



Himalayan Project

A Nepali-Danish NGO dealing with Development Aid in Nepal

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Project Description

July 2014

Construction Project of Chhiringkharka Primary School

Shri Mahadev Primary School

Chhiringkharka, Bakanje VDC, Upper Solu, Nepal

by Kurt Lomborg, Skivehus Rotary Klub and Himalayan Project

This **Project Description** has in the Proposal Stage been presented to Contractor Tshewang Sherpa and Headmaster Ngima Chhewang Sherpa in Chhiringkharka and he has gone through the description and the budget together with Manager of Himalayan Project Nepal (HIPRON) Namgyal Jangbu Sherpa. Contractor agrees in all the description and budget, and is ready to complete this project as described and to the described budget.

Chhiringkharka is a very remote place in Upper Solu. It is situated on the slopes of Konyaklemo Danda in a height of 2400-2700 meter. Probably ever since the Sherpa people came down to Solu from Khumbu and Eastern Tibet some 300 years ago, they have grazed their yaks with the fertile pastures (kharka) of this ridge. Dawa Lama is now an elderly noble man and the descendent in third generation of Ngatar Sherpa of Sagar-Bakanje, who was the head of the first family who started living here permanently all the year. Today 67 households are inhabited by roughly 370



persons. The settlement is divided into four villages with Chhiringkharka in the center, and the smaller village Lole to the east, with a more scattered habitation and predominantly inhabited by Sherpa, and to the northwest Patale, mainly inhabited by Thami, and below the scattered village of Marbu with Tamang and Thami.

Local conditions: The slopes here are situated southwards towards the sun, and so high that the cooling valley winds with foggy climate are far below. On the other hand the surrounding high mountains are to some extent attracting the rain clouds during the monsoon period, so that the slopes are receiving sufficient precipitation. The result is fertile slopes, where the varieties of plants and their growth is far better than the high altitude should predict. The crops are dominated by potatoes and barley, but also wheat is harvested, but the most yielding crop is grass for cows. The people of Chhiringkharka are strong and solid cattle farmers, who are famous for their breeding and cross breeding of yak and cow. They produce high quality of butter and cheese products, but as Buddhists they rarely produce meat for food as they, according to their religion, don't kill living creatures. In 2010 Himalayan Project constructed "Chhiringkharka Community Clinic" which is a full equipped Health Clinic and Emergency Station. It was a sincere wish of the population in this isolated place that they could have the service available, when they fell sick.

Isolated place: The settlement is situated in a really isolated corner of Solu. It is the last settlement uphill. Only high pastures (kharka) and High Himalayas are found that way. To the east the landscape soon changes into steep, rugged mountainside. To the west it goes steep down to Likhu Khola at 1.750 meter (meaning 7-900 meters steep down and 3-400 meters up again) with connection to the village of Gumdel where trucks nowadays can deliver building materials, and where students of Patale enroll for secondary school. To the south several trails lead down to Bakanje Khola (Honde Khola) and all finally leading up to Sagar-Bakanje Village at the same altitude as Chhiringkharka. Of the two trails mostly in use to reach Sagar-Bakanje, the eastern trail is not so steep and meets the river at 2.100 meters, meaning 350 meters down and up again – long, but not so steep. It is considerably longer than the more direct trail, which is steeper and meets the river at 2.000 meters, meaning 4-700 meters relatively steep down and not so steep up. For a tourist it will take 4-6 hours between Chhiringkharka and Sagar-Bakanje, but for students who go to the secondary school in Sagar-Bakanje it takes 2 hours each way. For a strong, grown-up person it sometimes takes only 5 quarters. The people of Chhiringkharka are so used to this





hardship, that they are among those inhabitants of Solu, whom you will find anywhere at any time being ignorant of steepness and length. But on the other hand it is very rare to find other people of Solu, who have ever been in Chhiringkharka, even having relatives there, because they find the trails much too hard. When I visited the village on 3th November 2007, they told me that I was the second western visitor after Sir Edmund Hillary 22 years ago, though they knew that an unknown tourist went through at nighttime in 1998, and another went through Patale in 2001. I could tell them, that both strangers were me.

Chhiringkharka Primary School: Due to the size and remoteness of the village it did never draw the attention of the educational authorities. But as the parents couldn't send students below the age of 11-12 to the school in Sagar-Bakanje, they on their own financed a small school building in 1978 and paid a teacher's salary for four years before the school was approved by the authorities, starting paying the salaries. In 1988 the buildings was damaged by a severe earthquake leaving only one room to be in use. Three years later the authorities reconstructed the crude building with three rooms, which were later divided into 6 very small and congested rooms.

Teachers: In 1996 two teachers were employed by District Educational Office (DEO). It was the Headmaster Ngima Chhewang Sherpa, who himself having 10th class education and is educating in mathematics and science. And it was Miss Dolma Sherpa, also having 10th class and educating in Nepali. In 2005 Miss Kumari Raweit were employed by DEO, having 12th class with special area in education. She is educating Nepali and social science. Since 2012 the VDC (municipality) have employed Miss Som Maya Tamang who have 12th class and studying Bachelor of Education. All four teachers are considered as dedicated teachers who really wish to do good for their students. The educational level is somehow a little lacking, but they follow the teacher trainings which are available from time to time. They have a good mutual understanding and are supporting each other in their daily tasks.

Students: There are 55 students from class 1 to class 5. The attendance of students living nearby is high, while it decreases with the distance. Around 15% of children never admit at the school and the daily attendance among the rest is 65-75%. The discipline among the students is very good, mainly because the whole society has a good cooperation. The homework is done satisfactory by

most students even though they are expected to take a substantial part of the labor in their homes. The school wishes to upgrade to lower secondary level by adding class 6-7-8, which again will add around 15 students to reach the number of 70. A huge construction work is under preparation down at the Likhu Khola where a 70 MegaWatt power plant is under survey. Many workers are expected to live scattered in the area for many years and a new school here will definitely attract several families adding further 15 students.

Parents: Only around 20% are literate while 60% even haven't attended class one. But most parents understand the value of education and support the school by sending their children regularly. But most parents are poor, too poor to pay for educational materials and school uniform to their children. And those who can pay don't feel the social responsibility to support economically. Those parents, who can afford it, send their children to boarding school. Six parents are members of the School Management Committee, which have meetings every second month, and 12 parents are members of Parents Teachers Association which hold meeting once a year.

The school: The DEO is not paying much attention to the school. No DEO Staff ever visits the school. It is too remote. But anyhow the three permanent teachers are recognized and paid by DEO. Beside of this, only very basic support is given to the school from DEO. Because of those poor conditions the school regularly applies Himalayan Project for educational materials. The school building is very poor with narrow class rooms and office, and the school toilet is out of function, and there is no water supply at the school. It can't give the feeling of importance neither among students, nor teachers or parents. And it can't convince anyone that the school should be upgraded for Lower Secondary level. Therefore Himalayan Project some years ago has promised to reconstruct the school, which we are now initiating. Originally we planned to reconstruct on the same spot, but the ground will be too congested, forcing to build in two stores. But earthquakes have before shown their power in the village, so finally it was decided to build in a relatively flat land behind the existing school. That causes the school to be able to run normally during the construction period and furthermore leaving the old building for other community purposes like meeting hall or workshops.

