Joint Review Mission on Teacher Education

(Final Draft, 27 September, 2013)

Punjab

13- 19 June 2013

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Abbreviations

Government Institutions

BITE	Block Institute of Teacher Education
BRC	Block Resource Centre
CCRT	Centre for Cultural Resources and Training
CIET	Central Institute of Educational Technology
CRC	Cluster Resource Centre
CTE	College of Teacher Education
DIET	District Institute of Education and Training
DRC	District Resource Centre
DST	Department of Science and Technology
GISTC	Government In-Service Training Center
GNDU	Guru Nanak Dev University
GOI	Government of India
HBCSE	Homi Bhabha Centre for Science Education
IASE	Institute of Advanced Studies in Education
IIM	Indian Institute of Management
IISER	Indian Institute of Science Education and Research
IIT	Indian Institute of Technology
MHRD	Ministry of Human Resource Development
MGSIPA	Mahatma Gandhi State Institute of Public Administration
NCERT	National Council of Educational Research and Training
NCTE	National Council for Teacher Education
NUEPA	National University of Educational Planning and Administration
RIE	Regional Institute of Education
SCERT	State Council Educational Research and Training
SISE	State Institute of Science Education
TEI	Teacher Education Institute
TIFR	Tata Institute of Fundamental Research
TISS	Tata Institute of Social Sciences
TTI	Teacher Training Institute

Private and Non-Governmental Organisations

AIFT	American India Foundation Trust
BCL	British Council Library
NGO	Non-Governmental Organization
PICTES	Punjab Information and Communication Technology Education Society

Commissions and Boards

JRM	Joint Review Mission
JVC	Justice Verma Commission
PAC	Program Advisory Committee
PEPSU	Patiala and East Punjab States Union
PSEB	Punjab School Education Board
PUDA	Punjab Urban Planning and Development Authority
SMC	School Management Committee
TEAB	Teacher Education Approval Board
UGC	University Grants Commission

Academic Programs

B.A.	Bachelor of Arts
B.A.Ed.	Bachelor of Arts Education
B.Ed.	Bachelor of Education
B.El.Ed.	Bachelor of Elementary Education
B.Sc.	Bachelor of Science
B.Sc.Ed.	Bachelor of Science Education
B.Sp.Ed.	Bachelor of Special Education
D.Ed.	Diploma in Education
D.El.Ed.	Diploma in Elementary Education
ETT	Elementary Teacher Training
INSPIRE	Innovation in Science Pursuit for Inspired Research
ISTE	In-Service Teacher Education
KVPY	Kishore Vaigyanik Protsahan Yojana
M.A.	Master of Arts

M.Ed.	Master of Education
M.Phil.	Master of Philosophy
M.Sc.	Master of Science
Ph.D.	Doctor of Philosophy
PSTE	Pre-Service Teacher Education

Government Projects

AIE	Alternative and Innovative Education
CSSTE	Centrally Sponsored Scheme for Teacher Education
ECCE	Early Childhood Care and Education
EGS	Education Guarantee Scheme
IED	Integrated Education for Disabled
NFE	Non Formal Education
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
SSA	Sarva Shiksa Abhiyan

Documents

ASER	Annual Status of Education Report
AWP	Annual Work Plan
AWP&B	Annual Work Plan and Budget
JVC	Justice Verma Commission
NCF	National Curriculum Framework
NCFTE	National Curriculum Framework for Teacher Education
NPE	National Policy on Education
PCF	Punjab Curriculum Framework
POA	Program of Action

Posts

DPI	Director of Public Instruction
BEO	Block Education Officer
BRP	Block Resource Persons
CRP	Cluster Resource Person
DDO	District Development Officer

DEO	District Education Officer
DGSE	Director General School Education
DO	District Officer
DRP	District Resource Person
DSE	District Superintendent of Education
HoD	Head of Department
IERT	Inclusive Education Resource Teacher
MRP	Master Resource Person
SPD	State Project Director

