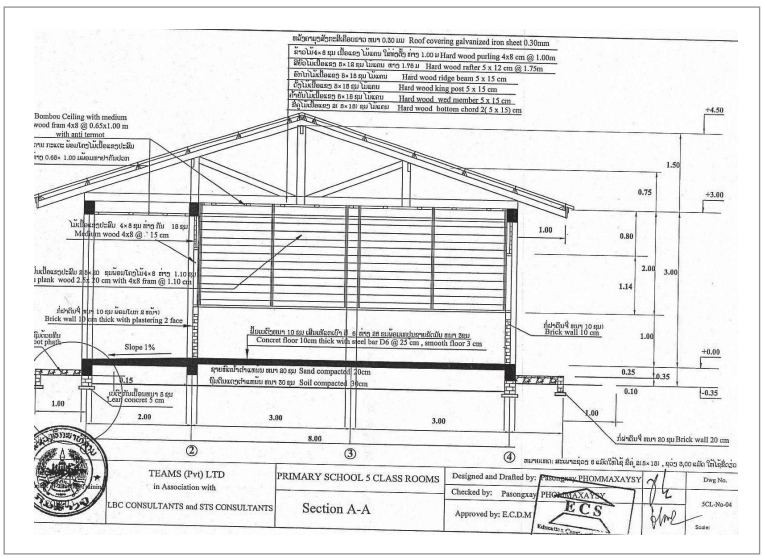


Annex C.2: Education Quality Improvement Project (EQIP 2) (Supports by ADB) (Typical: 5 class rooms)





Annex C.2: Continued...



Annex D.1 Number of the primary school, teachers, and student by province (2005-2006)

Source: Ministry of Education 2007

Provincial code	Provinces	Number of school	Number of teacher	Number of student
1	Vientiane Mun.	484	2,853	78,761
2	Phongsali	507	930	25,034
3	Louangnamtha	348	693	23,271
4	Oudomxai	466	1,075	49,834
5	Bokeo	262	781	23,973
6	Louangphabang	754	1,921	72,009
7	Houaphan	691	1,602	56,488
8	Xaignabouli	432	1,966	53,239
9	Xiengkhouang	448	1,538	48,733
10	Vientiane	512	2,534	69,269
11	Bolikhamxai	317	1,146	42,863
12	Khammouan	609	1,785	55,630
13	Savannakhet	1148	3,846	123,610
14	Salavan	533	1,234	49,726
15	Xekong	183	457	15,070
16	Champasak	766	2,186	85,835
17	Attapeu	191	599	18,536
	Total	**8,651**	**27,776**	**891,881**

Provincial code	Provinces	Number of school	Number of teacher	Number of student
1	Vientiane Mun.	118	2,307	70,254
2	Phongsali	21	345	6,889
3	Louangnamtha	28	382	9,471
4	Oudomxai	36	464	13,386
5	Bokeo	27	333	9,254
6	Louangphabang	48	1,009	24,822
7	Houaphan	61	720	17,163
8	Xaignabouli	67	1,010	25,886
9	Xiengkhouang	49	856	23,883
10	Vientiane	93	1,670	39,313
11	Bolikhamxai	45	547	18,402
12	Khammouan	71	993	8,741
13	Savannakhet	146	2,103	14,998
14	Salavan	35	484	13,229
15	Xekong	10	176	4,090
16	Champasak	108	1,433	40,225
17	Attapeu	17	300	5,482
	Total	980	15,132	345,488

Annex D.2: Number of secondary and high schools, teachers, and student by provine (2005-2006)

Source: Ministry of Education 2007

Provincial code	Provinces	Number of school	Number of teacher	Number of student
1	Vientiane Capital	163	744	13,034
2	Phongsali	35	75	898
3	Louangnamtha	50	54	1,444
4	Oudomxai	27	85	1,429
5	Bokeo	49	69	1,458
6	Louangphabang	95	173	3,276
7	Houaphan	25	70	1,439
8	Xaignabouli	99	211	4,054
9	Xiengkhouang	18	56	1,093
10	Vientiane Province	99	251	3,863
11	Bolikhamxai	23	91	1,058
12	Khammouan	41	166	2,389
13	Savannakhet	192	450	7,708
14	Salavan	24	49	846
15	Xekong	8	31	389
16	Champasak	119	284	4,335
17	Attapeu	20	23	484
	Total	**1,087**	**2,882**	**49,197**

Annex D.3: Number of the kindergarten schools, teachers, and student by province (2005-2006)

Source: Ministry of Education 2007

Annex E.1: Budget by class level (approved by National Assembly) (2001-2002)