Contractor: We have experienced that non-local contractors are very well skilled but too regularly absent from the site, leaving too much construction work to more or less skilled workers and their variable quality. We therefore announced for a local contractor and a few were interested, but finally only Mr. Tshewang Sherpa wanted the task. We only have the one concern with him, that he is quite inexperienced, but on the other hand he is very ambitious and sincere. It is difficult to find skilled workers locally. Many construction works are ongoing in the main tourist areas and around the forthcoming road constructions. This force up the price of a Man Day (MD). In 2010 when we constructed the health post a well skilled carpenter was paid 350 Rs while simple

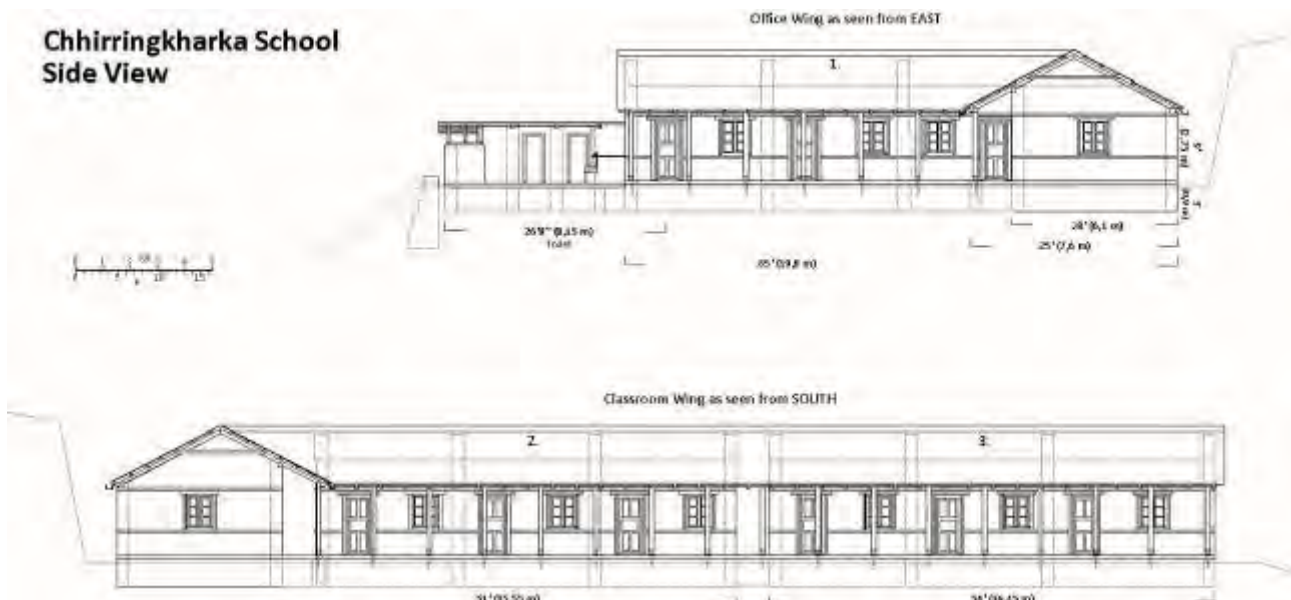


carpenters were paid 250-300 Rs, and unskilled laborers 200 Rs. Now the price of skilled carpenter is 750 Rs and unskilled laborer is 600 Rs. This is also reflecting on stone which was 1.000 Rs/pile but now 4.200 Rs/pile. And wood for wall ceilings were 15 Rs/hat, but now 52 Rs/hat. In the same period both the inflation rate and currency conversion has only risen with 40%. But more or less this price boom is the same in all the area. And actually the workers' salaries before probably were too low due to less economic activities.

Community commitment: The owner of the land, Mr Tshewang Sherpa, agreed that he will donate the land for the school on the condition that he will be the contractor. The villagers will give volunteer labor levelling the land according to our measures and demands. We expect that Headmaster Ngima Chhewang Sherpa will oversee the progress of the project on daily basis on behalf of Himalayan Project. It is very difficult to find skilled craftsmen at present because many construction processes are ongoing in other places far from here. But we expect the Contractor to employ people with the right skills and working capacity. Unskilled laborers will be available in the vicinity. From the budget it can be seen that the local society will be benefitted with salaries for 4 million rupees, which is a very considerable amount in this poor society.

Himalayan Project (HP): is a Danish NGO working with development aid in Upper Solu and especially concentrating its effort in Bakanje VDC where this project is situated. The basic role of HP is funding and project formulation. For the last 15 years HP Manager Kurt Lomborg visits the project area once or twice a year to supervise and monitor the projects ongoing. All staff of HP is working without any salary or other compensations, except for the managers travel costs, which is paid by Tips & Lotto-midler.

Himalayan Project Nepal (HIPRON) is a Nepali NGO with base in Kathmandu having same objectives as HP. The role of HIPRON in the context of this project is monitoring, supervision, evaluating and reporting the project activities. HIPRON Manager Namgyal Jangbu Sherpa is visiting the VDC every 3 months on regular basis, and can do extra field visits when needed. HP and HIPRON have been dealing with construction activities in Upper Solu for 15 years. This project is number 10 in a row of school constructions and reconstructions among which four is in Bakanje. Furthermore we constructed the Chhiringkharka Community Clinic in 2010 and have been involved with many other smaller scale construction processes, like flour mills, sanitary complexes and homes. So our local knowledge and anchorage are extensive, and specifically Namgyal have good knowledge about constructions and he is met with high respect in the area.



Project Overview

Project quality demand: With HIPRON quarterly Runner Service we have always been strictly monitoring our projects, and in several cases we have ordered work to be redone when quality didn't meet our demand. In the case of this project we will even do more strictly and more regularly and detailed monitoring as the construction prices are quite high. Contractor has to accept regularly to stop the construction until the work is approved by HIPRON. We are forced to accept high salaries to workers, but on the other hand we will be demanding a similar high quality of the work done. We have to accept high price on timber and wood, but then we will also demand the wood to be stored and dried in a rain protected place. We have to accept a high price of cut stone, but then we will not accept poor bricklaying giving opportunity to deliver less stone than paid for. Especially on RCC we will monitor very strictly to assure that right dimensions and right mix proportion are observed. Chhiringkharka School has earlier experienced damage by earthquake. Therefore it is decided to build earthquake resistant, which shall be observed strictly.

Contractor Stock Record: We will demand that contractor is keeping a strict record on daily basis with incoming and outgoing materials and that he is storing the materials in the right way. This record and the store shall be approved at each visit by HIPRON. Surplus of materials belongs to Himalayan Project. Damaged materials, like hardened cement, shall be replaced by contractor or paid back to HP.

Phasewise Project Monitoring and Approval: To secure a complete project monitoring, the project shall be divided into phases, where next phase can't be initiated unless the previous phase is approved by HIPRON, as well as the stock record.

Headmaster Ngima Chhewang Sherpa: will be employed by HIPRON as the Project Overseer. He will on daily basis observe the progress and to some extent advise the contractor. Before each phase, Mr. Ngima will be informed by Namgyal about the expectations of HP and HIPRON and he will be entitled, on behalf of HIPRON, to stop the work if he finds that it is developing in a wrong direction. He shall also keep an **Overseer Stock Record** with purchased and utilized materials, local as well as imported. And on daily basis he shall oversee that the stock is kept in a safe and proper way to prevent damages.

