

NATIONAL EVALUATION OF CIVIL WORKS

1.0 Introduction

The earliest mention of the Andhras is said to be in Aitereya Brahmana (2000 BC). It indicates that the Andhras, originally an Aryan race living in north India migrated to south of the Vindhya and later mixed with non-Aryans. Regular history of Andhra Desa, according to historians, begins with 236 BC, the year of Ashoka's death. During the following centuries, Satavahanas, Sakas, Ikshvakus, Eastern Chalukyas, Kakatiyas ruled the Telugu country. Other dynasties which ruled over the area in succession were the kingdoms of Vijayanagar and Qutub Shahi followed by Mir Qamaruddin and his successors, known as the Nizams. Gradually, from the 17th century onwards, the British annexed territories of the Nizam and constituted the single province of Madras. After Independence, Telugu-speaking areas were separated from the composite Madras Presidency and a new Andhra State came into being on 1 October 1953. With the passing of the States Reorganization Act, 1956, there was a merger of Hyderabad State and Andhra State, and consequently Andhra Pradesh came into being on 1 November 1956.

Andhra Pradesh is bound on the north by Orissa and Madhya Pradesh, on the west by Maharashtra and Karnataka, on the south by Tamil Nadu and on the east by the Bay of Bengal, with a coastline of 974 km. The total geographical area of the State is 2,75,068 sq. km. Agriculture is the main occupation of about 70 percent of the people in Andhra Pradesh. Rice is a major food crop and staple food of the state contributing about 80 percent to 85 percent of the food grain production. Other important crops are *jowar*, *Bajra*, *Maize*, *ragi*, small millets, pulses, castor, tobacco, cotton and sugarcane. Forests cover 23 percent of the State's area. Important forest products are teak, eucalyptus, cashew, casuarinas, bamboo, soft wood, etc.

As per the 2001 census data, Andhra Pradesh has a total population of 75,727,000 persons out of which 38,286,000 are males and 37,441,000 are females. The population of the Scheduled Caste in the State is 10,219,409 persons out of which 5,164,491 are males and 5,054,918 are females. The

Scheduled Tribe population in the state is 4646923 persons in which 2353939 are males and 2292984 are females.

The State of Andhra Pradesh consists of 23 Districts which is further subdivided into 79 revenue divisions. The state has 264 towns, 26586 inhabited villages and 1414 uninhabited villages.

2.0 Education status in the State

The various Governments of Andhra Pradesh have laid a major emphasis on the education programme in the State. In Andhra Pradesh there are 6212 Primary Schools, 17823 Upper Primary Schools, 16194 High Schools, 98 Higher Secondary Schools. The total school age population in the age group of 6-14 years is 12718240 of which 12454227 children are enrolled in the formal schools and balance are being educated the details are reflected in the alternative schooling the following table :

EDUCATIONAL SCENARIO OF THE STATE 2006 – 07 - INSTITUTIONS

| SL. No. | TYPE / MANAGEMENT | PRIMARY SCHOOLS | UPPER PRIMARY | HIGH SCHOOLS | HIGHER SECONDARY | TOTAL |
|---------|-------------------|-----------------|---------------|--------------|------------------|--------------|
| 1 | CENTRAL GOVT. | 20 | 0 | 34 | 56 | 110 |
| 2 | STATE GOVT. | 5089 | 592 | 1551 | 1 | 7233 |
| 3 | M.P.P / Z.P.P | 47762 | 11108 | 7867 | - | 66737 |
| 4 | MUNICIPAL | 1408 | 394 | 300 | - | 2102 |
| 5 | PRIVATE AIDED | 2287 | 421 | 857 | - | 3565 |
| 6 | PRIVATE UNAIDED | 5596 | 5308 | 5585 | 41 | 16530 |
| | TOTAL | 62162 | 17823 | 16194 | 98 | 96277 |

ENROLMENT 2006 – 2007

| SL. No. | TYPE / MANAGEMENT | PRIMARY SCHOOLS | UPPER PRIMARY | HIGH SCHOOLS | HIGHER SECONDARY | TOTAL |
|---------|-------------------|-----------------|----------------|----------------|------------------|-----------------|
| 1 | CENTRAL GOVT. | 3914 | 0 | 15047 | 47675 | 66636 |
| 2 | STATE GOVT. | 302241 | 105094 | 538615 | 409 | 946359 |
| 3 | M.P.P / Z.P.P | 3041062 | 1732238 | 2434744 | - | 7208044 |
| 4 | MUNICIPAL | 158966 | 92196 | 131076 | - | 382238 |
| 5 | PRIVATE AIDED | 358522 | 111362 | 329728 | - | 799612 |
| 6 | PRIVATE UNAIDED | 1648450 | 1205206 | 1539172 | 55513 | 4448341 |
| | TOTAL | 5513155 | 3246096 | 4988382 | 103597 | 13851230 |

AGE – WISE ENROLEMENT (6 – 14 YEARS)

| SL. No. | Age Group | Population | Enrolment | Out of School Children |
|--------------|---------------|-----------------|-----------------|------------------------|
| 1 | 6 – 11 Years | 8798901 | 8693077 | 105824 |
| 2 | 11 – 14 Years | 3919339 | 3761150 | 158189 |
| Total | | 12718240 | 12454227 | 264013 |

Sarva Shiksha Abhiyan (SSA) in the State

Andhra Pradesh State SSA, has developed District Elementary Education Plan (DEEP), the emphasis in the whole document is on Elementary Education which means both at primary and upper primary levels. SSA is an effort to universalize elementary education through community participation and ownership of the school. It is a response to the demand for quality basic education all over the country. The SSA programme is also an attempt to provide an opportunity for improving human capabilities to the poorest children, through provision of community-owned quality education in a mission mode. The prime feature of the SSA programme are :

- A programme with a clear time frame for universal elementary education.
- A response to the demand or quality basic education.
- An opportunity for promoting social justice through basic education.
- An effort at effectively involving the Panchayat Raj Institutions.

Aim of Sarva Shiksha Abhiyan

The Sarva Shiksha Abhiyan is to provide useful and relevant elementary education for all children in the age group of 6 to 14 by 2010. There is also another goal to bridge social and gender gaps, with the active participation of the community in the management of schools.

Useful and relevant education signifies a quest for an education system that is not alienating and that draws on community solidarity. Its aim is to allow children to learn about and master their natural environment in a manner that allows the fullest harnessing of their human potential both spiritually and materially. This quest must also be a process of value based learning that allows children an

opportunity to work for each other's well being rather than to permit mere selfish pursuits.

Objectives of Sarva Shiksha Abhiyan

- All children in school, Education Guarantee Center, Alternate School, Back-to-School Camp.
- All children to complete five years for primary schooling.
- All children to complete eight years of elementary schooling by 2010.
- Focus on elementary education of satisfactory quality with emphasis on education for life.
- Bridges all gender and social category gaps at primary stage and at elementary education level by 2010.
- Universal retention by 2010.

The Civil works component is important under the Sarva Shiksha Abhiyan. Under this component, there is massive investment up to the limit of 33% of the total project budget. Provision of school infrastructure helps in providing access to children, and also helps in their retention, both of which are important objectives of the SSA. Provision of infrastructure for Resource Centers at sub-district levels helps in creating academic support, which acts as a catalyst towards quality improvement.

The Civil Works undertaken by the State under the SSA are as under :

- Construction of Lower Primary and Upper Primary School Buildings (LPS/UPS)
- Construction of Additional Class Rooms (ACRs)
- Construction of Block Resource Centres (BRCs)
- Construction of Cluster Resource Centres (CRCs)
- Construction of Toilet and Drinking Water Facilities. (under convergence)

The status of infrastructure facilities as on 2006-07 is enclosed as Annexure - 1.

The construction of Toilets and Drinking water facilities has been discontinued under the Sarva Shiksha Abhiyan since 2004-05. The reason as explained by the State for this curtailment was the fact that the Public Health Department,

which is a nodal agency to ensure safe and potable drinking water to all and also ensure proper sanitation facilities; is being funded by the Central and the State Government for this activity under various other schemes. As such this activity was entrusted to the Public Health Department and removed from the Sarva Shiksha Abhiyan allocations.