Source: Ministry of Education 2007

Code	Education category	Administrative Fund		Investment Fund			Total	%
		Buy/Lease asset	Sub-Total	Domestic	Foreign	Sub-Total		
1	kindergarten schools	0.00	109.43	0.00	0.00	0.00	109.43	0.02
2	Primary school	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Secondary school	0.00	1,727.74	0.00	0.00	0.00	1,727.74	0.33
4	High school	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Vocational school	0.00	4,530.09	0.00	0.00	0.00	4,530.09	0.87
6	Teaching school	0.00	7,848.87	0.00	0.00	0.00	7,848.87	1.51
7	University	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Informal education	0.00	482.02	0.00	0.00	0.00	482.02	0.09
9	Administrative agency	0.00	272,539.45	65,751.80	165,133.93	230,885.73	503,425.18	97.16
	Total	0.00	287,237.60	65,751.80	165,133.93	230,885.73	518,123.33	100.00
					Government budget		4,035,000	
					GDP		17,719,000	
					Education (%) to GDP		2.92 %	
					Education (%) to Government budget		12.84 %	

Remark: Unit: Million kip
Investment fund covers:
- Construction of school building
- Maintenance/repair
- Human resource development

Code	Education category	Administrative Fund		Investment Fund			Total	%
		Buy/Lease asset	Sub-Total	Domestic	Foreign	Sub-Total		
1	kindergarten schools	0.00	102.22	383.00	635.00	1,018.00	1,120.22	0.24
2	Primary school	0.00	0.00	20,339.53	70,154.02	90,493.55	90,493.55	19.50
3	Secondary school	0.00	1,699.95	14,478.10	1,377.00	15,855.10	17,555.05	3.78
4	High school	0.00	0.00	9,255.90	6,398.96	15,654.86	15,654.86	3.37
5	Vocational school	0.00	4,667.11	8,483.24	19,478,75	27,961.99	32,629.10	7.03
6	Teaching school	0.00	7,738.22	3,543.94	69,589.74	73,133.68	80,871.90	17.42
7	University	0.00	0.00	5,850.00	16,740.57	22,590.57	22,590.57	4.87
8	Informal education	0.00	414.92	2,153.99	4,788.37	6,942.36	7,357.28	1.58
9	Administrative agency	0.00	160,450.87	13,660.33	21,802.08	35,462.41	195,913.28	42.21
	Total	0.00	175,073.30	78,148.03	210,964.49	289,112.52	464,185.82	100.00
					Government budget		4,700,000	
					GDP		21,499,000	
					Education (%) to GDP		2.16 %	
					Education (%) to Government budget		9.88%	

Remark: Unit: Million kip
Investment fund covers:
- Construction of school building
- Maintenance/repair
- Human resource development

Annex E.2: Budget by class level (approved by National Assembly) (2002-2003)

Source: Ministry of Education 2007

Annex E.3: Budget by class level (approved by National Assembly) (2003-2004)

Source: Ministry of Education 2007

Code	Education category	Administrative Fund		Investment Fund			Total	%
		Buy/Lease asset	Sub-Total	Domestic	Foreign	Sub-Total		
1	kindergarten schools	0.00	129.97	1,198.00	1,561.14	2,759.14	2,889,11	0.48
2	Primary school	0.00	0.00	21,457.93	84,084.25	105,542.18	105,542.18	17.66
3	Secondary school	0.00	2,285.10	2,887.00	1,508.00	3,945.00	6,230.10	1.04
4	High school	0.00	0.00	9,376.57	2,827.99	12,204.56	12,204.56	2.04
5	Vocational school	0.00	10,599.18	3,205.25	27,168.60	30,373.85	40,973.03	6.86
6	Teaching school	0.00	7,278.70	13,741.37	101,930.89	115,672.26	122,950.96	20.57
7	University	0.00	0.00	2,500.00	15,000.00	17,500.00	17,500.00	2.93
8	Informal education	0.00	0.00	621.53	6,931.65	7,553.18	7,553.18	1.26
9	Administrative agency	0.00	186,539.08	13,608.99	81,705.14	95,314.14	281,853.21	47.16
	Total	0.00	206,832.02	68,596.64	322,267.66	390,864.30	597,696.32	100.00
					Government budget		5,619,990	
					GDP		24,621,000	
					Education (%) to GDP		2.43 %	
					Education (%) to Government budget		10.64%	

Remark: Unit: Million kip
Investment fund covers:
- Construction of school building
- Maintenance/repair
- Human resource development