The Phase Sequence:

Phase 1: Legal Ownership of the land in the name of Chhiringkharka School. *Can be approved by Headmaster Ngima Chhewang Sherpa.*

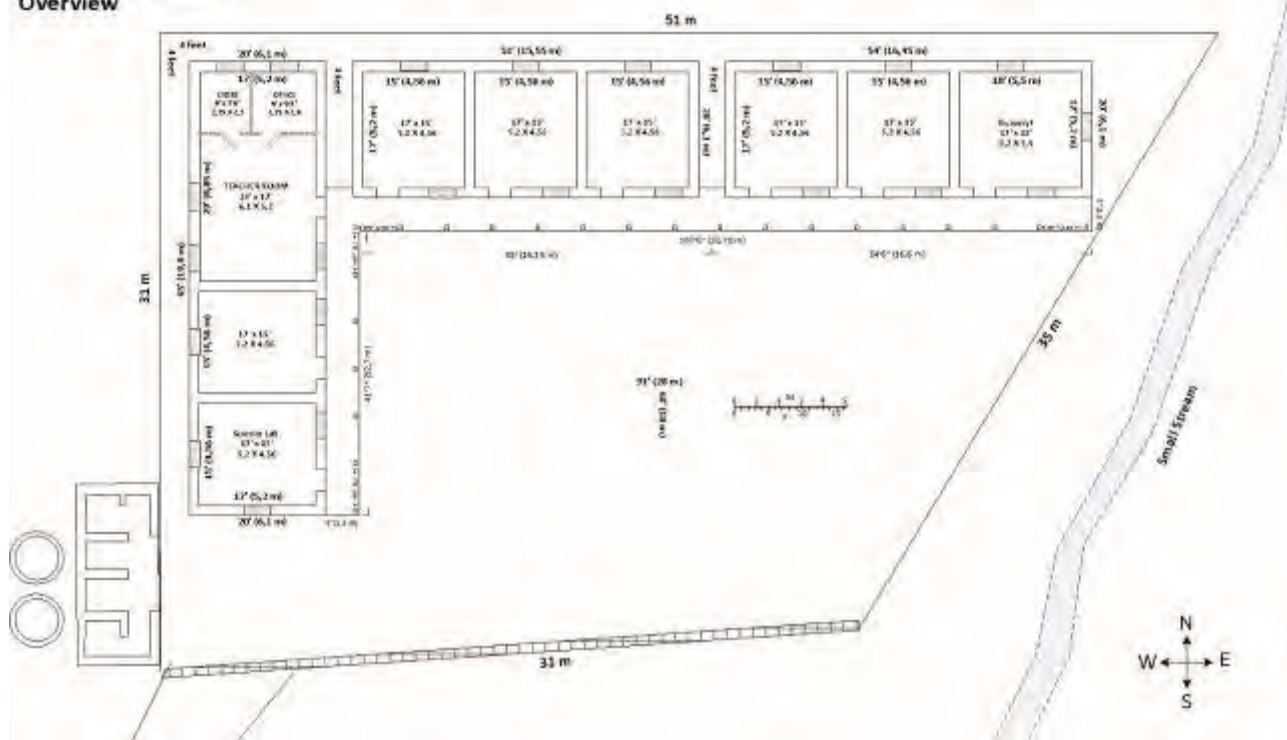
Phase 2: Preparing the land of construction site as described below, and set marks on place where buildings are going to be built. *Shall be approved by Namgyal.*

Phase 3: Digging out for fundament where the markers are approved. Building fundamentals and septic tanks up to 15 cm above ground level for all buildings at the same time. *Shall be approved by Namgyal before soil is refilled.*

Phase 4: Door and window frames are built. Cement workers and bricklayers are alternating producing the 3 RCC bands and the stone walls of all 3 buildings, toilet and septic tanks. Plumbing in toilet will also be ongoing. *Ngima Chhewang shall oversee scrupulously and report almost daily for Namgyal. Namgyal can choose approving this phase by what is obvious and by Ngima's reporting. If he or Ngima becomes in doubt then the monitoring can even be before the end of the phase, and it can even be with beforehand approval on basis of the work done.*

Phase 5: Veranda fundament and floor as well as floor of rooms can be done at the same time as roof construction is ongoing on all 3 buildings and toilet, as well as septic tank lids are produced. *Ngima Chhewang will oversee the work and especially he have to assure that floor soling and cementing are keeping the right dimensions and composition. Namgyal shall approve by end of this phase on basis on own experiences and Ngima's reporting. In case of doubt or pressure of time Namgyal can give beforehand approval on basis of work done.*

Chhiringkharka School Overview

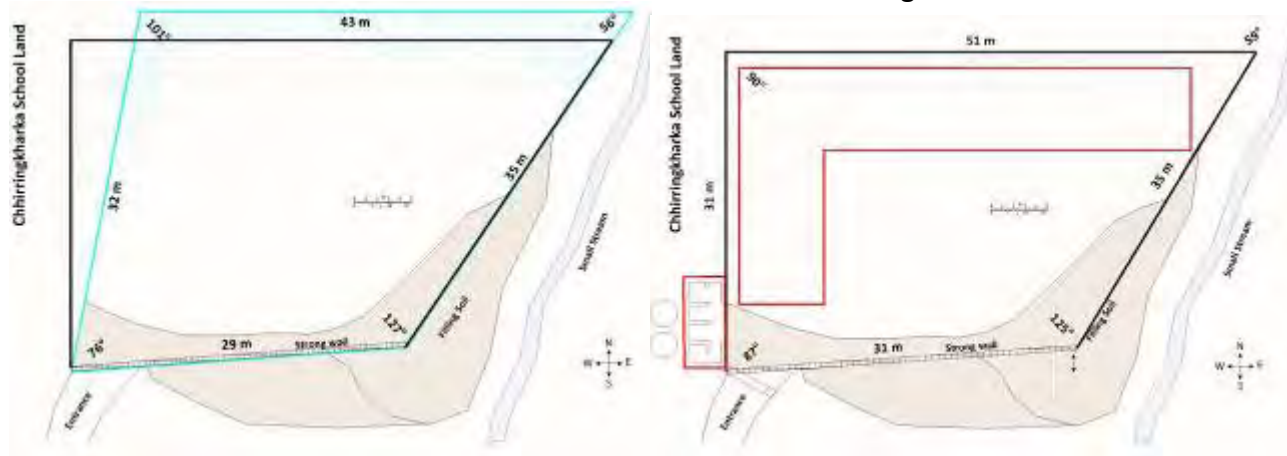


Phase 6: Setting up roof sheets, making gutter and water outlet, completion of doors and windows, cement plastering, completion of sanitary complex, wooden panels, furniture making and all other remaining will be ongoing. *Namgyal visits during this phase monitoring and giving supervision and part-approval.*

Phase 7: All remaining work is completing and brought ready for final approval, handing over to school and inauguration ceremony. *If Namgyal feel sure that all are approvable he can wait with this final visit until donors and officials are ready to join. If he doesn't feel sure he must visit the site before.*

Phasewise Budget Transfer: Only after each Phasewise Approval the Project Budget will be transferred to the bank account of Contractor Tshewang Sherpa directly from HP or through HIPRON. The amounts of each transfer will be like mentioned in below budget, unless other amounts are negotiated according to other realistic needs. But conclusive it can be stated that Contractor Tshewang has to more or less invest himself in each phase before he can have approval and transfer.

