

Minutes of the Shelter Advisory Group Meeting held at Mini Conference hall, Collectorate, Nagapattinam. on 14.06.2007.

The discussion was chaired by Thiru. K.S.Kandasamy. BE., District Revenue Officer (RR) Nagapattinam in the presence of Thiru. Shanmugasundaram SDC (LA), Prof.. Santhakumar, Engr. Selvaganapathy , Mr.Prasanth Hedao, Mr.Alok Patnaik UNDP and Shelter Support Group members Mr. Dipan Shah, Ms. Annie George CEO, Mr.M.S.M. Abuthalib Executive Engineer (R&R)PWD and other Government officers.

The DRO (RR) in his presidential address stated that SAG is playing a vital role in assuring the quality construction in shelter in Nagapattinam district. Proff. Santhakumar invited Mr. Dipan shah for the presentation of the field visits. Mr. Dipan shah sated that the Shelter support group had two visits one on 3rd to 5th of May and the second visit on 11th to 13th June on the basis of these two visit he started his presentation with photographs.

The following were the observation by the Shelter Support Group:

Naluvadapadi - Bits Tsunami

- Insitu Construction and work going on at a slow pace
- The concerns with column misalignment seen at few locations.
- Concrete quality needs to be improved.

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Pushpavanam – CASA

- Most of the work nearing finishing so not much could be observed.
- Load bearing structure with vertical steel at corners
- The quality of concrete is good.
- They are providing septic tank but the design needs to be relooked.

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Kameshwaran – DPG

- The quality of concrete and reinforcement details had improved with respect to earlier Visits.
- Most critical concern was the reinforcement detail of the grade beam which was Changed by the site against the drawing issued. The drawing issued had sections Where 4nos. of 12 mm tor (at Top) are recommended but at no location in Grade beam 4 bars are put at top. The enquiry with the engineer said that they have changed the design. Also their were places where the bar diameter was also changed.

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Kollitheevu – TMSSS

- The site is a load bearing structure.
- The corner reinforcement is kept in few buildings and in few buildings it is not installed without any specific reasons for the same.
- The critical was the change in the spacing of slab reinforcement from 7.5” specified in design drawing to 9” entirely.
- Similarly the lintel stirrups spacing at 9”. Also the width of lintel beam fluctuating between 8” to 9”.

- No negative steel in staircase landing and cantilever weather sheds.
- Also corner detailing was missing.
- The quality of brick was visually non confirming with high variation.
- The quality of brick needs to be uniform.

LWS-Valliyammal Nagar Dharkas (Pazhayar)

- The quality of work good and systematic.
- Concrete quality good with neat alignment of columns.
- The 135 degree bending of stirrups observed.
- Cover blocks installed.
- The continuity of stirrup was missing at column beam junction
- The column cage properly line out and installed with proper supports.

Chinnagudi – SIFFS

- Quality of work is really good.
- Neat alignment and finish of concrete members
- Good quality of formwork system.
- Cover blocks installed for concrete.
- About 8 different house models to select for the community. No prototype design on site.
- Good layout with breathing and community spaces planned in the layout.

Pudupettai – Efficor

- Load bearing structure with vertical steel at junction
- The reinforcement detailing of junctions needs to be improved.
- The cantilever weather-sheds having no negative steel.
- The coping band does not have 180 degree hooks.
- In staircase due to absence of chair the negative steel becoming positive.

Chandrapadi – UELCI

- Misalignment of columns observed at multiple locations.
- Cross – sectional variation in column.
- Cross – sectional variation in lintel beam size.
- Shrinkage cracking observed on lintel band due to lack of curing.

Cooks Nagar – SEVAI

- Most places finishing work started so not much could be observed.
- One structure at Grade beam level where alignment and dimensions of grade beam found fluctuating between 8” to 9”.
- The column stirrups having 135 degree hooks.
- The spacing of stirrups found fluctuating.

AmbedkarNagar – IID

- The quality of concrete is reasonably good.
- The detailing concerns at the reinforcement junction exists.
- No negative steel in the weather shed
- Most structures finishing work going on so not much to be observed.

Saveriarkoil – World vision

- The quality of work really good.
- The concrete quality good with proper alignment of RCC elements.
- Use of Brickwork as formwork above lintel for column casting.

Site 1 : Poompohar – SEVAI

Major Observation

- The Column and Grade beam alignment, size fluctuation was found common
- Concrete quality having lot of honeycombs

Site 2 : Palayar – SEVAI

- The column alignment was found as a concern with shifts upto 9”.
- The concrete having lot of honeycombs
- The Column above lintel was found to have lot of fluctuation in size and alignment.
- No negative steel in Cantilever
- Variation / Fluctuation in Grade beam sizes.
- Brickwork shifted out of Grade beam at multiple locations.

Site3. Palayar. TDIU

- Brick work is used as foam works
- Steel is exposed in multiple locations in grade beam and plinth beam
- The corner reinforcement steel is cranked
- No cover blocks.
- Instead of PCC brick are using for grade beams.

Site 1 : Pudupalli – Real Plan

- The general quality of concrete was found good.
- Quality of staircase concrete too found reasonably good.
- They have grade beam at ground level and additional 2” DPC at plinth level.
- As observed one of the columns in house of Muragun s/0 Bakarismami was out by about 3”.
- Central column of one of the house out of plumb above lintel and reinforcement exposed.
- Toilets are detached to the main structure of the house.

Site 2 : Vellapalam – DPG

- The quality of concrete was quite good at this site.
- The column alignment was also found neat.
- The quality of brickwork was reasonably good.
- They are following the practice of starter for column construction.
- The Grade beam size was found fluctuating ranging from 7” to 9”. This was a product of quality of formwork and lack of supervision assuring the line and level.