Code	Education category	Administrative Fund		Investment Fund			Total	%
		Buy/Lease asset	Sub-Total	Domestic	Foreign	Sub-Total		
1	kindergarten schools	0.00	194.33	905.00	1,352.00	2,257.00	2,451.33	0.35
2	Primary school	0.00	0.00	10,968.55	169,998.54	180,867.09	180,967.09	25.79
3	Secondary school	0.00	2,593.36	819.03	21,656.80	22,475.83	25,069.19	3.57
4	High school	0.00	0.00	3.797.11	3,426.34	7,223.45	7,223.45	1.03
5	Vocational school	78.30	8,281.68	881.03	4,200.00	5,081.03	13,362.71	1.90
6	Teaching school	49.10	13,313.78	4,125.50	74,304.22	78,429.72	91,743.50	13.08
7	University	0.00	0.00	2,000.00	15,000.00	17,000.00	17,000.00	2.42
8	Informal education	7.50	618.19	150.00	722.00	872.00	1,490.19	0.21
9	Administrative agency	3,481.10	283,270.39	4208.97	74,863.38	79,072.35	362,342.74	51.64
	Total	3.616.00	308,271.72	27,855.19	365,523.28	393,378.47	701,650.19	100.00
					Government budget		6,007,000	
					GDP		28,076,000	
					Education (%) to GDP		2.50 %	
					Education (%) to Government budget		11.68%	

Remark: Unit: Million kip
Investment fund covers:
- Construction of school building
- Maintenance/repair
- Human resource development

Annex E.4: Budget by class level (approved by National Assembly) (2004-2005)

Source: Ministry of Education 2007

Annex E.5: Budget by class level (approved by National Assembly) (2005-2006)

Source: Ministry of Education 2007

Code	Education category	Administrative Fund		Investment Fund			Total	%
		Buy/Lease asset	Sub-Total	Domestic	Foreign	Sub-Total		
1	kindergarten schools	51.65	285.25	842.50	988.00	1,830.50	2,115.75	0.21
2	Primary school	0.00	0.00	6,941.12	162,636.13	169,577.25	169,577.25	16.88
3	Secondary school	142.00	2,570.73	3,913.32	27,594.55	31,507.87	34,078.60	3.39
4	High school	0.00	0.00	3,975.74	38,083.12	42,058.86	42,058.86	4.19
5	Vocational school	281.87	8,230.12	17,694.89	24,913.80	42,608.69	50,838,81	5.06
6	Teaching school	430.53	13,823.73	2,738.00	69,537.26	72,275.26	86,098.99	8.57
7	University	0.00	0.00	6,250.00	231,560.00	237,810.00	237,810.00	23.67
8	Informal education	74.50	924.31	256.24	4,935.00	5,191.24	6115.55	0.61
9	Administrative agency	1,288.45	332,228.80	5,254.78	38,624.20	43,878.89	376,107.78	37.43
	Total	2,269.00	358,062.94	47,866.59	598,872.06	646,738.65	1,004,801.59	100.00
					Government budget		7,390,000	
					GDP		33,300,000	
					Education (%) to GDP		3.02 %	
					Education (%) to Government budget		13.60%	

Remark: Unit: Million kip
Investment fund covers:
- Construction of school building
- Maintenance/repair
- Human resource development

Code	Education category	Administrative Fund		Investment Fund			Total	%
		Buy/Lease asset	Sub-Total	Domestic	Foreign	Sub-Total		
1	kindergarten schools	34.10	8,891.17	151.57	1,285.00	1,435.57	10,327.74	0.83
2	Primary school	110.15	140,912.20	8,283.69	255,394.71	263,678.40	404,590.60	32.59
3	Secondary school	0.00	53,450.21	5,086.75	59,718.49	64,805.24	118,255.45	9.52
4	High school	12.50	49,321.42	2,854.35	699.85	3,554.20	52,875.62	4.26
5	Vocational school	225.00	12,947.30	2,127.50	51,785.45	53,912.95	66,860.25	5.39
6	Teaching school	463.00	16,340.69	4,142.00	84,498.54	88,640.54	104,981.23	8.64
7	University	1,091.93	50,493.93	6,000.00	0.00	6,000.00	56,493.83	4.55
8	Informal education	54.00	4,074.55	80.00	3,937.00	4,017.00	8,091.55	0.65
9	Administrative agency	1,267.38	130,874.14	5,960.77	282,251.94	288,212.71	419,086.85	33.75
	Total	3,258.06	467,305.51	34,686.63	739,570.98	774,257.61	518,123.33	100.00
					Government budget		7,913.00	
					GDP		39,492.00	
					Education (%) to GDP		3.14	
					Education (%) to Government budget		15.69	

Remark: Unit: Million kip
Investment fund covers:
- Construction of school building
- Maintenance/repair
- Human resource development

Annex E.6: Budget by class level (approved by National Assembly) (2005-2006)