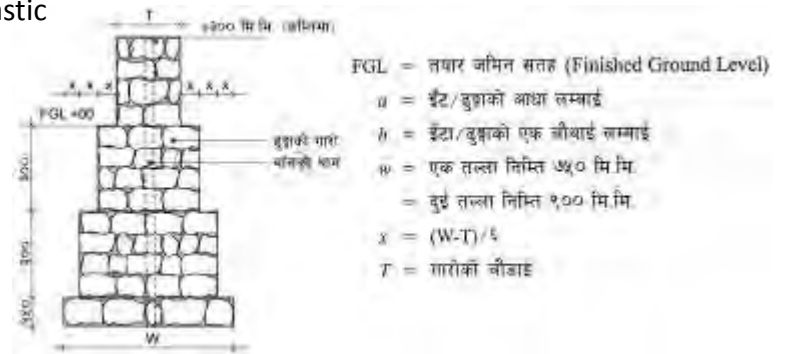
Layout Drawings: All drawings presented in this project description will be delivered at construction site in full size, which is A3. Furthermore the document "HP recommendation on Earthquake Resistant Constructions" will be delivered, as well as "HP Construction of Sanitary Complex". And also this "Project Description" will be delivered. All in several copies to be distributed among local stakeholders. We are



very well aware that neither contractor nor constructors understand English, and that their understanding about drawings and designs are limited. Therefore it is important that Namgyal at each phase inspection explain carefully about next phase for all involved personnel. The measures of the land and the ground plan of the buildings shall be observed, but the detailed measures in the designs can be altered according to the actual situation, but only when it is agreed between contractor, constructor and Namgyal.

Preparing the Land: The construction site shall be dug by villagers on volunteer basis and it shall only be approved when it has the size at least as mentioned in the drawings. The soil slope behind the buildings shall be safe and strong enough to prevent land slide in raining season. If this isn't secured the slope shall be dug more gentle, as well as grass shall be planted on the slope immediately after approval. The surface of the school land shall be completely level, and a slope 2% (2 cm per meter) towards south. The sites of buildings as shown in Figure 2 shall be situated 100% on firm and original soil. Filling soil inside the limits of the buildings will not be accepted, and will lead to demand of digging the whole site deeper. The stone wall holding the filling soil on south and east side shall be heavy enough and deep enough to hold the filling during monsoon rain. Even this wall is approved in Phase 2, it can be demanded strengthened later during the construction process if it shows too vulnerable.

Fundaments shall be dug 3 feet deep under the general surface and they shall be built 3 feet wide in base and stepwise up to surface width 1½ feet. Soil shall not be refilled before fundament is approved by HIPRON. All fundaments for 3 houses and 1 toilet have to be completed before inspection by HIPRON, and also septic tanks. To prepare for the vertical corner and partition wall junction with 20 mm iron rods, 75 mm plastic pipes 60 cm long shall be built into the upper part of fundaments in such a way that they can be moved upwards, when the iron rods are mounted just before wall construction. Fundament shall reach 5 inch above ground level, so RCC will be made 5 to 8 inch above ground. Fundament for veranda can be made later – simultaneously with the roof construction – not to be in the way meanwhile. This veranda fundament, one foot wide, only need to dug down 1½ foot as winter almost never produces temperatures lower than 5-10° and only for one night at the time.



RCC: The base Plinth Band of RCC, 3 inch thick, shall be reinforced with double 12 mm iron rod all around the building and also on partition fundament. They shall be held together by stir-up iron hooks made by 4 mm iron rod. The vertical 75 mm plastic pipes can stepwise be protected by a little sand to make sure that it can be lifted up later on. Also the top of septic tanks shall have iron reinforced concrete like other fundaments but it shall be 4 inch thick, and even the tank wall is not that heavy, the concrete ring shall still be 1½ inch wide.

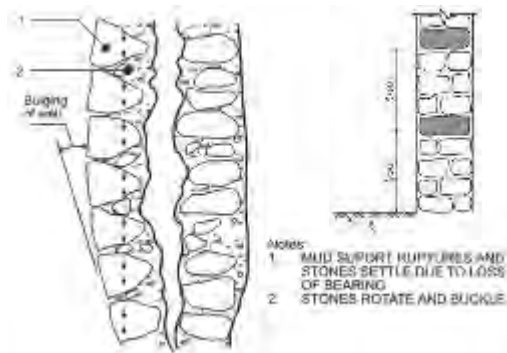
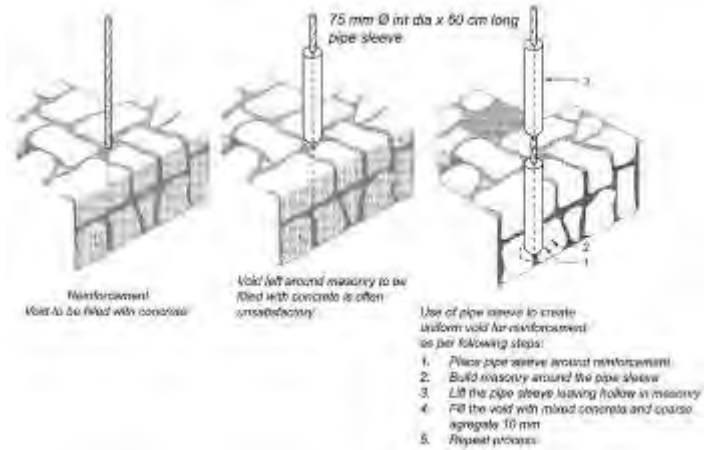


Window and Door Frames: shall be produced with highly skilled craftsmanship with well fit joining. Uneven and maladjusted fittings will not be accepted.

Wall construction: It is decided to cement plaster all surfaces of the 4 buildings – also the back side – from below Plinth Band and all the way up. Therefore stonecutting doesn't need to be that fine. But on the other hand the surfaces must be relatively smooth not to eat too much cement.

Doors shall be mounted on the plinth band with a stable and firm door step.

Before starting building of the wall, the 75 mm plastic pipes at the corners and partition wall junction shall be lifted up and the vertical 20 mm iron rod shall be placed in the holes, which shall be filled up with cement-sand mix. The 75 mm plastic pipe shall remain loose on the iron rod to allow the wall to be built around the pipe, and from time to time to be lifted up and the hole to be filled with cement.



It shall be emphasized for bricklayer, with regular intervals, to build in stones which connects outer and inner surface of the wall to prevent delamination of the wall.

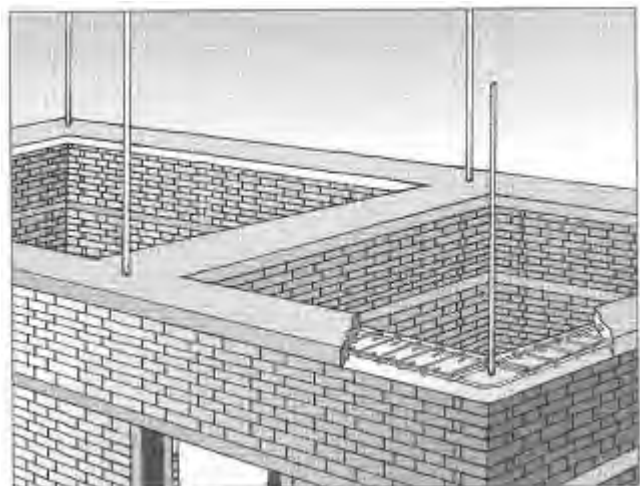
When the stone wall reaches the height where windows shall be placed, a new 3" thick RCC band shall be laid – the Sill Band – with double 12 mm iron rod kept together with 4 mm stir-up iron hooks. Sill Band is interrupted by the door frames, but it shall also run in partition walls.