3.0 Scope of the Study

Educational Consultants India Ltd. (Ed. CIL) has proposed to undertake the evaluation of the civil works in the State with the following objectives in view:

- To review the Planning process of Civil Works – target setting, priority and phasing, planning of pre-construction activities, funds flow systems, supervision and monitoring strategy etc;
- To look at issues related to site selection and school location, especially in cases where school are located in areas prone to natural hazard. Also to look at land ownership issues, especially in tribal areas, and highlight cases involving resettlement, if any.
- To assess the quality of construction in item of quality of material & ownership, leakage, cracks etc;
- To assess cost effectiveness and efforts towards the same in construction including use of appropriate/local materials and technologies;
- To evaluate Design-functionality in terms of response to pedagogical issues, child-friendliness, lighting and ventilation barrier free features etc; to assess if the physical infrastructure constructed is contributing to the overall teaching learning environment in the school;
- To highlight good practices with respect to energy efficiency, health and hygiene etc.;
- To conduct a safety audit of the created asset in items of its location, design and materials used for construction;
- To look into the specific role of the community in management and implementation of civil works;
- To check utilization of the constructed facilities and plans for maintenance of created assets.

The procedure proposed by Ed. CIL for undertaking the study and selection of the sites proposed to be visited in the state was as follows:

- A uniform set of tools is proposed to be used for all the States.
- The evaluation is expected to cover 3-5% (3% in bigger states, 5% in smaller states) of the constructed school buildings / classrooms in the state. However, the total number of sites to be covered in each state would not exceed 75.
- The samples will be chosen through a combination of stratified and random sampling techniques. Each state will be divided into sets of districts those are similar in terms of geographical features and building materials. There would be a maximum of four such sets and one district from each set would be chosen for field visit. Within a district, sample sites will be chosen on a random basis to cover both rural and urban areas, remote and well connected areas, completed and in-progress buildings etc. The list of sample sites will be decided in consultation with the Civil Works Unit, Technical Support Group and not be disclosed in advance to the State / Districts (the sample district would however be intimated to the State in advance for logistical purposes).
- Apart from visit to construction sites, the Evaluating Agency would also interact with State / District officials, villagers, teachers, students and other stakeholder and analyse secondary sources of information.

4.0 Methodology adopted for the Study

To undertake the above assignment, the following methodology was adopted:

- The preparation of the TOOLS for undertaking the evaluation;
- The identification of the Districts proposed to be visited in the State;
- The breakup of number of sites to be visited under each category of civil works being undertaken under the scheme namely – Lower Primary and Upper Primary School Buildings / Additional Class Rooms and Block Resource Centers (BRCs).
- Identification of the sites proposed to be visited in each district under the above categories.

The set of TOOLS was prepared conforming to the objectives as identified in the Scope of Work. These tools were discussed and debated with the Ed. CIL and finalized by the Ministry of Human Resource Development prior to the commencement of the work. A set of these tools is attached as Annexure –2.

To select the Districts proposed to be undertaken for the study, the following methodology was adopted:

- The location of the district in the state was assessed.
- The topography of the district – plain, plateau or hilly terrain.
- The construction material being used for the civil works in each district was considered as a parameter for its selection.

The consultants proposed to select the districts that were scattered and widely spread over the state; had different topography and used different types of materials for construction.

The 75 numbers of sites proposed to be selected were distributed in the four categories of buildings as follows:

- The civil works; both completed and in progress; undertaken in each category of building were collected for the selected districts proposed to be studied.
- The percentage of works undertaken for each category with respect to the total works undertaken in the selected districts was calculated.
- Based on this, the number of sites under each category of building was calculated in the same ratio as its percentage to the total works.
- The division of the sites proposed to be visited under each district was further calculated based on the percentage of works undertaken in that district with respect to the total works under that category.

Once the number of sites proposed to be visited under each district were finalized, the next step was to select the location of the works proposed to be visited. For this activity, a combination of stratified and random sampling

technique was undertaken. The data related to all the sites in the district was collected for the respective district and based on the location of the blocks, 6 to 10 sites were randomly selected one day in advance for the site visit. These selected sites were then communicated to the District Authorities for the site visit, to enable them to make all arrangements related to the travel, availability of officials and records at site. On reaching the site, the assessment of the works was undertaken based on the Tools finalized in consultation with Ed. CIL at New Delhi.

The above parameters were applied for the State of Andhra Pradesh and the following assessment was made :

TOPOGRAPHIC DETAILS OF THE DISTRICTS

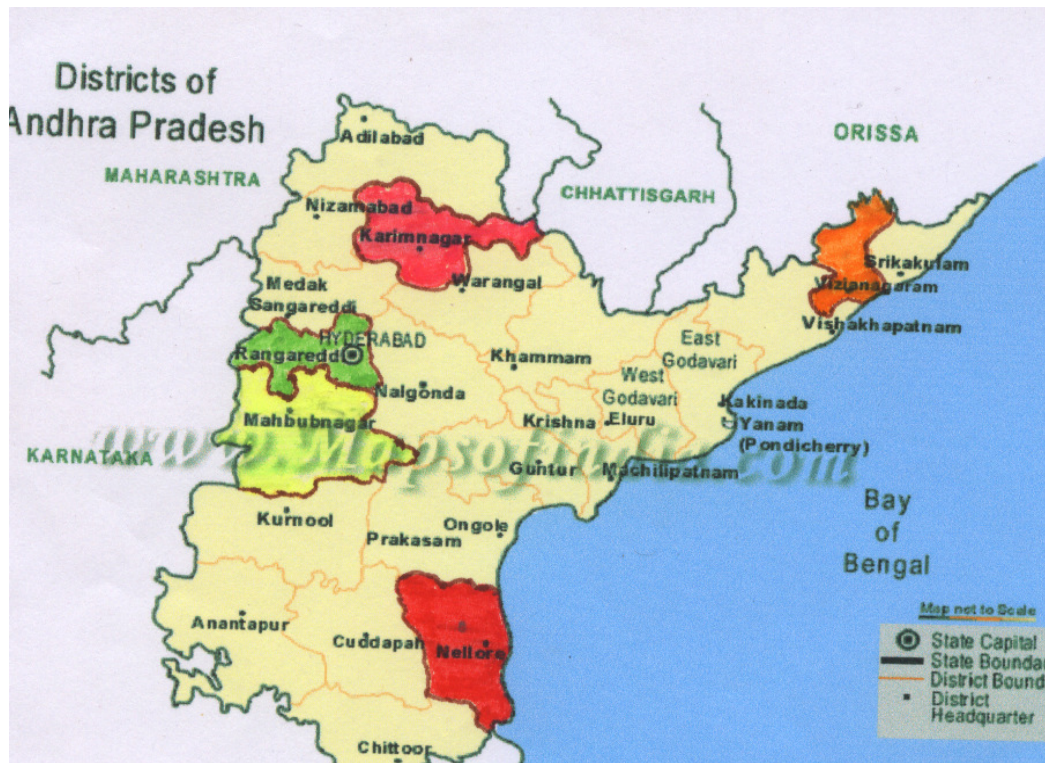
| Sr. No. | Name of the District | Number of Blocks | Terrain of the District | | | Construction Material used in Schools | | | | Location of the District | | | |
|---------|----------------------|------------------|-------------------------|---------|-------|---------------------------------------|-------|--------|-----------|--------------------------|-------|------|------|
| | | | Plain | Plateau | Hilly | Bricks | Stone | Blocks | Any Other | North | South | East | West |
| 1 | KRISHNA | 51 | √ | | | √ | | √ | √ | - | - | - | - |
| 2 | KHAMMAM | 46 | √ | | √ | √ | | √ | | - | - | - | - |
| 3 | PRAKASAM | 229 | √ | | | √ | | | | - | - | - | - |
| 4 | VISAKHAPATNAM | 4 | √ | | √ | √ | | | | - | - | - | - |
| 5 | NALGONDA | | √ | | | √ | √ | | | - | - | - | - |
| 6 | MAHABUBNAGAR | 64 | √ | | | √ | | | | - | - | - | - |
| 7 | VIZIANAGARAM | 34 | √ | | √ | √ | | √ | | - | - | - | - |
| 8 | SRIKAKULAM | 76 | √ | | √ | √ | √ | | √ | - | - | - | - |
| 9 | KADAPA | 51 | √ | | √ | √ | √ | √ | | - | - | - | - |
| 10 | CHITTOOR | 66 | √ | | √ | √ | √ | | | - | - | - | - |
| 11 | NIZAMABAD | 36 | √ | | | √ | | | | - | - | - | - |
| 12 | EAST GODAVARI | 60 | √ | | √ | √ | | | | - | - | - | - |
| 13 | KARIMNAGAR | 57 | √ | | | √ | √ | | √ | - | - | - | - |
| 14 | RANGAREDDY | 489 | | √ | | √ | | | | - | - | - | - |
| 15 | GUNTUR | 57 | √ | | √ | √ | | | | - | - | - | - |
| 16 | NELLORE | 46 | √ | | | √ | | | | - | - | - | - |
| 17 | KURNOOL | 56 | √ | | | √ | | √ | √ | - | - | - | - |
| 18 | HYDERABAD | 16 | √ | | | √ | | √ | | - | - | - | - |
| 19 | ANANTHAPUR | | | | √ | √ | | | | - | - | - | - |
| 20 | WARANGAL | 51 | √ | | | √ | √ | | √ | - | - | - | - |
| 21 | MEDAK | 46 | √ | | | √ | √ | | | - | - | - | - |
| 22 | WESTGODAVARI | 46 | √ | | | √ | | | √ | - | - | - | - |
| 23 | ADILABAD | | | | | | | | | | | | |