Source: Ministry of Education 2007

Annex F: Primary School Construction in Lao PDR

PRIMARY SCHOOL CONSTRUCTION

Workshop 29.02.08
Presentation by Thipphamonh head of ECDM, DoF, Ministry of Education

Presentation outline:

Part A GENERAL INFORMATION
1 Objectives and Strategy
2 Education Development Projects in Laos

Part B INTEGRATED DEVELOPMENT APPROACH
1 Integration of components
2 Approach to implementation
3 Implementation Structure and Responsibilities

Part C PRIMARY SCHOOL CONSTRUCTION
1 Characteristics, Requirements, Architectural Concept
2 The Need
3 Expectation, Plan

Part A: General Information

1 Objective and Strategy

Objective:

- Increase completion of primary education in line with GPRS

Strategy: (in line with the National School Construction Concept)

- holistic approach e.g. no schools without teachers, textbooks, etc.
- integration of components (complementary not competitive)
- bottom - top approach (district based planning ad budgeting)
- geographically focused (priority on the 4 poorest provinces)

2 Education Development Projects in Lao PDR

A holistic approach:

- School Facilities
- Teacher Training
- Curricula
- Textbooks

Completed:

Donor	Project	Impl. period	Classr. /school	Financing	Target area
WB	EDP 1	1992 - 2000	1200 / 270	Loan	7 provinces
ADB	BEGP	2003 - 2008	1341 / 504	Loan	52 districts
JICA		2004 - 2006	391 / 77	Grant	2 provinces
NGO's / Others		2001 - 2007	not known	Grant	National

(AusAid, MIA, Unicef, HCR, IFAD, ...

2 Education Development Projects in Lao PDR

Ongoing:

Donor	Project	Impl. period	Classr. / school	Financing	Target area
ADB	EQIP II	2003 – 200-?	1000 / 250	Loan	41 districts
WB	EDP 2	2004 - 2008	967 / 319	Grant	8 provinces

(UNICEF): Building the Future of Children of Laos (BFC): 30 schools 2006-07 ; 52 schools 2007-08 in 2 provinces

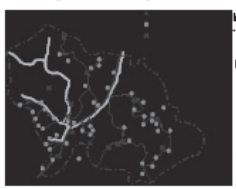
NGO's / Others	On-going	not known	Grant	national

New project:

JICA	200-? – 200-?	----/ ---	Grant	3 provinces
	(Japan's Grant Aid Scheme for Community Empowerment)			
Korea	2007- 200-?	not known		national
NGO's / Others		not known		national

Part B: Integrated Development Approach

1 Integration of components



Input 1: village /district mobilisation (including planning and budgeting)
Input 2: (Girls, Ethnic , Remoteness)
Input 3: (completion of 5 grades by)
- expand capacity
- improve learning conditions

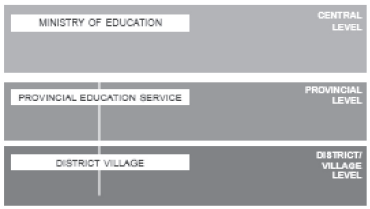
Input 4: (financial support)

Annex F: Continued...

2 Approach to implementation

- Decentralization (Province / District based planning,mapping)
- Use of contractors and NGO's
- Government contribution
- Community Contribution
- Selection of sites (complementary approach among donor community)
  proposed criteria: - village agreement to replace schools
  - village commitment to ensure 100% enrolment
  - agreement on village contribution
  -
  -

3 Implementation Structure and Responsibilities



Part C: Primary School Construction

1 Characteristics and Architectural Concept

Parameters set by the GOL and the Development Community:

culturally appropriate
environmentally sound
technically realistic
built with local materials
flexible size of classrooms
life span of min. 25 years
cost efficient
easy to maintain
include community participation

Architectural Concept

Standard options

Minimum Standard
- clean and dry floor
- solid structural system
- ceiling
- solid roof
- furniture

Medium Standard
- clean and dry floor
- solid structural system
- ceiling
- solid roof
- furniture
- bamboo or wooden walls
- lockable doors

Maximum Standard
- clean and dry floor
- solid structural system
- ceiling
- solid roof
- furniture
- whitewashed masonry walls
- lockable doors and windows