Window frames are placed on the Sill Band and wall

construction can continue until upper frame of doors and windows are reached. Here one more 3" RCC band is laid – the Lintel Band – all around the building including partition walls. In this Lintel Band 4 mm iron rod shall be attached to the 12 mm iron rod with intervals of 3 feet to be attached to the wall sill beam and roof beams. Those 3 RCC bands, together with the vertical corner iron rod, is the earthquake protection of the building. After this Lintel Band the upper part of the walls can be completed, building in the wall sill beam on top of the wall, on which the roof beams can be attached. The upper part of the wall shall have an attractive looking finish leaving some space for ventilation but not being odd. Roof construction can't start before the constructions are approved by HIPRON on this level.

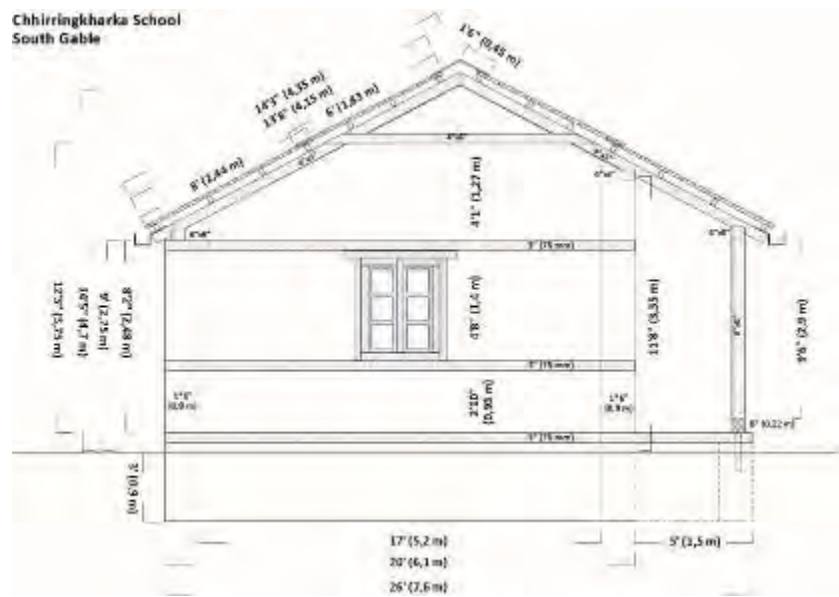
Floor soling: in rooms and in veranda shall be laid with coarse aggregate of broken stone, thick enough to give a proper soling for the cement floor. The soling shall be very level and even, so that the thickness of the cement floor will not vary too much. This work can be done in phase 4 or 5 as convenient. In the toilet the soling has to be done before the wall construction, as RCC and floor shall be built together.

Cement Floor: The floor shall be reinforced with rionet, as well as veranda floor and also on top of veranda fundament. Let the cement overlap the veranda fundament with 1-2 cm to make plastering of the edge more strong. The concrete mix shall be 1:2:4, which mean 1 part

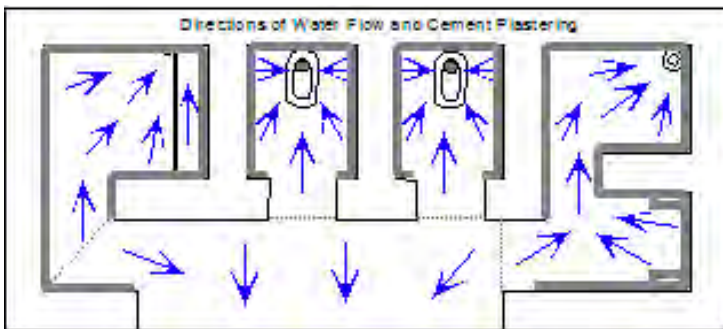


cement plus 2 parts sand plus 4 parts gravel with size up to 20 mm. Don't try to alter this mixture as the floor will be weak with even very less variation in mixture, and especially with the cement. The thickness of the floor in rooms as well as on veranda shall be 2½ inch (6,5 cm), and this thickness is the average thickness over the floor soling, some places more thick and some places less, but be careful not to let the soling make the floor too thin in any places. A final punning of the floor will make it very smooth and very strong and long lasting. The mixture for that purpose shall be 1:1,5 with 1 part cement and 1,5 part very fine sand and it shall only be few millimeter thick. But it should be added within one week after making the floor. This work on floor can be done simultaneously with roof construction if sufficient workers are available.

Roof construction: As there will be veranda, there don't need to be a wall to wall crossbeam but an upper collar beam is enough. When the rafters are properly attached to wall sill beams and veranda sill beam, there don't need to be a purlin beam or a top beam. But of course it will give a higher stability to the roof, if there will be a top beam. All fittings between rafters and beams shall be made by cutting proper joining. Only fitting by nails will not be accepted. And all rafters have to be set up, so they are on perfect line. All the vertical 20 mm iron rods shall be firmly attached to the wall sill beams, preferably through a drilled hole. The 4 mm iron rods attached to Lintel Band shall also be attached to wall sill beams by bending all the way around them, continuing up bending around the rafters. The veranda poles shall have pole heads of two reasons. To give a proper support to the veranda sill beam, but also for attractive looking. Therefore some nice elaboration of the pole heads will be appreciated. Pole and pole head shall be attached by carpentry joining; not only by nails. Battens can be attached by nails with a distance of 2 feet or less. Roof construction shall be approved before tin roof is attached.

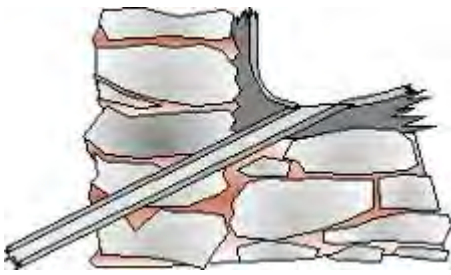


Toilet construction: should be done at the same time as the other constructions to have approval at the same time. But another schedule can be negotiated with Namgyal, as toilet construction is a little more complicated. The outer fundament has to be 3 feet deep, but doesn't need to be built up stepwise, just normal fundament.