Miscellaneous

AIEEE	All India Engineering Entrance Examination
AIPMT	All India Pre Medical Test
AR	Action Research
CCE	Continuous Comprehensive Evaluation
CWSN	Children with Special Needs
Edusat	Education Satellite
FIR	First Investigation Report
GER	Gross Enrolment Ratio
ICT	Information and Communication Technology
IT	Information Technology
KGBV	Kasturba Gandhi Balika Vidyalaya
MCD	Minority Concentration District
MIS	Management Information System
NER	Net Enrolment Ratio
PTET	Punjab Teacher Eligibility Test
PTR	Pupil Teacher Ratio
PSDCEDI	Punjab School Data and Composite Educational Development Index
RtE	Right to Education
RtI	Right to Information
SC	Scheduled Caste
SE	School Education
TE	Teacher Education
TET	Teacher Eligibility Test

TLM	Teaching Learning Material
UDISE	Unified District Information System for Education

1. Executive Summary

The MHRD, GOI constituted Joint Review Missions (JRMs) to assess the progress made by various states towards implementation of the revised CSSTE. The main objective of the JRMs is to review the status of teacher education and to also consider issues related to program planning, implementation, monitoring and evaluation at each level of institutions.

The 9-member JRM team for Punjab visited the State from June 14 to 19, 2013. The team interacted with the faculty and other functionaries of the SCERT (including SISE), SSA and PSEB, 1 IASE, 2 CTEs, 5 of 12 DIETs and 2 of 5 DRCs. The team also visited 1 BRC, 1 GISTC and 6 schools and held discussions with functionaries of other government and non-governmental organisations. On the final day, the team met the Principal Secretary of Education.

1.1 Key Achievements of the State in Teacher Education

- **General educational progress:** Literacy rate in Punjab has been rising consistently from 38.69% in 1971 to 76.68% in 2011. The gap between rural and urban literacy has reduced from 27.95% in 1971 to 11.25% in 2011. Female literacy is 71.3% and male literacy rate is 81.5%. School teachers at all levels in Punjab are well-qualified. The average pupil-teacher ratio (28, 22, 19 for primary, upper primary and secondary schools) is fairly good. The Government TEIs also have a high number of girl students.

- **Beginings of a state-specific vision**: SCERT has developed the Punjab Curriculum Framework. The B.Ed. curriculum has been revised in light of NCFTE and is being followed in the current academic session. A revision of the D.El.Ed. curriculum (called Elementary Teacher Training – ETT, in Punjab) along the lines of NCFTE 2009 is almost complete. New curricular materials around this revised syllabus are being prepared. Some of the ISTE materials prepared by SSA are appreciated by teachers.

- **An institutional framework in place, some linkages planned**: Among 22 districts in Punjab, all the 12 DIETs are conducting PSTE programs. The 5 DRCs are being upgraded to DIETs. 12 GISTCs (Government In-Service Training Centres) are being merged with DIETs, with concurrent plans for infrastructural upgradation of DIETs. The merger will strengthen the faculty profile and program structure of DIETs. One or two DIETs are currently functioning well; one of the 2 CTEs is functioning well; IASE is functioning as a good quality college of education, needing infrastructure upgrade to be able to function as IASE.

- **Action Research and Edusat**: Action researches have seen a thrust and are being carried out in almost all DIETs. The Edusat facility is working very well with its hub in SCERT and receiving stations in almost all DIETs, government secondary, senior secondary schools and colleges.

- **Teacher Eligibility Test:** TET was successfully held in 2012 and 2013. In 2012, 7.04% of the total appearing candidates passed TET 1 and 3.05% passed TET 2.

