


Project		
Community Water, Sanitation and Hygiene Facilities and Associated Hygiene Promotion		
Project name		SRC/SLA WASH Project, Padang, West Sumatra
Country	Indonesia	
Region/town	Nagari Sicincin, Padang Pariaman, West Sumatra	
GIS data (WGS 84)	S 00° 35.098', E100° 16.878'	
Project type	New construction of community water, sanitation and hygiene facilities	
Typology	Community water and sanitation facilities	
Approach	Contracted construction	
Beneficiaries	Local population, affected by earthquake	
Climate	Hot, humid	
Special constraint	Earthquake	
start / end of project	2010 / 2011	
Country GNP	855 billion (PPP) USD (2009)	

Partners

Organization (donor)	Swiss Red Cross, Swiss Solidarity Chain
IO/NGO partners	Swiss Labour Assistance
GO partners	Provincial Government of West Sumatra

Context to project

Initial Situation	On 30 September 2009 a magnitude 7.6 earthquake occurred, with its epicenter 45km north-west of Padang, West Sumatra. An estimated 1,117 people died and a further 2,902 were injured, according to the National Disaster Management Agency (BNPB). 250,000 families (1,250,000 people) are estimated to have been affected through the total or partial loss of their homes and livelihoods.
Goals, Beneficiaries	Overall goal: "Improvement of living conditions and reduction of vulnerability of the communities affected by the September 30 2009 earthquake in Nagari Sicincin." Beneficiaries: 4,539 men, women and children in the four Korongs of Nagari Sicincin
Implementations/Results	39 community water and sanitation facilities were built in 39 communities in Nagari Sicincin. Construction was done by contractors. Each building has toilets (22 of them have four toilets and 17 have two), washing (bathing) facilities, clothes washing areas, running water, water storage reservoirs, shallow wells, electric pumps, dual-chamber septic tanks and constructed wetlands for secondary treatment of wastewater. A program of hygiene promotion was also implemented, and WASH committees were established in each community and trained in operation and maintenance of the new facilities.

Reference data (comparative)

Land plot	n/a	Number of blocks	
Classes/rooms per blocks beneficiary /unit	n/a	Number of units	39
latrines	113	Total beneficiaries	4,539
	122	Other infrastructure	(Wells, reservoirs, septic tanks, reinforced concrete wetlands) x 39
Ground floor (incl. walls)	54 m2 (4-Door)	Floor (incl. walls)	n/a
	46 m2 (2-Door)		
Total surface	121 m2 (4-Door)	Surface / beneficiary	n/a
	103 m2 (2-Door)		
Volume (outside dim.)	125 m3 (4-Door)	Volume / beneficiary	n/a
	97 m3 (2-Door)		
Heated surface	n/a	Heated surface/ beneficiary	n/a
cost of complex	17,000 USD	cost/beneficiary	146 USD/beneficiary
Total cost	663,000 USD	Self help (beneficiaries)	0 USD/beneficiary

Approach to results

Initial Situation

Access to adequate sanitation was very limited for the community people. This was partly a result of the earthquake (damaged buildings, etc.) but mainly it was the pre-existing situation. Open defecation was widespread. Washing/bathing was done in traditional outside areas in streams or springs. Privacy for bathing was minimal.

Approach

- Assessment/proposal prepared by external consultant
- Suitable locations for new facilities identified and agreed with communities. All locations were mapped
- Written consent obtained from landowners
- Signatures obtained from all beneficiary families, indicating their willingness to contribute to the operation and maintenance of the facilities
- WASH committees established in all 40 communities
- Contractors selected by competitive tendering
- Construction by contractors
- Operation and maintenance training for WASH committees
- Hygiene promotion in communities and schools
- Handover of completed facilities to communities

Problems/Constraints

Inadequacies in the initial construction designs (included in the proposal submitted to the donor) had to be rectified, resulting in a major cost increase for construction. Ultimately not accepted by donor

Lack of availability of suitable land. Only 40 suitable locations could be identified, instead of the planned 50

Internal disagreement in some communities. This led to the cancellation of one of the locations and the reduction from 40 new buildings to 39

High expectation of personal gain among some community members

Quality of the groundwater in some locations was inadequate for the provision of drinking water (as had been planned in the proposal)

Lessons learned

The assessment and the proposal should be separate, distinct, processes and documents

The level of precision in the assessment/proposal should reflect the actual knowledge available at the time of writing it. Detailed construction designs and bills of quantities produced without ever seeing any of the locations for construction or assessing the actual feasibility of an arbitrarily chosen number of locations (50) are likely to require significant revision.

Great care should be taken before deciding that community owned and operated shallow wells will deliver, and continue to deliver, water of a high enough quality to be safe for drinking.

Evaluation

An evaluation of the project during the late stages of its implementation was carried out by an external consultant – Rolf Grossenbacher – in January 2011

Legal framework

Political attachment

Nagari Sicincin, West Sumatra Province

Type of ownership

All the facilities were built either on privately-owned land or on land owned by community mosques. In all cases the landowner signed an agreement indicating that the new facilities were for use of the entire community (as identified on an attached list). These agreements were also signed in endorsement by all the relevant local authorities, both traditional and formal. Handover certificates for all the new facilities were signed by the 'Wali Nagari', a local government authority figure, to formally accept ownership on behalf of the communities.

Construction information

cost repartition

Construction

Structure

Foundations	Concrete beams below all walls
Walls or columns	Main columns: 200mm x 200mm reinforced concrete Practical columns: 150mm x 150mm reinforced concrete Reservoir walls: 150mm reinforced concrete Other walls: plastered brick masonry
Facade	Brick walls, plastered and painted
Roof	Light steel roof trusses fixed to ring beam with 10mm anchor bolts, galvanized iron roof sheeting
Earthquake protection	Reinforced concrete columns, beams and reservoir walls Ground beams anchored to foundations Confined masonry walls anchored to columns

materials

Floor surface	Concrete slab
Walls:	Plastered masonry (and reinforced concrete reservoir walls)
Doors	Wooden class 2 door frames and panels, 200cm x 90cm. Zinc plate cover for inside surface, complete with three hinges and door handle with lock
Windows	n/a
Ceiling	Plywood
Thermo insulation	n/a
Ceiling	Plywood



watsan	water	Shallow wells with electric pump to deliver water to reservoir. Yield sufficient for 100 litres/person/day minimum. Automatic adjustable level control switch. 1 x ¾" water tap in each toilet cubicle and 6 in washing areas.	
	Toilets	Pour flush squat toilet bowls with water seal.	
	Waste water	Outlet floor drains in all toilet cubicles and washing areas. Dual chamber septic tanks. Constructed wetlands. Infiltration areas for wetland outlets where required	
equipment	Rain water	n/a	
	heating system	n/a	
	Electricity connection	Yes	
	Telephone connection	n/a	
	Cooking facilities	n/a	
Total			100%

Urban planning

Distance to :	Villages	Varies
	Public transport	Varies

For further information

Involved SHA construction group consultants	
Other involved SHA consultants	Helmut Jung, Hydrophil Consulting. (Responsible for project assessment/proposal) helmut.jung@boku.ac.at Rolf Grossenbacher. (Evaluation during project implementation) Rolf.Grossenbacher@gmx.ch
Author / Contact:	Aengus Ryan, WASH project coordinator. aengusryan1@gmail.com
Recommended Institutions:	
Recommended partners:	Swiss Labour Assistance
Recommended books/reports:	
Relevant other projects (links):	



Relevant illustration