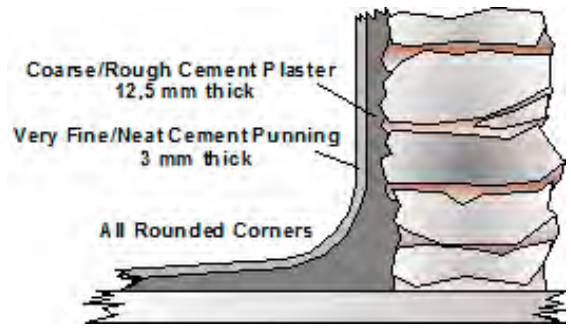


Partition walls must have normal 1½ foot wide fundament but it doesn't need to be built more than 1½ foot deep. The fundament of the toilet has to be approved before the toilet construction can be ongoing, which means that toilet pans, outlet pipes, also floor outlet pipes and floor soling has to be complete and

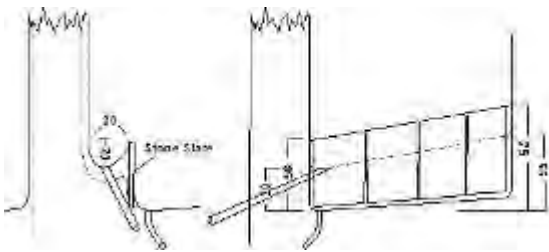
in right place before Namgyal arrival. Then RCC and floor can be laid. The base Plinth Band and floor shall be cast together in one piece before walls are built. There has to be double 12 mm iron rod on all fundaments, both outer and inner. Rionet shall then be laid over all the floor and fundaments in one piece. It is very much important that the slope of the floor towards toilet pans and outlet pipes are well prepared. And this slope shall be slant enough to let flush water run to



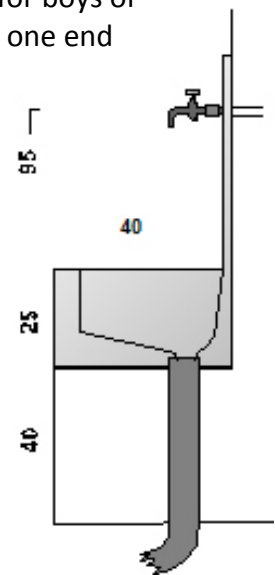
outlet very fast and complete. Then walls can be constructed. Remember in the walls to prepare for washing



basin, urinal, holder for bench in dressing room and stand for soap in shower room. And build in iron pipes for water supply to Solar Water Heater, washing basin, shower and water taps in the two toilet rooms. The pipes shall be built into the inside wall, but only under the surface so that it is hidden, but can be cut free without too much labor in case repair is needed. Remember that all water taps has to be of a very high quality, so it will not ruin too fast. It shall also be considered to make a small protection wall with external outlet in the floor around water taps in the toilet rooms so that water from leaking taps will not run into the toilet pan and fill up the septic tanks. Remember making the urinal very strongly sloping with front part adjusted for boys of the actual height at the school. The small boys shall be able to reach over in one end and the big boys shall be able to pee at the other end without splashing on themselves. When skylight sheets are attached to the roof as described in the drawing, and there is a little gap between wall and roof, there doesn't need to be ventilation windows in any of the rooms. The toilet building shall be cement plastered on the outside but even more carefully on the inside from top to bottom and also an extra layer on the floor. And a

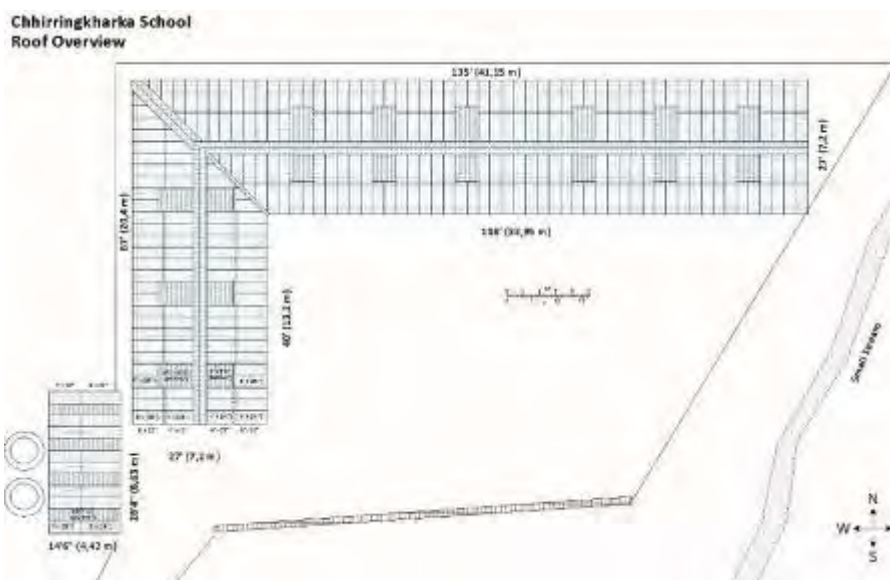


special emphasis shall be made on making strongly rounded corners between wall and floor for easy cleaning. On top of this inside plastering, a fine neat cement punning, mix 1:1,5 (1 cement : 1,5 very fine

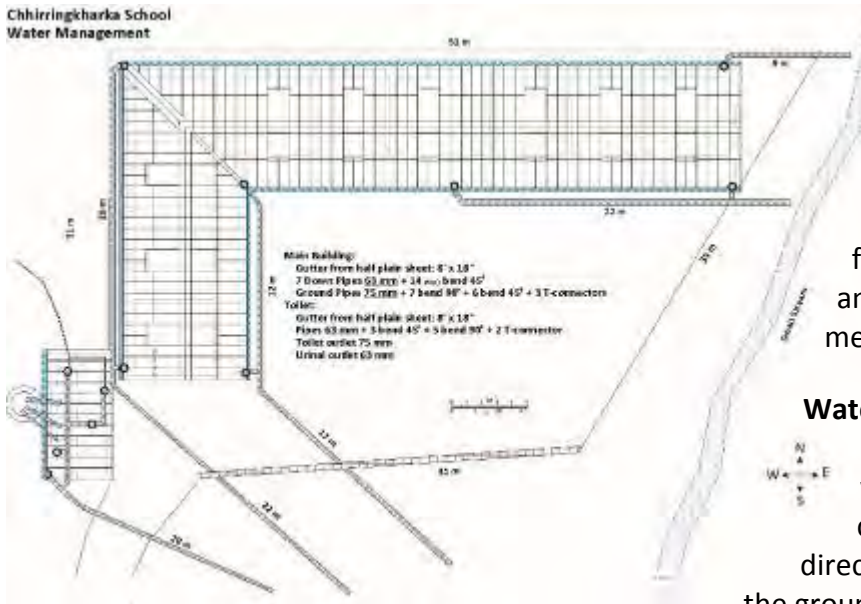


sand), shall finish the surface for easy and efficient cleaning. There shall be two septic tanks, but only one at the time shall be in use at a time. When one tank is full, all pipes are moved for the other tank. We know very well that it will take very long time to fill one tank, but if it isn't built now, it will probably never be built. And problems could occur, like a tank being filled up with water from leaking taps.

Tin roof: If you follow the order list of sheets and if you place them as described in the drawing of



Roof Overview then you will have sufficient light from above in each classroom and in the toilet. There shall be taken very much care with the sheets when stored. It shall not be possible for people to walk on them, and they shall be placed on a level surface. The battens on which they shall be attached shall be in a completely straight line



in both directions, and by lifting up the sheets it shall be done carefully and they shall not be bend. Bending of plain sheet for roof and for gutter shall be done over a template form, so it will appear as a sharp and straight bend with exact measures.