1.2 Key Challenges

1.2.1 Issues in school

- The school teachers felt a lack of effectiveness of PSTE, in enabling them to face challenges in school and felt that better resource-persons are required for ISTE.
- The teachers perceive a lack of discipline and absence of a sound academic base at elementary level in the aftermath of RtE and are uncertain with regards to CCE. They feel that their autonomy has been usurped because of a statewide constraint of finishing assigned chapters monthly.
- Non-academic workload, flight of students to private schools, social divide in the classrooms, lack of grasp on language hampering learning, a guidebook culture, etc. are some other concerns.
- The malpractice of copying in schools is a big concern. The teachers' own professional advancement depends on their students' performance, which does not help in discouraging the malpractice. Copying might be a powerful factor impacting the integrity of school assessment, with devastating results for the teaching-learning process and hence for the quality of school education.

1.2.2 High enrolment in private unrecognised schools; high output of teachers from private TEIs, disproportionate to vacancies

- About 9.8 lakh students are enrolled in private unrecognised schools, a situations not acceptable under RTE 2009.
- During 2007-13 there has been a phenomenal increase of B.Ed. training capacity, most of it in private unregulated colleges and the output is highly disproportionate to teacher vacancies.

1.2.3 Academic issues in teacher education

- The PSTE practice is not informed by the challenges faced by teachers (e.g. Section 1.2.1). There is a disconnect between PSTE and ISTE.
- The science labs in TEIs are by and large non-functional. A good integration of library and laboratory with the rest of the syllabus and classroom practice is missing.
- In PSTE, there is a strong presence of textbooks developed by private publishers which are full or errors and poor in quality. The ETT textbooks and other curricular resources are yet to be developed. The writing process for these curricular materials is not yet fully inclusive. Well-researched writings on Indian education are not read or circulated in TEIs.
- A low awareness persists in the faculty about the national policies on education and pedagogic shifts implied therein. There is a lack of clarity on how to translate activity, project or inquiry based learning into local classroom practice, as also on ideas like construction of knowledge, creation of learning situations, etc.

1.2.4 Weaving research and technology into education

- Edusat is often taken to be the sum-total of all ICT efforts. Computer labs are missing in all DIETs. ICT in general is not being integrated well with academics and is not being used in teacher education. DIETs are not involved in preparing content for Edusat, nor is any content prepared for primary level, PSTE and for professional development of TEI faculty.
- The areas of action research do not reflect the authentic needs of schools in small towns and villages of Punjab, in the backdrop of their cultural sensitivities. Their impact on actual classroom processes is presently absent.

1.2.5 SCERT yet to assume academic leadership

- A significant portion of the activities of SCERT are administrative in nature. It is yet to assume its academic role in the fullest sense. Partly this is due to a lack of faculty and infrastructure.
- SCERT is yet to undertake any research related to education, classroom practice and teaching-learning concerned with the State.

1.2.6 Need for an overall institutional vision in TEIs, absence of linkages

- The TEIs in Punjab have not yet fully awakened to their institutional vision. Their activities centre mostly around the internal pre-service programs and are yet to foray into in-

service training, professional development for state personnel, state-specific researches, curriculum and resource development and direct school interventions.

- There is a lack of academic guidance for DIETs and the SISE (which is a wing under SCERT). A posting at DIETs is not a cherished one and their is an overall lack of motivation among the faculty.
- Stable and well-considered appointments are needed for the posts of principals. The perspective plans need to be prepared with vision and rigour.
- There are virtually no linkages between TEIs, and where existing, they are mostly administrative in nature.
- It is important to revive IASE and the CTE in Faridkot.
- BITEs are proposed TEIs to extend the institutional framework up to the block level, especially catering to Minority Concentration Districts. As yet, BITEs have not been established in the state.

1.2.7 Linkage between projects (SSA/RMSA) and existing institutional framework missing

- A good linkage between SSA/RMSA and the institutional framework of SCERT, IASE, CTEs and DIETs is crucially missing.
- Mobilizing of school teachers for SSA, RMSA program is being done at the cost of ensuring quality school education. Trained and qualified teachers are taken out of school and are replaced with untrained teachers, which significantly hampers the quality of school education.

1.2.8 Vacant posts and other administrative issues

- There is a need to fill up 48% vacant faculty positions in DIETs, 73% in DRCs, 9 positions in CTE Faridkot, and 41% positions (academic and non-academic combined) in SCERT. Approved funds are not released swiftly and there are dealys in payments of salaries of education personnel.