Based on the above parameters, the following districts were selected as the representative Districts for the State to undertake the study:

DETAILS OF SELECTED DISTRICTS FOR THE STUDY

| S. No. | Name of the District | Number of Blocks | Terrain of the District | | | | Construction Material used in Schools | | | | Location of the District | | | |
|--------|----------------------|------------------|-------------------------|---------|-------|---|---------------------------------------|-------|--------|-----------|--------------------------|-------|------|------|
| | | | Plain | Plateau | Hilly | | Bricks | Stone | Blocks | Any Other | North | South | East | West |
| 1 | VIZIANAGARAM | 34 | √ | | √ | √ | | √ | | - | - | - | - | |
| 2 | KARIMNAGAR | 57 | √ | | | √ | √ | | √ | - | - | - | - | |
| 3 | RANGA REDDY | 489 | | √ | | √ | | | | - | - | - | - | |
| 4 | NELLORE | 46 | √ | | | √ | | | | - | - | - | - | |
| 5 | MAHABUBNAGAR | 64 | √ | | | √ | | | | - | - | - | - | |

A map showing the location of the selected districts in the state is as below:



Highlighted districts were the ones selected for the field visit

The distribution of the sites under each category of the building proposed to be visited was as under:

DISTRIBUTION OF SITES UNDER VARIOUS CATEGORIES OF BUILDINGS

| S. No. | Name of the District | Number of Works being undertaken by SSA | | | | | | | |
|--------|---|---|-------------------------------|---|---------------------------------|----------------------------------|------------------------------|-------------------------------|---------------------------|
| | | PS/UPS | | ACR | | CRC | | BRC | |
| | | Com | IP | Com | IP | Com | IP | Com | IP |
| 1 | VIZIANAGARAM | 524 | 135 | 186 | 301 | 0 | 2 | 0 | 0 |
| 2 | KARIMNAGAR | 86 | 244 | 570 | 443 | 0 | 0 | 0 | 0 |
| 3 | RANGA REDDY | 151 | 9 | 148 | 3 | 60 | 3 | 0 | 0 |
| 4 | NELLORE | 447 | 372 | 461 | 383 | 0 | 0 | 0 | 0 |
| 5 | MAHABUBNAGAR | 678 | 43 | 222 | 1154 | 52 | 100 | 0 | 44 |
| 6 | Total | 1886 | 803 | 1587 | 2284 | 112 | 105 | 0 | 44 |
| 7 | Total works | 6821 | | | | | | | |
| 8 | Percentage of works with respect to total works | $(1886 + 803) * 100 / 6821 = 39\%$ | | $(1587 + 2284) * 100 / 6821 = 57\%$ | | $(112 + 105) * 100 / 6821 = 3\%$ | | $(0 + 44) * 100 / 6821 = 1\%$ | |
| 9 | Number of sites proposed to be visited | 39% of 75 = 29 but increased it to 30 sites | | 57% of 75 = 43 but reduced it to 41 sites | | 3% of 75 = 3 | | 1% of 75 = 1 | |
| 10 | Percentage of works in each category | $(1886) / (1886 + 803) = 70\%$ | $(803) / (1886 + 803) = 30\%$ | $(1587) / (1587 + 2284) = 41\%$ | $(2284) / (1587 + 2284) = 59\%$ | $(112) / (112 + 105) = 52\%$ | $(105) / (112 + 105) = 48\%$ | $(0) / (0 + 44) = 0\%$ | $(44) / (0 + 44) = 100\%$ |
| 11 | Division of sites under each category | 70% of 30 = 21 | 30% of 30 = 9 | 41% of 41 = 17 | 59% of 41 = 24 | 52% of 3 = 2 | 48% of 3 = 1 | 0% of 1 = 0 | 100% of 1 = 1 |

PS/UPS : Primary School / Upper Primary School; ACR : Additional Class Room; CRC : Cluster Resource Centre; BRC : Block Resource Center; Com : Completed; IP : In Progress

Subsequent to the finalization of the number of sites proposed to be visited under each category of buildings, the distribution of sites in each district was undertaken. The distribution was done in the same proportion as the number of works undertaken in each individual category. The tabulation for the same is as under :

DISTRIBUTION OF SITES IN EACH DISTRICT

| Category of Building | Status | Name of the District | | |
|----------------------|--------|----------------------|-------------------|-------------------|
| | | VIZIANAGARAM | KARIMNAGAR | RANGA REDDY |
| PS/UPS | Com | (524/1886)*21 = 6 | (86/1886)*21 = 1 | (151/1886)*21 = 2 |
| | IP | (135/803)*9 = 2 | (244/803)*9 = 3 | (9/803)*9 = 0 |
| ACR | Com | (186/1587)*17 = 2 | (570/1587)*17 = 6 | (148/1587)*17 = 2 |
| | IP | (301/2284)*24 = 3 | (443/2284)*24 = 5 | (3/2284)*24 = 0 |
| CRC | Com | (0/112)*1 = 0 | (0/112)*1 = 0 | (60/112)*2 = 1 |
| | IP | (2/105)*1 = 0 | (0/105)*1 = 0 | (3/105)*1 = 0 |
| BRC | Com | (0/0)*0 = 0 | (0/0)*0 = 0 | (0/0)*0 = 0 |
| | IP | (0/44)*1 = 0 | (0/44)*1 = 0 | (0/44)*1 = 0 |

PS/UPS : Primary School / Upper Primary School; ACR : Additional Class Room; CRC : Cluster Resource Centre; BRC : Block Resource Center; Com : Completed; IP : In Progress

| Category of Building | Status | Name of the District | |
|----------------------|--------|----------------------|---------------------|
| | | NELLORE | MAHABUBNAGAR |
| PS/UPS | Com | (447/1886)*21 = 5 | (678/1886)*21 = 7 |
| | IP | (372/803)*9 = 4 | (43/803)*9 = 0 |
| ACR | Com | (461/1587)*17 = 5 | (222/1587)*17 = 2 |
| | IP | (383/2284)*24 = 4 | (1154/2284)*24 = 12 |
| CRC | Com | (0/112)*1 = 0 | (52/112)*2 = 0 |
| | IP | (0/105)*1 = 0 | (100/105)*1 = 1 |
| BRC | Com | (0/0)*0 = 0 | (0/0)*0 = 0 |
| | IP | (0/44)*1 = 0 | (44/44)*1 = 1 |

PS/UPS : Primary School / Upper Primary School; ACR : Additional Class Room; CRC : Cluster Resource Centre; BRC : Block Resource Center; Com : Completed; IP : In Progress

The sites in the Districts were so selected that as far as possible they were in separate Blocks. No two buildings of different category were seen at the same site. The list of the sites visited for the study is attached as Annexed.