Materials options


Wood


Concrete

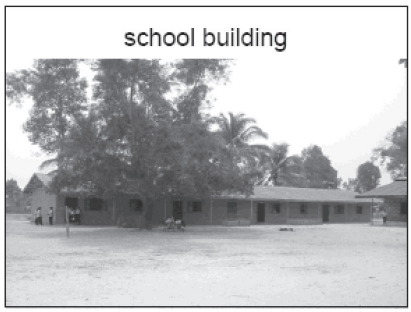

Steel

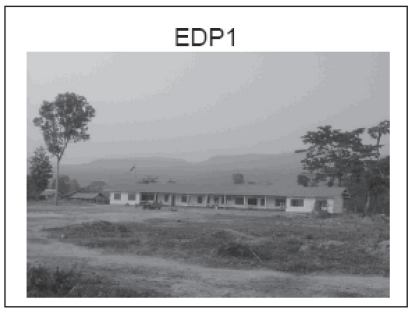
The 3 options can also be be mixed

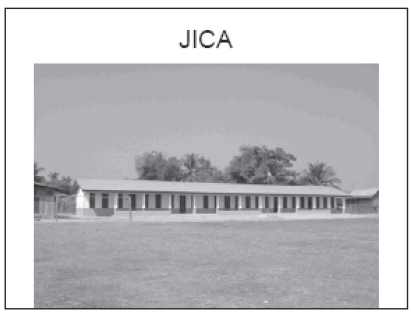
Room requirements

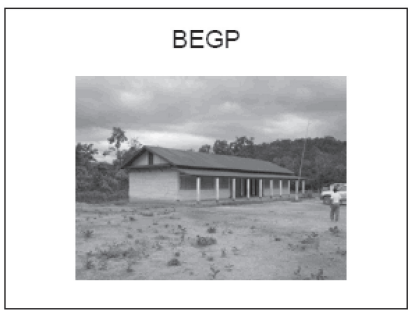
2 - 4	Classrooms for multigrade teaching	49 m²
5	Classrooms for single grade teaching	42 m²
1	Teachers' room and store	25 m²
1	Covered area for villagers' meetings	49 m²
	Water and Sanitation	
	Outdoor facilities	

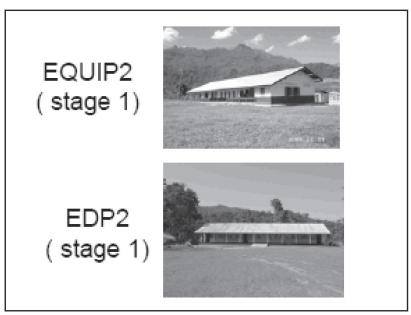
Annex F: Continued...