1.3 Overall Recommendations

1.3.1 A strengthened SCERT to formulate a holistic vision for teacher education in the state, keeping it intimately connected with school education

- More faculty positions under deputy directors could be opened. The SCERT head should be a noted educationist with a wide experience at all levels of education.
- A stable office, appointment of staff, swift release of approved funds, setting up of library and labs are some of the basic requirements with regards to SCERT.

1.3.2 Good linkages among the government TEIs and with other institutes

- SCERT should have sustained and co-operative linkages with IASE, CTE and DIETs. Such linkages would support and enable professional development, research collaboration, school interventions, curricular resource development and state academic planning. A monitoring mechanism should be in built into these, with clear assignment of academic responsibilities.
- SCERT could approach, besides NCERT, NEUPA, also IISER Mohali, University Departments, IIT Ropar, HBCSE, TISS, IIT Ropar, for professional development of its own faculty as well as those of IASE, CTEs and DIETs. Topics may include the new ETT curriculum, pedagogic shifts expected in the new academic vision, integration of science labs and technology into curricular transaction, research, leadership, etc.
- BITEs should be established in minority concentration districts. Some BRCs may also be considered for upgradation into BITEs.

1.3.3 Academic reforms in teacher education (DIETs in particular)

- **Deeper engagement with schools**: Teacher educators must teach at schools in the neighbourhood area for certain hours every month. School-visits must serve the multifold purposes of practice teaching, monitoring the impact of new initiatives and conducting pedagogic research. Visits could be followed by reflective discussions with student-teachers leading to ideas for planned interventions.

- **An appraisal of challenges at school level, as a part of PSTE courses:** PSTE curricula should be informed of the actual challenges classrooms are facing. Lesson plan occasions could be used to identify and reflect upon such issues.

- **Critical study of policy documents and contemporary writings on Indian education; implementing the pedagogic shifts implied:** The faculty of IASE, CTEs and DIETs could critically examine policy documents like NCF and NCFTE, and develop an understanding of pedagogic shifts implied in the new academic vision and clarity as to

transact it in classroom. Significant sections from these policy documents and pedagogic shifts implied should be discussed in ETT courses and in-service trainings. These documents should be translated into Punjabi, as also research relevant to teachers in small towns and villages.

- **Integration of labs with curriculum**: Labwork and resources should be better integrated into the new ETT and even B.Ed. science coursework.

- **Developing expertise in areas required by in-service trainings**: All TEIs could identify and share the shortcomings in the present state of in-service trainings and develop an academic expertise in these areas. This could be done through specially designed professional development courses, informed of district-specific needs.

- **Research areas to emerge from authentic local concerns:** Research priorities should emerge from a first-hand and original assessment of school-level situations. Impact of ARs on classroom processes should be ascertained. Good teaching practices need to be identified and shared.

- **Feedback from student-teachers**: Also help in preparation for TET; a placement cell, scholarships and book-grants could be instituted. Their inputs may be solicited in decision-making.

- **District Resource Group**: A district level resource group for both teacher and school education could be formed through the leadership of DIETs, drawing experts from local college professors, TEI faculty, school teachers and professionals from various fields.

1.3.4 Infrastructure in TEIs and its relation to programs

- **Civil works:** Civil works are required in almost all DIETs, often urgent with regard to functional labs and library, and campus safety. The original building of IASE needs to be restored.

- **Lab equipment**: Functioning equipments, chemicals and instructional resources (preferably student-made) should be ensured. Their regular usage should be ascertained through an intimate link of labs with curriculum and classwork in the ETT, B.Ed. or M.Ed. courses.

- **Appointing library staff, ordering of relevant books, ensuring a culture of usage**: A well-trained librarian and support staff are required in most of the TEIs. Books and journals relevant to the new ETT and B.Ed. syllabus should be ensured. Faculty must encourage student-teachers to refer to them during classwork.