5.0 Evaluation of Civil Works

To undertake the evaluation of the Civil works in the State, a team comprising of two members of the Consultants visited the state from 01st July, 2007 to 17th July, 2007. The team comprised of Mr. M.K. Kaul and Mr. Sanjeet Kumar. Apart from visiting the sites as discussed in the previous paragraphs, the team interacted with the State Project Director's (SPD) office to understand the working mechanism of the project in the state related to the civil works.

5.1 State's Works Mechanism

To undertake the civil works under the Guidelines of the Sarva Shiksha Abhiyan, the state is undertaking the work through two different channels. One aspect is the release of the funds to the School management Committee (SMC) for undertaking the work and the other is the technical support and monitoring of the civil works being undertaken by the School Management Committee's /Ward Education Committee's/ Municipal Committee's.

Financial Aspects

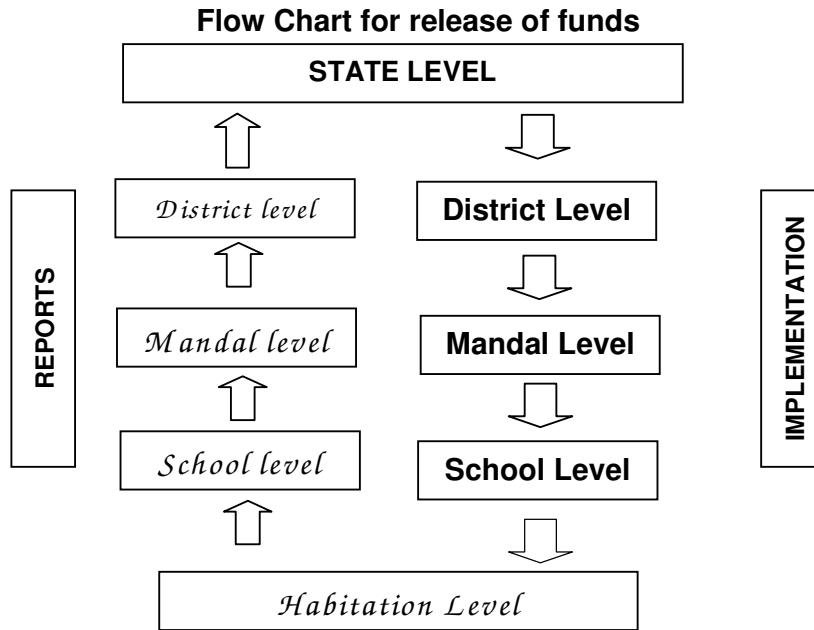
State Project Office / Commissioner & Director of School Education releases the funds to the Collector / Additional Project Coordinator (APC) / District Education Officer (DEO) who, in turn, releases the funds to the joint account of the School Committee's based on the Executive Engineer's (EE's) recommendation. The joint bank account is opened in the nearest bank to the village in the names of Chairman of School Committee and the Headmaster of the School. The APCs releases the amount in 3 installments based on the certification of Deputy Executive Engineer, concerned in the following manner : For construction of New School Building. Additional Classrooms, Mandal Resource Centres, Teachers centers & CRCs.

| | |
|--|-------------------|
| 1 st installment Advance (advance upon start of the work) : | 50% of total cost |
| 2 nd installment on reaching lintel level : | 35% of total cost |
| 3 rd installment Finishing stage of work : | 15% of total cost |

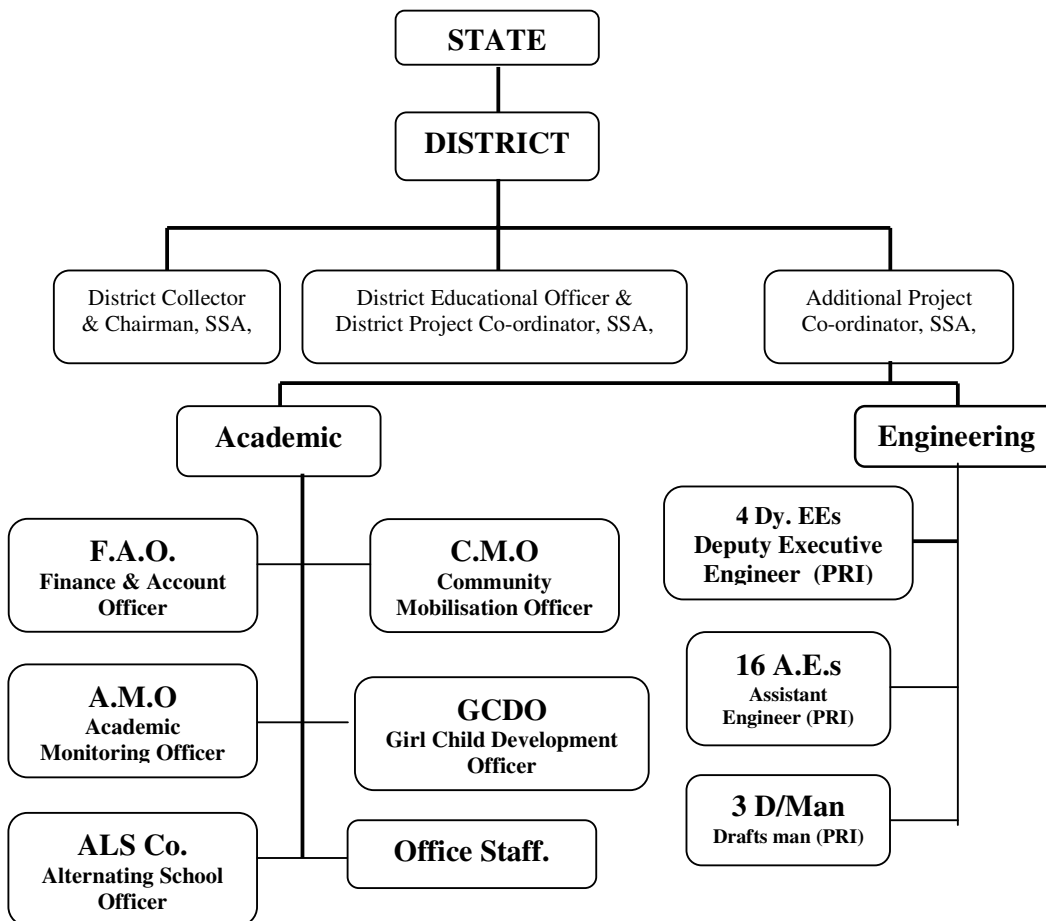
The School Committee and Head Master draw the amount in about six installments based on the Dy. EEs certification in the measurement book as follows:

| Install ment | Percentage | State of Construction |
|--------------|------------|--|
| I. | 10% | Advance on marking and procurement of materials. |
| II. | Addl. 15% | Plinth level |
| III. | Addl. 20% | Roof level |
| IV. | Addl. 230% | Roof laid, plastering, Door and Window frames fixed, flooring commences. |
| V. | Addl. 20% | Finishing completed, Development of campus. |
| VI. | Addl. 5% | Final payment after completion report furnished. |

The installment to be drawn is the amount as per the bill of quantities measured or as a fixed percentage as above whichever is less.



Works management set up for Implementation of Sarva Shiksha Abhiyan Mission (SSAM) at district level



Technical Aspects

The major technical support for execution of the civil works is to provide the following facilities to the SMC and other agencies:

- Provide the SMC with the building plans, specifications and items of work as envisaged in the project objectives.
- Provide training on the various aspects of account keeping and record book maintenance.
- Provide regular guidance as technical support to the SMC during work execution.
- Monitor the work progress and provide technical support to the SMC to complete the work within the time frame as envisaged in the project.

The Technical wing at the State Level is headed by the State Project Engineer (SPE) Hyderabad who is a technical adviser to State Project Director. The project office is well equipped with a team of architects, structural engineers and experienced construction engineers. The office is supported by a renowned senior Technical Advisor for time to time appraisal and guidance. At the District level the execution of the works is being undertaken by experienced engineers of the rank of Assistant Executive Engineers, Deputy Executive Engineer headed by Executive Engineer. The Engineering staff is on deputation to SSA from Panchayat Raj Institution (PRI). The solution to any problem arising at site is attended to immediately at the appropriate level.