Water discharge: should happen as described in the drawing. The water from main building is clean rain water and can be lead directly out in the small stream or on the ground per convenience. But water

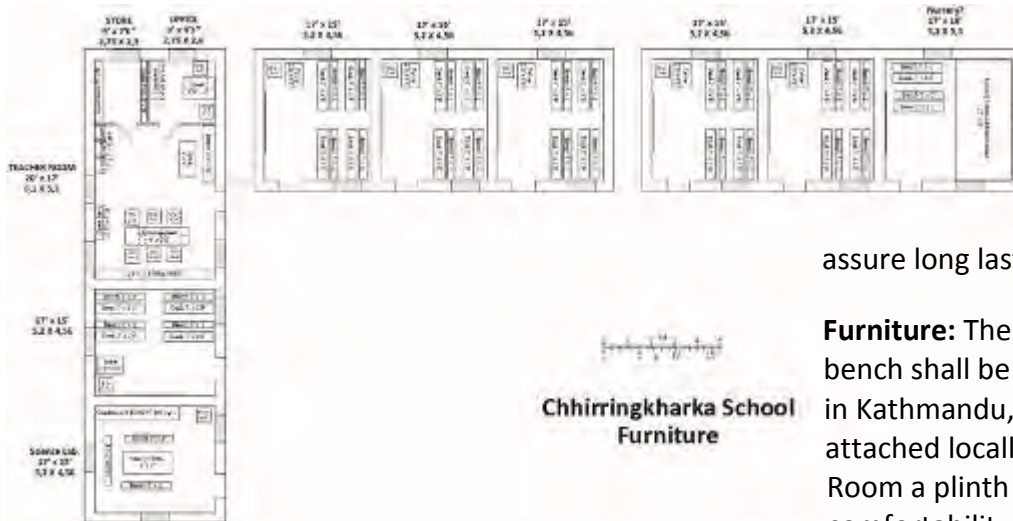
from toilet can be polluted with soap or other dirt, so it shall be lead out on the ground, and there should be built a small dam, of soil around the outlet, to assure that the water outlet from toilet building (roof and floor together) will be filtered through soil. The downpipes from the gutters shall be well fit to the gutter and to the veranda pole. The ground pipes shall be dug down at least 30 cm with a slope at least 3-4 cm per meter, all the way to outlet to make sure that they will not be disturbed or blocked. The toilet pan outlet shall also be dug down but not deeper than it can be moved when one septic tank has to be left in peace for some time. The lid for the septic tanks shall be two halves for each tank produced in a form with concrete enforced with rionet, and thick enough to be strong and heavy enough to be unmovable for children.

Drinking water: Water pipe from clean water source shall also be dug down, deep enough not to be disturbed by cows and people; even people digging down in the surface. If the pipe meets rocks on the way, it shall go around, or the rock shall be cut. Main source of drinking water shall be at the washing sink at the toilet building, but if some cement will be available by end of construction, it shall be considered to set up a water tap elsewhere on the compound.

Cement Plastering: All surfaces of the school shall have cement plaster, even the back side and the gable sides between the buildings. The plastering shall start 2 inch below ground level and it shall have a nice and sharp finishing at the top of the wall. All corners shall be plastered straight and sharp. Also the edge of veranda shall be plastered and this will be easier and stronger if the floor cement were made with an overlap on 1-2 cm out over the fundament. The plaster mixture shall be 1:4, meaning 1 part cement with 4 parts sand. If the walls are built with relatively level surface, it shall be no problem making the average thickness of the plaster ½ inch (1,25 cm). A very rough wall is cheaper to build but it will be more expensive to cover. And it will not be accepted seeing stones bulging to the surface of the plaster.

Wooden panels: As Chhiringkharka can be a cold and windy place by winter there shall be set up wooden panels in all rooms, on walls and on roof. The planks shall be well stored and dry before being set up to prevent from shrinking. The roof ceiling shall follow the line of rafter on the sides and the collar beam on top. There shall be opening for the skylight plates, but this opening shall not be straight up, but have funnel shape to let more light in. If funnel shape isn't done it will be rejected at demanded redone. The fittings at corners shall be exact and attractive. Septic can be set up if the fitting can't be exact.

Doors and windows: shall be produced in exact size and with exact fittings with well stored and completely dry wood. They shall be joined so screws shouldn't be necessary, but anyhow fittings



Chhiringkharka School Furniture

shall have screws – not nails. Brass hinges are ordered and all holes shall have right size screw to assure long lasting functionality.

Furniture: The 26 student desk-bench shall be iron frame produced in Kathmandu, with wooden plates attached locally. In Nursery Class Room a plinth shall be built for comfortability of small children and

as a scene for drama. In each of the 6 regular classroom there shall be one armchair and one table with drawer for teachers (6 sets). In Science Room there shall be a very heavy and big table, which is practically immovable for the security around chemical experiments, as well as 3 benches around the table, one armchair for teacher and a glass cupboard for school museum and scientific equipment. The school Office shall be divided by wooden partition wall in 3 rooms. One Teacher Room with a Teacher Desk with space for 6 teachers, each with an armchair and two drawers of which one shall have lock. There shall be a 6 room Box Cupboard with lock for teacher’s educational equipment. A table and bench for visiting students and parents. And the end wall with an open rack. In Headmaster Room there shall be a desk and chair for headmaster and an armchair for visitor, and a cupboard with locks. And finally in the Store Room there shall be open racks with deep shelves for storing copies and daily utensils. All those furniture shall be produced in a high quality with right and sufficient support so it won’t dangle and shake when pushed or in use. Drawers shall open and close without being tight and doors in cupboard shall fit exact.

Painting: All furniture and wooden panels shall be painted with varnish – Wood Pin is less poisonous than previous varnish. Veranda poles and pole heads shall be painted as well as doors and windows. Colors can be chosen by the wish of local art experts.

Electrification: As only a very small peltric set is providing less than 2 kW and the very unstable Bakanje Electricity is very irregular, we see no reason to build in electricity at the school for the time being. This can be done later as a new project when the situation is more suitable.

Playground: We are not considering adding special attention towards the playground. This can also be considered later if we find that the Patale students continue being a little irregular. Playground equipment could push to the goodwill of the students to be more regular. Volley ball is very popular at the schools in Solu, so a high net fence keeping wild balls inside the ground shall be established on South and East side of the playground.

Timeframe:

It is expected that the project can start already now with phase 1 dealing with the legal registration of the land in the name of the school. The volunteer labor of the villagers to prepare the land has already started, and it is expected that it will complete during the summer period, where the monsoon rain will show the weaknesses of the terrain. If Namgyal could inspect and approve the prepared land before end of August it could be perfect. Because, from my personal side, I have a hope that I could approve the fundamentals myself when I arrive in Chhiringkharka by end of October, so I also could join in starting up the cement work on RCC before I leave again by November. Then phase 4 could complete during winter and phase 5 during spring, so tin roof could be attached before next monsoon, and phase 6 and 7 during the monsoon. In that case the whole project could be complete by autumn 2015. But I am fully aware that this is a very ideal

plan, which gives very high demands on contractor's logistic abilities and the availability of sufficient number of skilled workers who can work on different parts simultaneously. If this plan doesn't work, then we can expect the project to be complete by spring 2016 or autumn 2016.

Budget:

Contractor Tshewang Sherpa has been through the budget and approved the details. The budget will not be regulated later on as it is expected to complete before inflation can alter the budget considerably. As Contractor wants to have contract on the project as a whole, it will not be regarded as a number of sub-projects, but it will be seen as a whole. When Contractor signs this project description it means that he agrees in doing all the described work at the described price. It also means that he can purchase and employ by his own wish and will inside the budget of the contract, but HP and HIPRON on the other hand have the right to demand the high end quality of work. For instance, if a cheap carpenter can do excellent work it is fine with us, but if any carpenter produce poor work it will be rejected however high his salary is. HP and HIPRON are not concerned with the profit or loss of contractor, as long as we can have a quality which corresponds to the price.

If purchased materials exceeds the used materials it belongs as a starting point to HP and can be sold by HP for others with the income belonging to HP. But HP could also approve handing it over to contractor. Therefore it is important to keep right and full record on the stock.

