

# DISCUSSION ON

## New Knowledge, pedagogies and approaches for teaching of Science, Maths and Technology in School Education to improve learning outcomes of Students.

One of the most important measures taken up for improving the quality in secondary education is to improve the Pupil-Teacher ratios by appointing additional teachers in order to improve the classroom transaction process and environment. Further, special attention is paid on teaching of Science, Mathematics and English. Poor science and maths education (and English) accounts for 80 per cent of total students who fail in Tenth Board Examination. The low enrolment in science stream at higher secondary level and poor-quality education is a constraint in development of scientific manpower in the country. Science and Maths education would need special attention. Some of the initiatives under consideration include:

- Promoting innovations by encouraging talent spotting of innovators in schools through Innovation Scholarships
  - Launch a massive science outreach programme aimed at students and their parents – Introduce Mobile labs and establish science centers
- Quality in education is inherently dependent on curriculum and learning objectives, learning materials, pedagogic processes, classroom assessment frameworks, teacher support in the classrooms, and school leadership and management development. A new framework



for curriculum is needed at regular intervals in order to take cognizance of the developing issues in society and how to address them. A variety of learning packages needs to be developed at State and district levels, with adequate provision for cluster- and school-level modifications to aid the teacher and provide increased choice. Learning enhancement programme (LEP) under the SSA is continued in the Twelfth Plan. Every year, States need to articulate the learning goals that are being targeted and the strategies (methods, materials, models and measurement) that will be used to reach those goals. Institutional assessment/ accreditation of the elementary schools is envisaged.

- What are the workable strategies for strengthening the quality of teaching–learning processes for better outcomes;
- What are the various approaches regarding curricula renewal, new pedagogies and use of technology to improve the learning levels.
- In the event that parents do not know what outcomes to expect from which level, can these processes truly fructify without engaging with parents? How can this aspect be addressed?