The SPE has formulated a programme for the timely visit of the engineers of various ranks to site. The schedule for the same is as under :

The supervising engineering personnel visit the site at least once a week, AEE twice a month, Dy. Engineer once a month, and at the prescribed stages of work.

| Item Description of work | No. of visits | | Points to be checked |
|--|---------------|---------|---|
| | DEE | AEE/AEs | |
| 1. Foundation up to ground level | 1 | 2 | Layout level, reinforcement of grade beam, piles curing and compaction. |
| 2. Brick work up to DPC (Plinth level) | 1 | 2 | Quality of brick work, mortar and curing DPC. |

| Item Description of work | No. of visits | | Points to be checked |
|---|---------------|-----------|--|
| | DEE | AEE/AEs | |
| 3. Brick work up to lintel level | 1 | 2 | Quality of brick work, door, window, detailing spanning of openings and level |
| 4. Brick work above lintel, roof shuttering and reinforcement | 1 | 2 | Ventilation, Shuttering level, Shuttering quality, reinforcement of ring beam and roof slab |
| 5. Concreting of roof slab | 1 | 2 | Proportion of concrete and water cement ratio, workmanship, thickness, finishing and curing. |
| 6. Finishing of building | 1 | 2 | Plastering, Flooring, Door, Windows, fixing, painting. |
| Total Visits | 6 | 12 | |

Provision of building plans, specifications and items of work as envisaged in the project objectives

The plans for various alternative sites are discussed at SMC, Mandal and district levels and finally approved at state level in the SPD Office. The designs and the estimates are prepared accordingly for the works approved under annual works plan. The designs have been prepared for the following types of school buildings under study:

- One/Two/Three room for ACR
- New School Building for PS
- New School Building for UPS
- CRC one room hall type

The estimated cost of the buildings are as under :

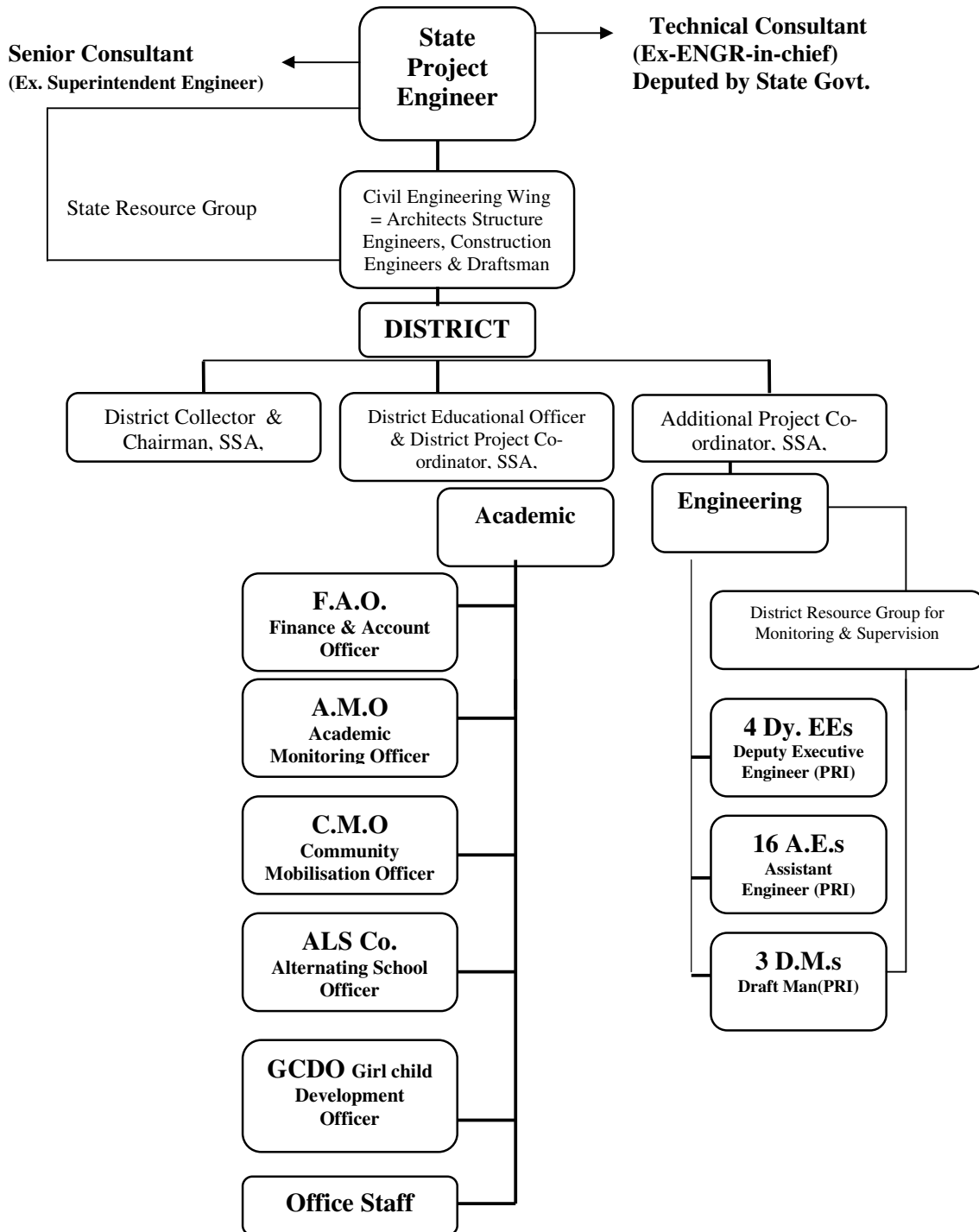
- (a) The unit cost of construction of one room ACR is Rs. 2.0 lakh.
- (b) The unit cost of construction of two room ACR is Rs. 4.0 lakh.
- (c) The unit cost of construction of three room ACR is Rs. 6.0 lakh.
- (d) The unit cost of the PS building is Rs. 2.0 lakh
- (e) The unit cost of the UPS building is Rs. 2.0 lakh.
- (f) In case for CRC, the cost of the building works out to Rs. 2.0 lakh.

Provide training on the various aspects of account keeping and record book maintenance.

The Engineers of the State and the District are imparted training to acquaint with the guidelines, account procedure of the SMC, quality control, procedures of installment release, design, drawings and estimates of the civil works at the SMO. Apart from the training they are handed over leaflets, formats of

agreements with SMC and the formats to be used by SMC during the construction period. It is expected that once these engineers are well versed with all the aspects of requirements of the SSA, they in turn will impart training to the SMC for proper implementation of the civil works.

Implementation monitoring and supervision of SSAM Civil works



A position of APC has been created at the District level by the District Authorities to ensure that all records and works related to the SSA work are kept as desired. The APC keeps track of the expenditure and work details and coordinates with the EE, the DEE's and Assistant Engineers at site. The APC is thus a nodal position between the Technical and the Administrative wing of the District for the SSA works.

Monitor the work progress to complete the work within the time frame as envisaged in the project.

The responsibility of monitoring the work rests with the state & district Engineers. Monthly reflection meeting between district and state authorities are conducted to review the achievements keeping in view the target and the timely completion. Any bottlenecks in the way of implementation are discussed solution arrived at, and tempo of work regained for smooth execution of work at site. Similarly at district level fortnightly meetings are conducted for review of the target achievements and obstacles if any are removed to ensure Speedy completion of the work within the stipulated time.