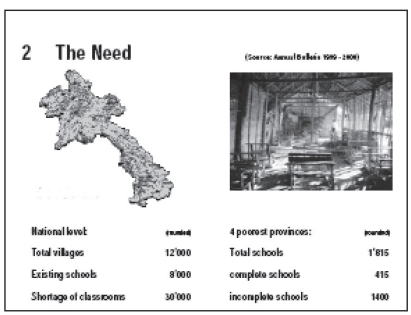










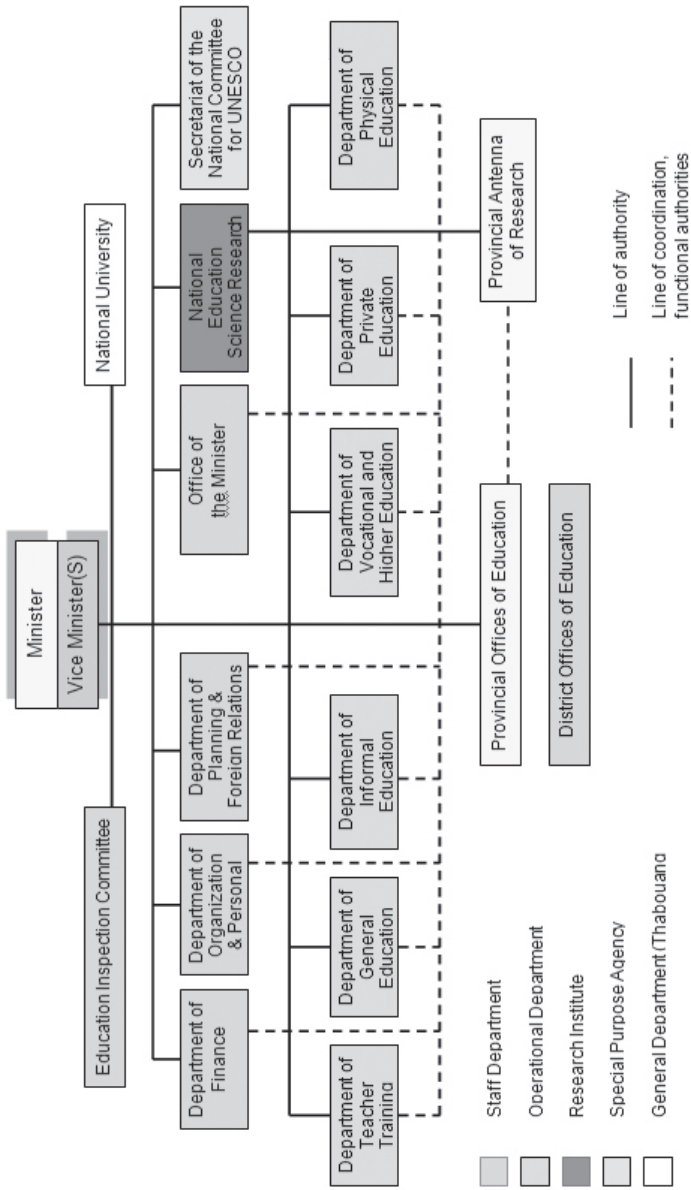


Annex F: Continued...

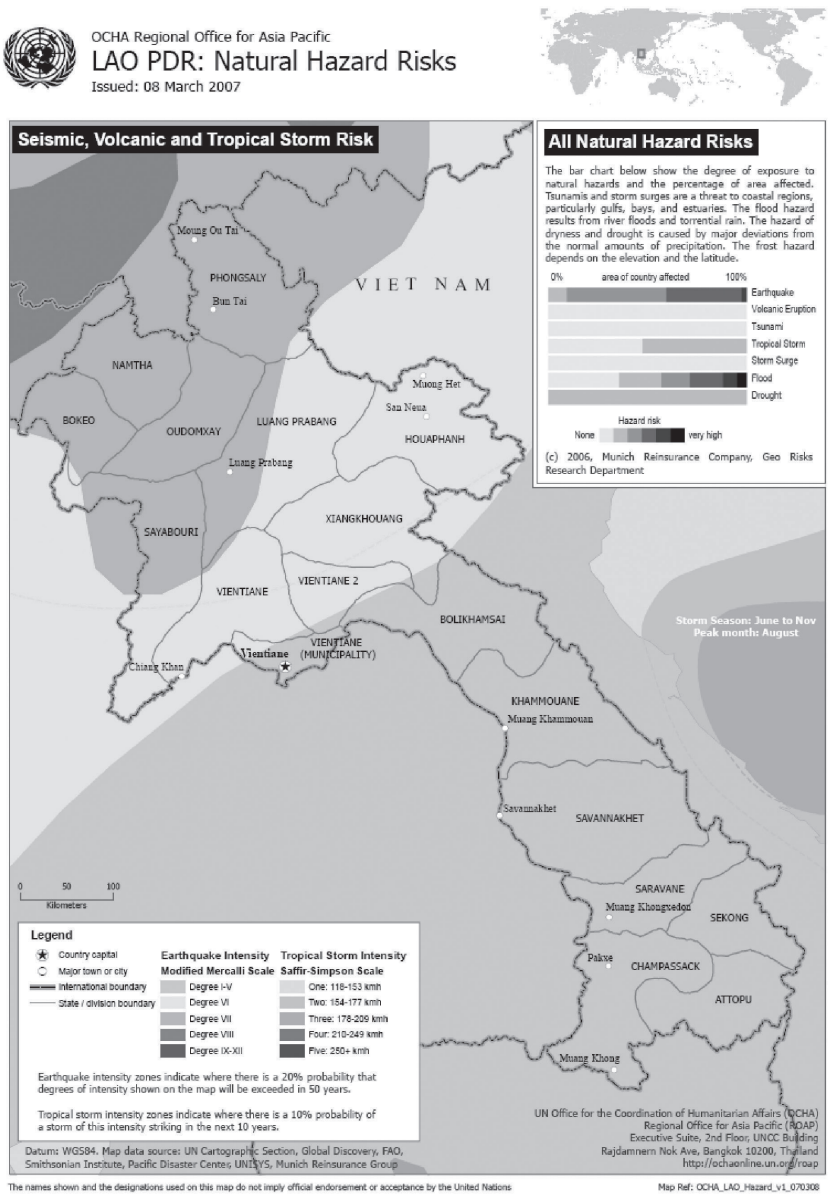
3 Expectation, Plan:

- Establish data base of school building
- Develop a specific school regulation concerning disasters prevention and protection
- Establish national guideline for school design, school standard and disseminate it to provinces and districts.
- Budget allocation for school construction and maintenance
- Develop a Maintenance manual for MOE
- Annual forum for alls donors