Site 3 : Keechankuppam-Sevabharathi

Major Observations

- The site has G+1 frame structure.
- The quality of Concrete was found good.
- The cover blocks are used.
- On this site, the quality of brick was good.
- There were certain minor concerns viz. a via. the beam column junctions steel detailing.

• Site 4 : Kilepattinacherry – MATHA AMIRTHANATHA MAI MADOM

- The RCC frame construction is completed and masonry work is going on.
- The quality of work was found good.

TMSSS – Arcottuthurai

Major Observations

- Most of the structures finished and plastered except few location at insitu site.
- The observations on the insitu houses showed the load bearing wall shifted by over 3” from the grade beam.
- The cutting of Coping members for fixing of Door frame
- The cutting of lintel for electrification

TMSSS – Saveriarkoil

- The major shifting / misalignments / fluctuation in column sizes
- Reduction in Grade beam sizes
- Quality of concrete a concern
- Stirrups missing between lintels to column at many places.
- Staircase base beam supported over dry brickwork on ground.

Saveriarkoil – TNSCB

- Work going ahead at a good speed.
- The quality concerns viz.. The size variation of the Grade beam and Column was seen.
- At Grade beam and Column junction, column stirrups are discontinued.
- Brickwork to be used as side of column as seen by construction stage. The quality of the column needs to be assured for dimensional fluctuation and concrete quality.

DRO expressed his concerns about the repeated mistakes in the same site. He stated the District administration will issue the letter to the concerned NGOs and if they are not responding, all the photographs and reports of the visit would be sent to the funding agencies concerned.

The Donor funding SEVAI had stopped payment for construction to the NGO unless the District Administration gave a satisfaction report, on corrective action taken. However, on enquiry it was found that this report was given directly by the engineer concerned from the Govt. district monitoring team based on rectification measures undertaken only in two- three houses and not based on the overall improvement in construction by SEVAI

The DRO also expressed his concerns on the stability of the staircase railings at Kesavan palayam, constructed by the Holly Cross Society, Trichy. DRO also enquired about the steps taken to analyse the quality of the Uzhavrnagar Shelters, constructed by Salvation Army where the community is refusing to occupy the houses due to the fear of stability, Prof. Santhakumar stated that only possibility is doing Non destructive Test to analyze the stability when once the structure is completed .

Ms. Annie George raised a concern on the effectiveness of follow- up on the periodic recommendations of the SAG and stated that unless there was a concentrated effort to ensure the compliance with the recommendations, it would be difficult to ensure quality with just monthly visits. She requested that this be taken up by the Government monitoring team and DRO stated that all the sites which are having concerns on quality will be monitored by the Government monitoring team.

SDC LA asked the SAG if vertical extension is admissible as most of the beneficiaries who have shifted in have already started attempting such changes. Prof. Santhakumar stated that breaking of the structural members are not admissible. He also said that the SAG could go through all the designs and recommend whether the vertical expansion is admissible or not. Mr. Abuthalif EE, PMU stated that SAG can also visit the occupied houses and have an assessment on the alteration made by the community. CEO, NCRC suggested that UNDP can develop guidelines regarding the extension of the houses.

Mr. Alok Patnaik of UNDP stated that most of the NGOs are having technical field personnel, and a lack of competence can lead to quality problems in the field. He stated that an action group be formed that can look at what are the corrective measures to be taken wherever gaps are found. CEO, NCRC stated that for sustainability, it is better that the follow-up action be done by the district monitoring team.

CEO, NCRC informed that the Experts from the Department of Structural engineering ,Annamalai University had visited Poompuhar, Palayar, Arcottuthurai and severiyarkoil sites for a 100% visual analysis of the structural stability as per the recommendation from the District Collector in last SAG meeting and also informed that NDTs would be carried out shortly.

SDC (LA) stated that the Administration was including the SAG remarks in the weekly meeting reviews and that was helpful for monitoring the actions at their field level.

CEO NCRC, enquired about the sanitation plans of the government and the Executive Engineer TWAD Board, Mr. Guruswamy, informed that for 14 sites under urban area ETRP proposals were submitted and for rural areas no ETRP proposals are submitted. He also said that Rural Development Department is doing the sanitation plans for the rural areas.

DRO advised the SAG to hold their meeting on Mondays as the District Collector and all NGOs would be attending the weekly review meetings. He also advised the Government engineers to strictly monitor the sites of SEVAI and TMSSS and provide the reports of rectification done by those NGOs.

DRO expressed his thanks to all SAG members for their work and the meeting came to an end at 1pm.

The Second session of the meeting with NGOs started at 2.30 pm and was chaired by Prof. Santhakumar. Mr. Dipen Shah presented the field level findings to the participants and Prof. Santhakumar, Mr. Abuthalif and Mr. Selvaganapathy spoke about the corrective measures for the gaps identified.

A question regarding the necessity of the negative steel was raised from the participants and Prof. Santhakumar said that steel is having tension. Generally in staircase at landing slab tension occurs at the top and if we are not providing both negative and positive rods there is a chance for collapsing of staircase. He also stated that, in Gujarat, stair case slab had collapsed in the residential buildings due to lack of negative rods leading to life loss.

Another question was raised regarding the concealed wiring and Prof. stated that while there was no harm in concealed wiring, exposed wiring greatly reduced the risks of short circuiting.

Meeting came to an end at 4pm with the vote of thanks by Mr. Biju Jacob George of NCRC.

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