5.2 Field Visit Assessment

The Tools that had been developed in consultation with the Ministry of Human Resource Development, Government of India and Ed. CIL covered the following aspects of field assessment:

- Planning Process
- Site Selection Process
- Construction Process – techniques and innovations and quality control
- Cost effectiveness
- Design Innovations
- Additional facilities
- Safety Audit
- Implementation of works
- Operation and Maintenance of buildings
- Community involvement and Response
- Provision for Children with special Needs (CWSN)

Planning Process

In all the districts visited by the evaluation team the following observations related to the Planning Process were made:

- The typical plans as prepared by the SPD office based on the macro-planning, detailed surveys, District Information System (DISE) information and the site recommendations (from SMC's site engineers and the district Executive Engineers) are forwarded to district authorities for supply to SMC's / site Engineers to take up the work for execution as per the master plan of the school in hand, at the recommended site.
- No alteration in the sites selected for the construction of various structures has been reported or observed in the sites visited by the evaluation team.
- The construction period of the buildings is kept as 6 months. It was observed that though a well defined mechanism existed for taking over the donated land for new sites it took some time for its documentation and handing over to the School Management Committee's (SMC). However, the construction work is started at site without waiting for such approvals thus avoiding delay in work completion. Efforts are made to finalize works in stipulated period of six months. Unless some unforeseen problems are encountered by the SMC's by the way of unavailability of materials and labour the work is completed within the stipulated time. Most of the buildings visited by the team were observed to have been finished within the stipulated time. No laxity in release of funds to SMC as per the fund release pattern in the agreement has been observed.
- The material resources and planning is undertaken by the SMC in consultation with the site Engineer, an experienced head mason and sources are identified in the area keeping in view the specifications of the materials and reasonability of rates.



Upper Primary School Building



Primary School Building



Additional Class Room



Cluster Resource Centre

Site Selection Process

The APC fixes the priority of the work based on the computerized data available with him under the heading District Information System's (DISE) It was further observed that:

- Mostly all the works are undertaken in the area of the existing school premises where sufficient land is available for construction. Since the school compounds have sufficient land, no shortfall in the existing play field has been observed. The new school buildings constructed on land acquired from donors was found to have sufficient area than the minimum requirement.
- Since most of the land is of flat terrain, no topographic survey of any nature has been undertaken prior to the start of the work.

- In case of new sites no obstacles by the way of electrical lines, telephone lines or location in hazardous area has been observed the sites are barrier-free.
- The additional construction in the existing school premises are observed to have been located properly as per the master plan in most of the sites visited. At a few places, the already existing structures have been constructed in a haphazard manner resulting in shrinking of the play fields.
- Efforts are being made by the authorities to motivate the SMC's to donate additional land to ensure a better play field and provision for the future expansion as well.



Building Cluster in the Existing Complex

Construction Process

As already indicated, the construction of the buildings is undertaken by the SMC under the Technical supervision of Engineers from the PRI wing at district level. The work of the engineers is well appreciated by the SMCs. The following observations were made :

- Proper Technical inputs and guidance was given to the SMC's by the Engineering wing during the site visits as per their schedule or under certain circumstances the Engineer visits the sites as per the request of the SMC's.

- The building materials were procured from the local market as per the specifications and under the prevalent procurement method. The cement and steel is procured from the authorized agent of the area.
- The construction period for the completion of the work has been worked out as six months. Most of the sites were completed within the stipulated period, but there was an instance where the work was abnormally delayed because of legal intervention.
- The building materials in two districts (Vizanagaram and Nellore) were being tested in the adjacent local Polytechnic institution laboratory. The other districts under study resort to random field test of material at site.
- The records at site have not been maintained in the proper format because of the inexperience of the SMC to hand such an activity.
- Measurement Books are recorded for the work done at site regularly and payment released as per work done / material utilized at site.



Building work in progress



Shuttering in progress

Cost Effectiveness

It was seen and observed that the local material as available at various sites was being utilized for construction purpose. The using of fly ash bricks for construction to reduce the cost of the building was seen in the Districts of Vizianagaram and Nellore.



Fly ash Brick for use at site

Design Innovation Process

The research and development wing at the state level is busy with innovative designs of school buildings keeping in view the teaching requirements and child friendliness.

- The CRC buildings are utilized for different ways in the District. At some places the CRC building is being utilized as an additional class room or staff room for the teachers. The normal set-up is altered for a day to organize the monthly meeting of the teachers in the CRC building.
- The building designs supplied from the SPD office do not have a provision of ramps for Children With Special Needs (CWSN). However, it

was observed at site that ramps are being executed with appropriate slopes and railing to facilitate the CWSN.

- The SMC's are not lacking in donating land or contributing in cash for fulfilling their aspirations to make the children of their village literate.



Ramps in different school buildings

Additional Facilities

The facilities that were checked in the school complex apart from the building proposed for evaluation under the programme were:

- Ventilation
- Drinking Water
- Sanitation
- Kitchen Shed
- Boundary Wall
- Plantation
- Water Harvesting Techniques
- Electrical Connections
- Energy efficient building – solar power etc.
- Audio-visual equipment

Ventilation : The present building design have good provision of ventilators at the top of the walls near the roof. The ventilation is adequate. All ventilators are Rectangular in shape with jalli work.



Ventilation and jalli work

Drinking Water : The hand pumps are installed in the school buildings to cater for the drinking water needs of the children. Some schools are having an arrangement of drinking water from rural water supply schemes or the municipal supplies. In case of water supply through hand pumps, the record of water sample test report had not been maintained. At some sites the hand pump installed have become defunct due to its misuse by outsiders and stealing of its accessories. Generally the new buildings are devoid of water facility, which is the responsibility of the Rural Works Services. The progress of work by the RWS is slow and it does not match with the pace of the building construction.



Drinking water storage tank



Hand Pumps in School Compound

Sanitation : The facility of sanitation is inadequate in the rural areas. It was observed that though some schools had separate toilets for boys and girls but in other areas there were no separate arrangement. In new school buildings no sanitation facility was available inspite of the fact that the building was nearing completion / complete. There were certain schools where adequate number of toilet blocks were existing but non functional. The reason for the same was attributed to the fact that the toilets were being used by outsiders as the premises were not protected by a boundary wall.



Toilet Blocks in schools have unhygienic conditions and are not properly maintained

Kitchen Shed : . The kitchen sheds in the existing schools need to be modified to the extent that the rice and other eatable are stored and secured properly.



Kitchen shed used for the preparation of mid-day meals

Boundary Wall : There are no boundary walls in rural and tribal areas of the sites visited. This has created a sense of insecurity among student, and the staff. The absence of the boundary wall has prevented the head master to install child friendly element in the open premises because of fear of its being stolen.



Different types of
boundary walls in
schools

Drainage Arrangements: There was no drainage arrangements in the school complex to drain out the rain water. The roof top drainage provisions were not adequate at most of the places. Plinth protection works were not provided in the building at site or in the relevant designs / estimates. Problem of water logging is seen in most of the school buildings during rainy season.

Plantation: This aspect is completely ignored in most of the schools. The rural schools rarely have any plantation as these are mostly destroyed due to lack of any tree guards. Old trees or plantation in the complex have not been disturbed and kept as such. Due to the individual initiative of the Head master, some plantation in the form of flower beds was seen in some schools.



Plantation in school buildings

Water Harvesting Techniques: At some places where the water harvesting techniques are being provided are in buildings constructed in the districts of Medak, Nizamabad and Ranga Reddy. These are being assisted by a UNICEF assisted project.

Electrical Connections: No electric connections were provided in the school as no evening classes were being run in the school. The CRC's were provided with electrical connections as the teachers have to sit late during training days.

Energy Efficient System: The building designs for the schools are simple but no energy efficient system has been provided in the designs.

Audio-Visual equipment: In some high school buildings, some audio –visual equipment was available. But due to lack of electrical connection this equipment was of not much use.

Safety Audit

The team tried to evaluate the building from the safety point of view. The following parameters were assessed:

- Construction joints
- Earthing
- Protection from high rainfall
- Earthquake
- Annual Maintenance
- Safety and security of children and teachers
- Firefighting Arrangement

Construction Joints: Horizontal construction joints are being provided in the new buildings being constructed at site. No construction joints are required and proposed in the designs being supplied to the SMC by the SPD office. However, it was observed at site that while extending the existing school building to accommodate an additional classroom the saving was being made by using the common wall of the old building. No additional precaution was being taking to make the structure homogeneous. Due to the combination of

the old and the new building, there has been an omission in synchronizing the buildings at the roof and the lintel level.