Annex G: ORGANIZATION STRUCTURE OF MINISTRY OF EDUCATION



Annex H: Natural Hazard Risks in Lao PDR



Annex I: List of contact persons

No.	Name	Organization	Position	Telephone
1	Mrs. Keokong	Budgeting Division, Department of Finance, MOE	Deputy Director	21-222393
2	Mr. Khunh Xaysansvongxay	Primary Education Division, Department of General Education, MOE	Director	21-250946
3	Mrs. Yangxia Lee	Planning Division, Department of General Education, MOE	Director	21-612052
4	Mrs. Khamkuan Vanh-nasouk	Project (EQIP II)	Deputy Director	21-243316
5	Mr. Daovone Sihuangxai	Project team (EDP II)	Consultant	20-5515976
6	Mr. Thiphamonn Chanthalangsy	Education Construction Service, Department of Finance, MOE	Head	21-213367
7	Mr. Phetsomphu	Education Office of Nongbok District	Head of Office	20-5074536
8	Mr. Ounkham Souksavanh	Save the Children Australia	Deputy Director Programs	21-263744
9	Mr. Ammone	Phiavat secondary school	Director	21-242786
10	Mr. Thongsavanh	Phivat secondary school	Teacher	20-5622488
11	Mr. Thai Phomasoulin	MOE, NDMC member	Coordinator	20-2245512
12	Mr. Sengkham Komphakdy	NDMO, MOLSW	Technical Officer	20-2204093
13	Mr. Soulisack Simmanotay	Propaganda and Fire Prevention Division, Fire Prevention and Protection Department	Deputy Director	20-2211190
14	Mr. Anolack	JICA	Staff	021-241100
15	Miss. Manivone Souliyo	KOICA	Secretary	021-263332
16	Mr. Khamphiew Savatdi	Primary school HuaiHair	Director	20-5759957
17	Mr. Ketsana Viphongsay	Planning Unit, Hatsayfong District Education Office	Head	20-6658737

Annex J: List of Donor Funded Projects in Education Sector in Lao PDR (ongoing and recent past)

No.	Project Name	Project Objective	Funding Agency	Loan/Funds Amount	Type of Fund	Project Duration	Execution Agency

No.	Project Name	Project Objective	Funding Agency	Loan/Funds Amount	Type of Fund	Project Duration	Execution Agency
2	Basic Education Development (Investment) - 32312-02	The objectives of the Project are to supplement the policy initiatives being supported under the Program and to enhance equitable access to, and quality of, lower secondary education through: (i) expansion of lower secondary education opportunities in 20 districts in 6 provinces (Attapeu, Bokeo, Champasack, Khammuane, Luang Namtha, and Savannakhet) to improve access and equity; (ii), the integration of basic education curriculum to account for LS expansion from 3 to 4 grades improved quality and relevance of LSE; and (iii) capacity building at central, provincial and district level in critical areas (EMIS, budgeting and financial management, and planning). http://www.adb.org/Documents/PIDs/32312022.asp	Asian Development Bank	US$12.7 million	Asian Development Fund	20 Dec'06 to 30 Sep'12	MoE
3	Second Education Quality Improvement Project	The overall project objectives are (i) to improve the relevance, quality, and efficiency of primary and secondary education through developing a teacher training support system, enhancing the professional status and career development of teachers; (ii) to expand access to and improve retention in primary school especially of girls and ethnic children in the poor and underserved areas of the country; (iii) to strengthen the institutional capacity of central, provincial and district, and village level administration to plan and manage the decentralized education system.	Asian Development Bank	US$20.0 million	Asian Development Fund	20 Sep'01 - 30 June'08	MoE

No.	Project Name	Project Objective	Funding Agency	Loan/Funds Amount	Type of Fund	Project Duration	Execution Agency
4	Sector-wide Approach in Education Sector Development	The impact of the project will be strengthened capacity for education sector development. The project will accomplish this by assisting Ministry of Education to develop a sector wide framework for education by analyzing enrollment trends and the impact these will have on sector issues. The Project will assess the projected expansion of enrollments at the primary, lower and upper secondary level and the impact this expansion will have on the demand for physical facilities; teachers; textbooks and learning materials; institutional and management capacity at all levels of education management and delivery, and establish priorities to match resource availability.The project will result in a sector wide framework for developing the school sector based on projected enrollment expansion. The framework will cover a period of 10 years with in three phases-with each phase being self sufficient in terms of inputs necessary to support expansion of enrollments anticipated to occur during that phase. The framework will allow: (i) comprehensive projection of education sector resource requirements; (ii) coordinated and complementary external assistance; and (iii) more balanced sector development.	Asian Development Bank	US$500,000	Technical Assistance Special Fund	20 Dec'06 -	MoE

