

# **First Meeting of the National Resource Group on ICT**

*15 May, 2014*

## **Notes for the Meeting**

### *Introduction*

The ICT@Schools Scheme of the Ministry of Human Resource Development, Government of India provides for the establishment of ICT facilities in secondary schools of the country for imparting computer literacy to students and teachers and to integrate computers with teaching learning processes. This scheme has been in operation since the Ninth Five Year Plan.

Subsequently, the National Policy of ICT in School Education has been drawn up by the Ministry. The Policy attempts to expand the scope beyond computer literacy and broad base the understanding of ICT applications in education including use of internet, accessibility, repositories of e-content, teacher networks and professional development, school administration and e-governance in order that ICT emerges as a meaningful and cost effective instrument to realise the goals of universal and equitable quality education.

One of the recommendations of the National Policy of ICT is the setting up of The National Resource Group on ICT. The Group is mandated to pool in insights and experience from the field to critically examine and advise programmes related to ICT in school education and their implementation. Chaired by the Secretary, School Education, MHRD, the Group consists of state representatives, national level institutions, and technical / education experts with established work n ICT in school education.

### **ICT Scheme Implementation:**

The implementation of the scheme has typically involved the establishment of a computer laboratory per school consisting of ten computers with a varying set of accessories. The progress of the implementation by the States since the Ninth Five Year Plan till 31st March 2014, is as below:

States & UT	35
Schools approved under scheme	87851
Schools Implemented	70484

Project Period of 5 Yrs. Over	19779
Schools to be implemented	17367

*Annexure 1 gives the statewise breakup*

While the overall figures indicate a healthy coverage, a number of challenges are being faced:

- Typically, the desktop computers and accessories are not expected to last beyond five years. Hence schools benefiting from the scheme in Ninth and Tenth plan period are no more expected to have this facility (except in a few rare cases). These schools would also be most affected as they would be revisited only after all schools are covered.
- Typically, the number of terminals (as per the scheme) is 10. At two children per terminal, (20 children per session and two sessions for each child each week), over a 48 session week, only about 480 children are covered. Most schools have more than these numbers. The problem gets compounded in situations where a +2 course runs in the same campus (eg., Pondicherry) and takes away computer time.
- Typically, the implementation is operated through a BOOT model. From the government's perspective, this is a fast track mechanism of covering more schools, as the financial liability is spread over five years. Only a few system integrators have emerged. Complaints of unhealthy competition, deficiency of service and cartelisation have been levelled against the vendors and a number of court litigations have stalled progress of the scheme.
- Mechanisms for maintenance of equipment, replacement of non-functioning accessories, periodical replacement of batteries do not exist. Tender documents either do not adequately address these issues; neither is a monitoring system put in place. Beyond the period of the BOOT, provisions for repair and maintenance are ambiguous.
- Typically, a teacher is *supplied* by the BOOT vendor. In some cases, the state has contracted teachers on their own. This teacher doubles up as the system administrator, manager of the infrastructure as well as the computer teacher. Rarely is the qualification and expertise of this teacher suited to the expectations. Job descriptions have not been developed and

matched qualifications evolved.

- Typically, the software component is restricted to an operating system and an office suite. No attempt is made to expand this range and all activity in the ICT class is restricted to the learning of specific software applications. Internet is not a standard part of the package and rarely are activities defined around this service. Other teachers in the school rarely use the ICT infrastructure.

### **National Repository of Open Educational Resources (<http://nroer.gov.in>):**

Launched in August, 2013, with an aim to map teachers and students, schools and institutions into a nation wide peer network to enhance the quality of education, the NROER offers digital and digitisable resources in different languages together with online activities centred on them to service the needs of all stakeholders. A partnership model, involving the State education agencies in the collection, curation and deployment of local and localised resources has been established to expand the range of resources, reach out to students, teachers and state institutions.

The proposed roadmap of NROER and related issues are as below:

- NROER intends to grow into a participatory network of teachers, students, professionals and institutions aimed at building a nation wide support system for education. Enabling participation, facilitating the activities, providing access to the end user, etc., have to be articulated and suitable design and technological support evolved.
- The software platform on which NROER is based, MetaStudio, is an initiative of the Gnowledge Lab of the Homi Bhabha Centre for Science Education, Mumbai. A small team of professionals are currently involved. Participation of professionals from a range of design and technological backgrounds is needed to fast track and add useful functionalities to NROER. Newer possibilities for the school system have to be envisaged and enabled.
- The resources on NROER is expected to include books, journals, courses, discussion forums, special interest groups, exhibitions, contests and data visualisation possibilities. Extending NROER capabilities to provide for these (defining

and designing apps, for example) have to be facilitated.

- The growing reach and acceptability of NROER depends on the range of resources and activities. A large number of institutions have begun contributing their resources. Support is sought in identifying other institutions and their collections, selecting and curating these resources, mapping and showcasing them on NROER.
- Making available all resources in multiple languages is a prime objective of NROER. Involving the states, facilitating large scale digitisation of existing resources (mostly print), translation and development of new resources has been initiated. Support is sought to facilitate large scale participation of people – teachers and others in the process.

## **ICT Curricula for the Schools:**

ICT Curricula for the school system (for teachers as well as students) have been developed by the Central Institute of Educational Technology, NCERT and accepted by the Central Advisory Board of Education. The syllabi and the course materials developed as a part of this will help guide the building of capacities and meaningful utilisation of the ICT facilities.

Syllabi for the students course has been defined. The course requires three sessions per week (one teacher led demonstration and two hands on sessions). It is spread over 90 weeks spanning three years. The course can begin as early as grade 6 and completed before children leave school.

Syllabi for the teachers course has also been defined. This course is spread over three induction and 14 refreshers, which can be taken separately. Credits accumulated over the course makes a teacher eligible for a Diploma in ICT in Education, details of which are being worked out.

The course materials – activities and resources are being deployed online (<http://ictcurriculum.gov.in>) and can be used by any school system to run the course. A pilot run of the students course is expected to be rolled out in July, 2014 in the Navodaya Schools.

### ***Meeting of the Technical sub-group of the NRG***

As a prelude to the meeting of the NRG, a technical session is being organised. This session is expected to dwell on the challenges faced in taking ICT based initiatives in the school system and provide inputs to the NRG. The members of the sub-group have been invited to make short presentations around their areas of expertise. A summarised report of their suggestions will be presented to the NRG.