Synchronization of old building with new construction

Earthing : There is no provision of providing electrical supply to the day schools. As such no earthing was provided in any of the school buildings.

Protection from high rainfall : No special or additional provision like plinth protection works have been made in any building for protection against high rainfall. Rather due to improper drainage, water logging conditions exist around the school buildings during rainy season. The only care being taken to protect the inmates from rain water is the provision of sun shade, verandah etc.

Earthquake considerations : Earthquake considerations are being taken up in the structural design and the buildings are being constructed accordingly. At present the new school buildings in Hyderabad city are being provided with earthquake resistant structures.

Annual Maintenance : Prior to SSA, there was no operation and maintenance fund at the disposal of the Head Master for school maintenance. With the allocation of the annual maintenance fund, the head master is now able to spend some money on the school infrastructure. White washing and minor repairs in old buildings are undertaken from this fund.

Since the building constructed under SSA is a recent construction when compared to the other school buildings, it does not require any maintenance at this stage. As such these buildings are left unattended so far as the annual maintenance is concerned. The Head Masters on the sites visited by the team were of the opinion that the older buildings require more care than the new building constructed under the SSA programme. The consultants could see the pace at which the deferred maintenance of the buildings constructed under SSA is accumulating. It may not be possible to maintain these buildings within the allotted annual maintenance grant in the near future.

Safety and security of children and teachers : As the school is in the village or in its near vicinity, there is no concern about the safety and security of the children and teachers.

With no boundary wall and gate arrangement, the entry of undesired elements into the school complex cannot be prevented. Also the schools being located near the roads or water ponds have no safety for the children.

Fire Fighting Arrangement: There is no provision of any fire fighting arrangement in any of the buildings being constructed under the SSA programme.

Implementation

The SMC on the basis of guidelines given in the construction manual undertakes the selection of sites for construction of the school. The Assistant Engineer assists the SMC while selecting the site. The District Project Officer (Additional Project Coordinator / DEO) then approves the site after receiving a report from the SMC and the Assistant Engineer.

The type design plan for the school building is finalized at State Level Project Office and the same is adopted without any major alterations. However the SMC has the powers to slightly modify the design to its requirement and choice keeping in view the native designs, local practices and materials available. These modifications are primarily made to improve the existing provisions and reduce the extra cost of the suggested materials. All these modifications are undertaken after the prior approval of the engineer in charge.

The estimate for the construction of the building is prepared by the Assistant Engineer and technical sanction for the same is accorded by the Deputy Executive Engineer (PR) / Executive Engineer (PR) / Superintending Engineer (PR) as per their sanctioning powers.

Before starting the construction work, an agreement is executed between the District Education Officer and the SMC. Subsequent to that the initial advance is released to the SMC to start the work. The Assistant Engineer supervises the construction work on day to day basis. He is available to SMC throughout the construction period for assistance and guidance to improve the quality of construction.

The State Project Office reserves the right to inspect and reject any bad work by SMC and order reconstruction / rectification.

Monitoring

The progress of the construction, its quality and release of finances is being monitored and maintained by the Assistant Engineer / Deputy Executive Engineer / Superintending Engineer / Officer at the State Project Office. Installments are released only after receiving satisfactory progress report / check measurement for value of work done by the Engineering personnel.

State Project Office also deposes persons for inspection of quality of construction and also monitor the pace of progress. Quality Assurance Audit is one of the important issues being undertaken by the Education Department for issues related to construction works with the infrastructural facilities available in close vicinity of the construction site.

Operation and Maintenance

A.P. District Primary Education Programme SSA, through its civil works programme aims at developing a relation of partnership with the community, breaking away from the prevalent provider and receiver process. The community is being involved in the civil works activities at ever stage, right from the building designs to the maintenance of the buildings.

The SMC is expected to generate funds from people's contribution. The school maintenance development fund thus created is operated by the SMC. On occasions like Republic day, Independence Day and other local festivals functions are organized by the SMC. The villagers are mobilized on such occasions to contribute funds towards the school maintenance / development. It is expected that the SMC collects some resources out of Jawahar Rozgar Yohana and other funds allocated to a the Panchyat. The MLA scheme and MP fund also useful for the school development. Savings accrued in the utilization of funds released by Shramadanam or contribution in cash or kind, also being utilized for maintenance. The amounts so generated are clubbed with repairs grant released under SSA and utilized for repairs & maintenance of school buildings.

The SPO has prepared a complete tabulation of the maintenance aspects related to the buildings constructed under the SSA programme. The details of the tabulation are as under :

| CORRECTIVE MAINTENCE | PREVENTIVE MAINTENANCE |
|--|---|
| Details with small repairs detected early | Maintenance carried out in anticipation of problem as regular routine. |
| Unplanned for or emergency repairs | Depending on the component this routine can follow these frequencies |
| Neglected repairs which can lead to large and expensive problems | Daily Weekly Regular routine (Specific to the component) the following pages offer a system for such a routine. |

PREVENTIVE MAINTENANCE – EXTERIOR

| Sr. No. | Component | Frequency | Description |
|---------|-----------|------------------------------|---|
| 1. | Roof | <input type="checkbox"/> ○ ● | Check roofing before monsoon. Clean out rain water channel before monsoon Check for water logging on roof. Correct Inadequate slope. Clear Unwanted Growth of vegetation of roof. |
| 2. | Walls | <input type="checkbox"/> ○ ● | Check for damages, cracks and settlements every 6 months. Check for deterioration of bricks in exposed brick works. Check for growth of weeds and Fern in exposed brick works. |
| 3. | Floors | <input type="checkbox"/> ○ ● | <input type="checkbox"/> Sweep all external floors and terrace. ○ Wash all external floors and terrace. ● Check for damages and cracks every 3 months. |
| 4. | Window | <input type="checkbox"/> ○ ● | <input type="checkbox"/> Paint doors and windows every year. |
| 5. | Verandah | <input type="checkbox"/> ○ ● | <input type="checkbox"/> Keep the verandah clean. Do not litter sweep daily. ○ Keep weep holes clean and clear. ● Check all verandah parapet walls weep holes are cleared before monsoon. |
| 6. | Apron | <input type="checkbox"/> ○ ● | <input type="checkbox"/> Sweep apron. Do not litter Check for cracks and damages every 3 months. Check water channel is clear before monsoon. |

| Sr. No. | Component | Frequency | Description |
|---------|----------------------|--|---|
| 7. | Blackboard | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Mop blackboard with moist cloth. <input type="radio"/> Wash black board at the end of the week. <input checked="" type="bullet"/> Check for cracks and damages every 3 months. Repair once a year. |
| 8. | Toilets | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Keep toilet surroundings clean. <input type="radio"/> Sweep surroundings thoroughly. <input checked="" type="bullet"/> Check for Water logging before and during monsoon. |
| 9. | Water Drainage | <input type="checkbox"/> <input type="radio"/> ● | <input checked="" type="bullet"/> Check all channels and gutters are cleared before monsoon. |
| 10. | Green and Plantation | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Water plants and saplings keep you surroundings green. <input type="radio"/> Remove all weeds. Protect all plants and saplings from cattle and other damage. <input checked="" type="bullet"/> Plan your garden seasonally for vegetables flowers and other plants. |
| 11. | School Grounds | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Do not litter the school. Keep a few litter bins on the grounds. <input type="radio"/> Empty out all ground litter bins. Bury Bio-degradable and burn garbage. <input checked="" type="bullet"/> Check drainage in grounds before monsoon. |
| 12. | Boundary Wall | <input type="checkbox"/> <input type="radio"/> ● | <input checked="" type="bullet"/> Check for drainages every 3 months. Plan for plantation along boundary wall. |