No.	Project Name	Project Objective	Funding Agency	Loan/Funds Amount	Type of Fund	Project Duration	Execution Agency
5	Basic Education (Girls) Project (formerly Women's Education)	Component 1 financed by ADB: Expand access and improve retention by providing primary schools and district education bureaus in 51 districts. Component 2 financed by AusAID: Improve the relevance, quality and efficiency of primary education by providing supplementary materials, recruiting and training ethnic teachers and supporting in-service training to teachers and school principals in multi-grade schools and schools in ethnic areas. Component 3 financed by ADB: Strengthen management system and capacity of government officers from central to local levels.	Asian Development Bank	US$20.0 million	Asian Development Fund	25 Jan'95 - 31 July'07	MoE
6	Basic Education Development	The TA aims to help the Government to prepare the basic education development program (BEDP) so it can start in 2006. BEDP will support the sector reform toward EFA by 2015, which is unlikely to be accomplished in full and on time without the support of a policy-based lending component. Specifically, BEDP will be prepared as sector development program loan (SDP), a combination of an investment (project component) and policy reform (program) component, for implementing relevant portion of the EFA plan and the operational policies for decentralized education management. Preparation of BEDP as an SDP includes (i) sector study; (ii) policy dialogue; (iii)	Asian Development Bank	US$600,000	Japan Special Fund	2004 - 2006, Closed	MoE

No.	Project Name	Project Objective	Funding Agency	Loan/Funds Amount	Type of Fund	Project Duration	Execution Agency
		aid coordination; (iv) program design; and (v) project design. In summary, for a program component, the TA will identify the scope of the sector reform and level of support to the adjustment cost during the reform period from 2006 or 2007 for 3 years. For investment component, the TA will identify the investment needs to strengthen primary and lower secondary education and decentralized education management for implementation over approximately 5 years. At the same time the TA will identify financing partners for each component. http://www.adb.org/Documents/PIDs/32312012.asp					
7	Women's Education	The objective of the TA is to prepare adetailed proposal for the Women's Education Project for consideration by the Government and the Bank.	Asian Development Bank	US$380,000	Japan Special Fund	Start 1995-96, Closed	MoE

No.	Project Name	Project Objective	Funding Agency	Loan/Funds Amount	Type of Fund	Project Duration	Execution Agency
8	Second Eduction Quality Improvement Project	The Technical Assistance (TA) will prepare analytical background papers and a proposal for a second education quality improvement project for consideration by the Government and ADB. The TA will focus on (i) promoting equitable access to complete primary education for students in underserved areas, particularly for girls and ethnic minority groups; (ii) improving the quality of primary and secondoary education through support to teacher development and teacher training systems; (iii) strengthening MOE's c apacity to manage, plan, and monitor teacher development and teacher training systems; and (iv) helping to formulate and implement financing policies and targets to ensure satisfactory education sector development. The Project will contribute to poverty reduction by strengthening quality and equity of basic education, thus providing the poor with the opportunity to improve their economic status and to increase their participation both in the workforce and in society at large.	Asian Development Bank	US$600,000	Japan Special Fund	Start 1999, Closed	MoE

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The **European Commission Humanitarian Aid department** (ECHO) was set up in 1992 to provide rapid and effective support to the victims of crises outside the European Union. Recognizing the importance of pre-emptive measures, ECHO launched its disaster preparedness programme, DIPECHO, in 1996. ECHO's disaster preparedness programme (DIPECHO) targets vulnerable communities living in the main disaster-prone regions of the world and aims to reduce the vulnerability of the population. Between 1996 and 2004, DIPECHO provided more than €78 million for 319 projects worldwide. These demonstrate that simple and inexpensive preparatory measures, particularly those implemented by communities themselves, are extremely effective in limiting damage and saving lives when disaster strikes. DIPECHO funds support training, capacity-building, awareness-raising and early-warning projects as well the organisation of relief services. The programme has shown that even simple precautions can help save lives and property when disaster strikes. The funds are directed through ECHO and implemented by aid agencies working in the regions concerned. *For more details, please visit http://ec.europa.eu/echo/index_en.htm.*

The **United Nations Development Programme** (UNDP) UNDP is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. It is on the ground in 166 countries, working with them on their own solutions to global and national development challenges. Its current priority is to help all countries achieve the Millenium Development Goals (MDGs) by 2015. *For more information, please visit www.undp.org.*

The **Asian Disaster Preparedness Center** (ADPC), established in 1986 is a regional, inter-governmental, non-profit organization and resource center based in Bangkok, Thailand. ADPC is mandated to promote safer communities and sustainable development through the reduction of the impact of disasters in response to the needs of countries and communities in Asia and the Pacific by raising awareness, helping to establish and strengthen sustainable institutional mechanisms, enhancing knowledge and skills, and facilitating the exchange of information, experience and expertise. *For more details, please visit http://www.adpc.net.*