



Projects library of the specialized group for construction

**SCHOOLS**

<b>Project</b>	<b>Postconflict School Reconstruction</b>		
<b>Project name</b>	<b>Mugavil GTMS Primary School, Pachchilaipallai, Kilinochchi District, Sri Lanka</b>		
<b>Country</b>	Sri Lanka		
<b>Town/Region</b>	Mugavil DS Div.Pachchilaipallai District Kilinochchi		
<b>Project type</b>	Rehabilitation		
<b>Typology</b>	2 individual buildings with classrooms Primary school, from Grade 1-8		
<b>Approach</b>	Private sector contracted construction		
<b>Beneficiaries</b>	Affected people in response to the conflict (IDP's, Refugees, Returnees)		
<b>Climate</b>	Tropical monsoonal with seasonal rhythm of rainfall		
<b>Special constraint</b>	Political situation (Checkpoints, permits); Material and tools availability; Climate (monsoon)		
<b>Start / End of project</b>	2010 / 2011		
<b>Country GNP</b>	1'296 USD per capita (Dec 2010)		
<b>Pictures</b>	SDC Jaffna, Maps UN OCHA		

<b>Partners</b>			
<b>Organization (Donor)</b>	SDC-HA		
<b>IO/NGO partners</b>	-		
<b>Government partners</b>	PTF	Presidential Task Force Ministry of Education Northeast Province Provincial Education Director Zonal Education Director School Works Branch, Killinochchi	

<b>Reference data</b>			
GIS data (WGS 84)	N 19.02 E 2.71	Altitude 5 msl	
Land plot	66'340 m <sup>2</sup>	Number of blocks	2 (classroom blocks)
Classes/rooms per blocks	4 per block	Number of units	2 (classroom unit, sanitary unit)
Beneficiary /classroom	11.5	Total beneficiaries	25 students
Sanitary facilities (rehabilitated by UNICEF)	2 latrines 3 urinals boys 3 urinals girls	Other infrastructure	Principals's office, well, Entrance gate, sanitary block
Ground floor (covered area, only the two classroom buildings)	171 m <sup>2</sup>	Floor levels	1
Total surface (only the two classroom buildings)	171 m <sup>2</sup>	Surface / beneficiary	6.84m <sup>2</sup> / beneficiary
Volume (outside dim., only the two classroom buildings)	625 m <sup>3</sup>	Volume / beneficiary	25 m <sup>3</sup> / beneficiary
Heated surface	No heating	Electrification	No
Cost per m <sup>2</sup>	93.47 USD	cost/beneficiary	639.41 USD/beneficiary
Total cost (1US\$=114 LKR) (07.02.2012)	15'985.31 USD		



## Humanitarian Aid construction group

Approach to results	
<b>Initial Situation</b>	<p>Pachchilaipallai DS Division is situated north of the Elephant Pass on Jaffna Peninsula and today placed under the jurisdiction of Kilinochchi District. Due to the strategic location to the Elephant Pass, the population has been displaced three times since 1987 due to military activities. In addition, some villages were affected to natural disasters like flooding and drought. The last displacement took place 2008. 8 out of the 18 Divisions opened in September 2010 whereas the remaining 6 Divisions remained still heavily mined and were not meant to be opened before mid of 2011.</p> <p>SDC was planning in a first attempt to do roofing on three selected schools in the region to assure students being able to start immediately with their studies after returning from the camps, without being affected from the upcoming monsoon season. Meanwhile ENREP (Emergency Northern Recovery Project) was carrying out emergency roofing on most of the schools in the Palai area, Mugavil school was not covered by ENREP program.</p> <p>In a first general layout plan SDC planned to build a new building with multipurpose hall with stage and other requirements such as computer rooms, a kitchen, a new sanitary block and a kinder garden.</p> <p>The further from SDC planned new buildings were not approved by the PTF because at this time, PTF concentrated on Emergency projects.</p> <p>Therefore SDC concentrated on the rehabilitation of the two existing School buildings.</p> <p>Mugavil is located in a low populated jungle area. The population of Mugavil is with 155 Households/455 Individuals relatively small, but the school covers a radius of 7 kilometres, touching 5 more GS Divisions. As it is the only school in the region, the facilities are important for families living in the remote areas.</p> <p>The school (Type III = grade 1 to 8) was founded by missionaries some time ago.</p> <p>All buildings have been looted in the past, latrines were partly destroyed. The two main buildings have been erected in 1950 and 1990. Some rehabilitation had been done in 2003, but had been destroyed during the conflict.</p>
<b>Project concept</b>	Reconstruction
<b>Project procedure</b>	<p>The proposed project for reconstruction was assessed and identified based on the degree of damage.</p> <p>Following a rather bureaucratic identification, selection and approval procedure that involves the local Government the required technical data is surveyed and the final design and tender documents are prepared. Based on exact bills of quantities and through public bidding procedures, the lump sum contracts are given to the private sector construction contractors. Through a set of specific criteria in terms of price, quality and performance, capable contractors are identified and the contracts awarded. Contract documents are derived and adapted from international FIDIC standards.</p> <p>The rehabilitation of Mugavil school with its 2 classrooms was completed within almost 4 months depending on the contractor's performance, site access and weather conditions. Site supervision was carried out directly by our project site engineer. The finishing standards are of good quality.</p> <p>Legal handing over certificates, as built drawings and maintenance plans were provided upon project completion.</p>
<b>Structural concept and finishing design</b>	<p>After demolition and chipping works in the existing buildings, new floor in concrete with embedded polythene sheets was done. Finishing with neat red cement floating. Walls and pillars in block masonry. New roof with steel trusses, treated with anticorrosive paint were fixed in position in order to receive calicut pattern tile roofing, laid on purlins and rafters. Black board on two walls, , incl storage provided.</p>
<b>Issues/Constraints</b>	<p>Complex bureaucratic approval procedure to obtain all documents to start construction.</p> <p>Marginal community involvement.</p> <p>Weather conditions - hot and wet monsoon season shortens the construction.</p>
<b>Lessons learned</b>	<p>Using the national capacity and know-how in the design and carry out direct supervision by project staff and not the consultant was useful.</p> <p>Consistent improvements on the structure and the finishing works of the buildings must be based on the experiences made.</p> <p>High quality of work and timely completion resulted in a good reputation and image of SDC-HA.</p>