Preventive Maintenance, Interior

| Sr. No. | Component | Frequency | Description |
|---------|-------------------|--|--|
| 1. | Walls | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Check for damages / cracks in wall. - Plaster annually for patch repairs. - Painting once a year – white wash. |
| 2. | Floors | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Sweep floors <input type="checkbox"/> Keep litter bins in every room and empty them out every day. <input type="radio"/> Wash all paved floors. Check for cracks and damages every 3 months. |
| 3. | Ceiling | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Dust ceiling with broom – remove all cobwebs. - Check for damages every 3 months. |
| 4. | Doors and Windows | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Close and lock all doors and windows after school hours. <input type="radio"/> Dust all doors and windows, remove all cobwebs. <input checked="" type="bullet"/> Check for rust in security bars use red oxide paint. - Check for damages in frames, shutters and hardware. - Oil, door and window hinges every 3 months. |
| 5. | Blackboard | <input type="checkbox"/> <input type="radio"/> ● | <input type="checkbox"/> Mop blackboard with moist cloth after school hours. <input type="radio"/> Wash blackboard at the end of the week. <input checked="" type="bullet"/> Check for cracks and damages every 3 months. Repaint surface one a year. |
| 6. | Toilets | <input type="checkbox"/> <input type="radio"/> ● | <input checked="" type="bullet"/> Keep toilets clean after use thoroughly clean toilets with a disinfectant. Check for damages every 3 months. Alternative latrine pits every 3 – 4 years. |

Daily ; Weekly; Regular Routine

Community Involvement and Response

The basic concept of involvement of community in the construction of schools is well thought and the results are overwhelming and responses enthusiastic it is an Abhiyan by the people for the people and of the people. The community is donating generously land and other items for speedy

completion of the schools and other structure meant for the their onwards and managed by them only. The sense of ownership is generated. They feel as one of the important constituents of the system evolved for the mission. .

Provision for Children With Special Needs (CWSN)

No special provisions have been made for CWSN other than ramps. The ramps have not been provided in all school buildings. Most of the ramps are appropriate and used by all school children.

6.0 Observation during the Field Visit

After the site visit of the approved sites and the interaction with all the Stakeholders the following observation have been noted.

Highlights of the scheme

- The State has provided experienced technical staff and man-power on the project after taking engineers on deputation from the State's Panchayati Raj Engineering wing and deputed them for the works of SSA. The Engineering staff deputed is duty bound and dedicated to their profession.
- The technical staff at the site is well supported by an experienced team of engineers at the State level. Thus the problems faced at site are solved very quickly.
- The success of the programme is only possible because of the involvement of the SMC into the system. The infrastructure that had been lacking in the school complexes for several years has been upgraded within this short time span because of the active participation of the SMC.
- The work and responsibility of the State Education department in mobilizing and creating awareness amongst the Villagers to build the buildings for their own children is the highlight of the success of this programme. Schools located / constructed in tribal areas with residential and other facilities is greatest success of the mission in the state.
- The participation and involvement of the SMC and the villagers in the rural areas is much more when compared to the urban areas.

- Land donations for construction of the school buildings from donors is not found lacking.
- The provision of the annual maintenance funds for the Head Master under the SSA project is a boon for them. The Head Master / Head Mistress feel that since the start of this funding they could do some maintenance works in their school which have been left unattended for several years.
- The mid-day meal is an added attraction for the children. Well prepared food is being served to the children.
- School buildings have been constructed in the tribal district of Vijaynagaram where there is dearth of technical knowledge. However, the engineers visit the site as per their schedule unmindful of the turmoil in the area. They have been successful in executing residential schools for the tribal area.

Shortfalls

- Class Rooms are still over crowded at most of the institutions, the proper ratio of class room students remains still high its achievement to the ratio 1:40 is still a target for achievement.
- It will be in the interest of luring of more children to the school if attention is given to impart education in English medium in addition. As there is a stiff competition from private institution with main attraction as the medium of education as English / Hindi.
- Design strategy needs to be changed from single storey construction to multistoried building. The foundation needs to be designed accordingly so as to enable to construct the rooms at various levels of course in phased manner. The task has been given a start though needs to be continued to reduce the requirement of additional land & ensure a good space management. Building file comprising of various documents at site i.e (cashbooks, stock register, muster rolls, etc.) need to be regularly maintained so that there is no error in procurement or deployment of materials / manpower at site.
- Mostly there are no boundary walls in the schools especially in case of new school buildings. On interaction it was given to understand that there are no funds available for construction of boundary walls. This has

resulted is a sense of insecurity amongst the students and the staff. It has further resulted in the delay in the development of the school premises in terms of child friendly material, plantation and loss of school facilities like hand pump etc. which get stolen.

- In a few institutions the sanitary blocks were seen to be defunct due to misuse by outsiders owing to the fact that the area is not protected by any boundary wall.

7.0 Recommendation

As assessed in the field visit of the sites selected, the consultant is of the opinion that the concept of community involvement is a broad based concept and people oriented with no gender basis. The involvement of women as its prominent members is mandatory. The community works selflessly (donates land cash and labour) as a unit of the district for fulfilling the dream of education for all. The task could not have been fulfilled so rapidly without their participation.

To ensure a better quality to the implementation of the project it is recommended as follows :

Mapping of the schools (Master Planning of Schools)

Though master planning of the school premises is being taken up but proper school mapping in terms of infrastructure, land area and facilities needs to be undertaken to have a better planning platform.

Third Party Inspection / Material Testing

To keep a check on the works being executed by the SMC and the supervision of the State Engineers, it is recommended that an independent third party be engaged for technical audit, testing and supervision at site to ensure a better quality control of the structures under construction.

Structural Amendments

The following observations are made pertaining to the designs :

- The structural designs for foundations be taken up for a loading to pave for a multilevel structure ensure a good space management, minimizing the need of additional land for the structures to be constructed in a single premises in the future. The technique though taken up in hand needs to be adhered to as a policy.
- Provisions for earthquake resistance to be provided in all buildings while designing the components of a structure.
- Plinth protection is not provided in design / drawing or executed at site. This is an essential requirement of the building design in order to save the intrusion of water into foundation thus protecting the building structure from destabilization. In future works provision for the item should be made in the estimate.
- There is no provision made in the typical estimates from SPO for ramps to facilitate barrier free movement of CWSN. But during the site inspection it was found that most of them had provided ramps with hand railing with a minimum slope of 1:12 along the alignment. This aspect can be amended in the drawings being issued by the SPO.
- The spouts though provided in the buildings need to be designed to arrive at the actual no required as per the rainfall intensity of the area. Further there is no provision of down take pipes for the drainage of rain water from the roof top, which is essential to protect the foundation from scouring effects of the gushing waters from the spouts during rains.
- The boundary walls should be reinforced by providing angle iron posts at the top of the existing / proposed wall after embedding them in cement concrete blocks and connecting them further by a row of wire mesh so as to ensure against any trespassing. This will ensure a safe and secured atmosphere for assets created and to the occupants of the school i.e students and staff.

Review of training programmes to SMC's / Head Master (Instruction to SMCs / Head master)

During sites visits it was observed that the Head Master, the chairman of the SMC is not well versed with technique of proper documentation. It therefore suggested that the frequency of training programmes be increased and ensured that the Head Master and the Chairman fully understands the

technique and documents checked by the visiting theirs while on tour to the site and point out any deficiencies to the Head Master for future guidance.

Additional Facilities

There is a time gap between the construction activities and the provision of additional facilities like water and sanitation. The reason as explained at site was the fact that both the activities are being undertaken by separate agencies. While the SMC undertakes the building construction work, the water supply and sanitation is left to the Rural Water Supply Department of the state. It is therefore suggested that the gap in both the workings may be looked into and they should converge directed to execute the works in tandem with the implementation schedule of SSA.

Inadequate Annual Maintenance Grant (Review of annual maintenance grants)

The annual maintenance grants available with the school authorities are meager as compared to the actual requirement at site. A lump sum amount of Rs.5000/- year is granted to the school for there annual maintenance or petty repairs.

This needs to be reviewed as per the actual requirement at site on the basis of the master plan of the Respective. Schools & funds released on the basis of per square meter area as the yard stick.

The major repair / renovations are however under taken under annual works plan.

The consultant was highly impressed with the outcome of the SSAM. This is quite successful people are quite amused to see the future of their children being defined with their involvement. They do not hesitate from donating lands, cash, labour and even the materials for the raising of infrastructures for housing their own children for elementary education.

In short this is an **ABHIYAN BY THE PEOPLE OF THE PEOPLE AND FOR THE PEOPLE**. The institution has this been democratized.