In case it shows up that some project part is forgotten, missing or unforeseen, Contractor can any time add it to the project inside the approved budget. But if he wants to add it on top of the budget he has to apply HP with well-founded reasons.

Unforeseen and extraordinary project parts / or direct School Support: There always comes something up, which we haven't anticipated. This budget part will only include extraordinary construction issues, and definitely not project issues, which is already included in the description and the budget, and which is already approved by contractor. What will remain from this budget, after paying for those extraordinary issues, will be transferred to the school account to be spend by the school as per their own wish.

Project expenses by HIPRON: HIPRON is operating a small office in Kathmandu with 2½ staff, and a quarterly Runner Service paying a visit to all project sites in Upper Solu; developing as well as running projects. The cost of operation of this administration is almost solely covered by HP-Dk by administrative charges on all our projects.

Besides the quarterly Runner Service we will provide extra and acute specific visits for the approval of the phases in time, so the construction will not be delayed into cold winter or raining monsoon.

And included in this amount we will pay compensation to Headmaster of the school, Mr. Ngima Chhewang Sherpa, who is a very sincere and trustworthy person, who also have a serious interest in the school developing into a very attractive structure.

The staff of HP-Dk will visit Solu on their own expenses as well as all of HP's administrative expenses are covered by "Tips- og Lotto-midlerne (Lottery Pools)". Therefore what this project pay for HIPRON administration, will be saved by HP administrative subsidy for HIPRON, but this saving will all be spent for this and for other projects in Upper Solu.

Currency rate fluctuations depends very much on the economic situation in India which for the time being is believed to go towards growth, and therefore stable or even falling rate can be expected although inflation seems to be more plausible. All fluctuations up-or down-going will be covered from this account.

Abbreviations and explanations for Budget Details:

All prices are including transportation to construction site. For imported goods it means from Kathmandu to Gumdel by truck or 4WD. From Gumdel carrying by porter 400 meter down and 900 meter up.

The budget parts 2) Compound Wall, 5) Sanitary Complex and 6) Furniture can be supported by Rotary Foundations. Maybe even 4) Wooden Panels can be supported, but the rest budget parts can not.

Calculations on numbers, masses and materials aren't available in the budget, but can be given on request. Material calculation will be delivered at construction site and for HIPRON, but isn't expected to be understood locally.

Green field is giving the sum of budget details in Nepali Rupees, while the red fields are giving the same in Danish Kroner.

Currency rate will be fixed on the date where Project Proposal will be changed into Project Description. And after that the project will be run by Nepali Rupees which will not be regulated with inflation or changes in market and transportation prices. Contractor can purchase and store materials per his own wish.

Linear Measures:

feet = f inch = "
1 foot = 12" = 30,48 cm 1 inch = 2,54 cm
1 meter = 3,28 feet = 39,4"
1 hat = 45,7 cm = 1½ feet

Square Measures:

1 foot² = 144 inch² = 929,03 cm² = 0,0929 m²
1 m² = 10,76 ft²

Cubic Measures:

cubic feet = f³ 1 pile = 5 f * 5 f * 5 f = 125 f³ = 3,54 m³
1 m³ = 35,32 feet³ = 55 tin 1 tin = 17 liter

Calculations:

addition = + subtraction = ÷ multiplication = * or x division = /
≈ = equal to

Abbreviations:

MD = Man Day Labour including Food pcs = pieces

The project will be supported by the donation of:

Padborg-Kruså Rotary Klub, Hotel Fakkelgaarden, Fjordvejen 44, Kollund, DK-6340 Krusaa

by rtn. Bonnik Hansen, Wanderuper Strasse 21 D, D-24963 Tarp, Deutchland
and Ole Skovlund, Fjordvejen 23, Kollund, 6340 Krusaa, Denmark

The Human Practice Foundation

by Pernille Kruse Madsen, Kammerrådensvej 23, 2.th., 2970 Hørsholm,
www.humanpractisefund.dk

The project will be supervised, monitored and reported by

Runner Service of Himalayan Project, Nepal (HIPRON)

by Namgyal Jangbu Sherpa

P.O.Box: 15142 KPC 953, Kathmandu, Nepal

Email: nepalhelp@enet.com.np

Tel.: 00977-1-444 60 14

by rtn. Kurt Lomborg, Skivehus Rotary Klub, District 1440, Denmark

Manager of Himalayan Project, Denmark (www.nepalhelp.dk)

Kjeldbjergvej 34, DK-7800 Skive, email: klomborg@post11.tele.dk, Tel.: 0045-97 54 53 08

by rtn. Bishnu Subedi, Rotary Club of Kathmandu, District 3290, Nepal

Rotary Hall of Kathmandu, Kathmandu, Nepal, Tel.: 0977-1-4245783

Email: subedisanepa@gmail.com, Tel.: 00977-98510 24103

Funds to be transferred through:

Rotary Club of Kathmandu - Current Account # 85

Rastriya Baniija Bank - Branch: Thapathali, Kathmandu

C/O Rastriya Baniija Bank - Main Branch Office

Super Market Building, New Road, Kathmandu, Nepal

Tel.No. 00977-4230590 - Fax No. 00977-4228337

Telex no.: 2247NP / 2354NP - SWIFT: no code

Via: Citibank NA., New York

Chips No. CP 0008 – SWIFT

or Himalayan Project Anfordring 8500 265 1842 339

Spar Nord Skive, Adelgade 8, DK-7800 Skive

Tel.No. 0045 96 16 16 16, adelgade@sparnord.dk, www.sparnord.dk/skive

BIC-code: SPNODK22 - IBAN: DK2085002651842339

And funds to be forwarded for:

Mr Tshewang Sherpa Bank Account

Bank Name: Rastriya Baniija Bank, Gaushala Branch, Kathmandu, Nepal

SWIFT Code: **RBBANPKA**

Account holder name: **Ang Tshewang Sherpa**

Account no: # **134003280610**

Comments, Suggestions and Amendments from Construction Committee:

After going through this "Project Proposal" and the attached "Construction of Sanitary Complex" and "HP recommendations on Earthquake Resistant Constructions" very carefully and especially after going through the "Budget" the Contractor is giving following comments (the comments shall refer to the headline and numbers in the Budget):

(more paper can be added for more comments)

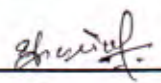
A) This "Project Description" and "Budget" has been examined carefully and with the above Comments, Suggestions and Amendments it is approved by Contractor Tshewang Sherpa, who will complete the project as described within the budget approved:

in Chhiringkharka on Date : 23 August 2014

Mr. Tshewang Sherpa:  _____

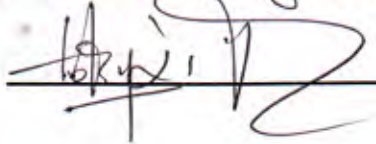
B) This "Project Description" and "Budget" has been examined carefully and it is agreed that it will be monitored by Overseer Ngima Chhewang Sherpa

in Chhiringkharka on Date : 23 August 2014

Mr. Ngima Chhewang Sherpa:  _____

C) This "Project Description" and "Budget" has been explained for and discussed carefully with Contractor and Overseer by HIPRON Manager Namgyal Jangbu Sherpa:

in Chhiringkharka on Date : 23 August 2014

Mr. Namgyal Jangbu Sherpa:  _____