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<b>Results by November 2011</b>	25 students are currently attempting the school. As soon more displaced families are expected to return to their villages, the school expects an increase of students. Eight teachers are employed at the school  Actually a kitchen is in preparation to be constructed.
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Legal framework	
<b>Political attachment</b>	Through the bilateral agreement between SDC and the Government of Sri Lanka followed by an MoU between SDC-HA and PTF
<b>Type of ownership</b>	District Education Department on behalf of Ministry of Education Northeast Province

### Relevant building construction costs (excl. planning, design and supervision)

Construction		
		<b>Building 1</b>
<b>Prepairing</b>	Chipping floor rendering and Debris cleared	13'848.45
<b>Structure</b>	Metal roof	149'600.00
	Calicut pattern tile roofing	603'248.00
<b>Finishing</b>	Floor rendering	50'957.50
<b>Subtotal</b>	<b>In LKR</b>	<b>817'653.95</b>
		<b>Building 2</b>
<b>Prepairing</b>	Chipping floor rendering and Debris cleared	6'491.10
	Floor concrete	6'603.30
<b>Structure</b>	Metal roof	4'800.00
	Calicut pattern tile roofing	367'632.00
	Cement band	12'660.00
<b>Finishing</b>	Floor rendering	28'687.50
	Cement plastering	990.00
<b>Subtotal</b>	<b>In LKR</b>	<b>427'863.90</b>
		<b>Additional work</b>
<b>Painting</b>	Internal painting	65'181.80
	External painting	51'241.45
<b>Carpentry</b>	Doors	151'232.00
	Shuttering	1'628.40
<b>Blacksmith</b>	Front gate	47'567.00
	Weld mesh	132'779.25
	Flat Ceiling	22'812.60
	Valance and Barge bording	367'632.00
<b>Plumber</b>	Tube septic tank	12'660.00
	Y10 in beams, lintels	28'687.50
	Rainwater gutter	990.00
	Down pipes	7'102.00
	Block work	15'515.36
	Provision timber valance and barge bord	5'130.76
	Name bord	8'200.00
<b>Others</b>	Loading & unloading metal	3'597.60
<b>Subtotal</b>	<b>In LKR</b>	<b>577'753.30</b>
<b>Total</b>	<b>In LKR</b>	<b>1'823'271.15</b>
	<b>In USD</b>	<b>15'985.31</b>



**Urban planning**

Distance to:	villages	0-7 km
	Public transport	No public transport available
	A9 Main road	3 km

**For further information**

Involved SDC-HA construction group consultants	Martin Studer
Other involved SDC-HA consultants	Srikantha Rajaratnam
Author / Contact:	Martin Studer martin.studer@sdc.net, Srikantha Rajaratnam srikantha.rajaratnam@sdc.net
Recommended Institutions:	N / A
Recommended partners:	N / A
Recommended books/reports:	Further information (drawings, contracts...) on construction group website or email above available
Relevant other projects (links):	Project Document of the Cash for School Program, Sri Lanka, containing the reconstruction of Schools. Website: www.cfhsrilanka.com

Relevant illustration



1L	The two Units. Unit A with Principal's room and class room. Unit B with classroom.
2R	Unit A, Classroom

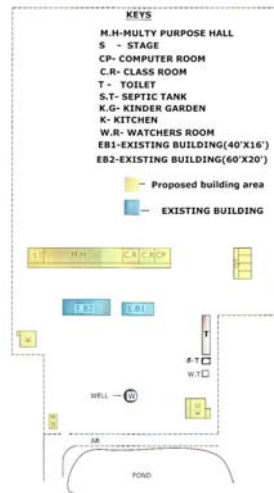


3L	Unit B with Principal's room and class room
4R	Unit B, Classroom



5L	Well
6R	Entrance gate

Relevant Drawings



7L	General Layout
<p>It was planned to construct a new building with multipurpose hall and other classroom behind the existing buildings. PTF later decided to concentrate only on emergency Rehabilitation. SDC financed and implemented therefore the rehabilitation of the two existing school buildings.</p>	