- **Computer labs to use public softwares with access for all, a computer education paper in ETT**: A computer lab with an access to online academic resources even for student-teachers, is a must for TEIs. Also important is the inclusion of a computer education paper in the ETT curriculum. TEI faculty and students must volunteer to learn and use public softwares in learning the ETT or B.Ed. course.

- **Hostel facilities**: Essential repairs and renovations should be carried out. Hostel facilities should be expanded to include boys also and a larger number of students in general.

1.3.5 A co-operative linkage between projects (SSA/RMSA) and existing institutional framework

- **Planning and sharing data**: Formulating state academic plan together, expedient sharing of data and a good, a collectively-agreed plan for in-service trainings; usage of existing institutional framework under SCERT to this end.

- **Resource Generation Laboratory**: SCERT with the help of IISER could set up a resource generation laboratory, a place where teachers can visit, interact and generate material based on the school curriculum which they can later take back for use in their respective schools.

- **A meaningful DIET-DEO linkage**: A good linkage of DIETs with DEO, and through it, with BRCs and CRCs, is important and with some effort in the professional development of DIET faculty, could bring in academic reforms in school education through in-service trainings. At one end, DIET faculty should gear up for professional development to be able to contribute to needs of school education, while on the other, BRCs should have a greater trust in academic capabilities of DIET faculty.

1.3.6 Filling up vacancies and other personnel issues

- There is a need to fill up 41% vacant positions in SCERT, 9 in IASE Jalandhar, 6 in CTE Faridkot, 48% positions in DIETs, 73% in DRCs. A cadre for teacher educators may be instituted. The postings for principals should be thoughtfully considered for the overall institution to come to have a direction.

1.3.7 Widening the scope of Edusat

- Edusat initiatives of SCERT should expand into the sphere of teacher education, primary education and professional development of teacher educators. These, and also the existing initiatives should see a more meaningful involvement of faculty and students of IASE, CTEs and DIETs.

1.3.8 Bringing SISE to the forefront

- The expertise of SISE staff should be utilised in the institutional structure rather than through consulting. SISE could have autonomous access to TEIs and schools in state, to integrate labs with curriculum, improvise cost-effective experiments from local resources, orient teacher educators, student teachers and practising teachers towards science education, prepare lab modules for and with teachers, etc. SISE may draw on the support of IISER Mohali, IIT Ropar and HBCSE in this regard.

1.3.9 School Reforms

- A serious view should be taken of copying in exams. Particularly, the role of responsible adults in such malpractices should be viewed sternly.
- School level autonomy may be encouraged through school complexes, as envisaged in the Kothari Commission Report (1964-66) (NCERT, 1970a, p.65; 1970b, p.480) and further reinforced in the NPE-1986 (MHRD, 1986, p.34) and POA (MHRD, 1992, p.23).
- A typical school complex was originally proposed to form a cluster including 1 high school, 3-4 upper primary, and about 10-20 lower primary schools in the vicinity.
- The underlying assumption in this model is that it is in the direct interest of any high-school or higher secondary school to improve the quality of education in its feeder schools.
- School complexes could provide a framework for school-based teacher professional development, supported by further TEIs at the block, district and state levels.
- School complexes could help strengthen existing institutions through sharing of resources and teacher-level collaborations.

2. Joint Review Mission

2.1 JRM Context

2.1.1 Objectives

For the state, the JRM provides an opportunity to reflect and learn by:

- Developing an understanding of progress made against agreed indicators and processes.
- Reviewing JRM observations that highlight strengths and weaknesses - with a view to improve the impact of the teacher education system in the State.
- Considering issues related to program planning, implementation, monitoring and evaluation, of each component of the Teacher Education Scheme.

2.1.2 Areas of Interest to the JRM

- AWP approvals and budget releases for 2012-13
- Progress on process and performance indicators for 2012-13
- FMRs for 2011-12, audited accounts 2010-11, GOI budget allocations for 2012-13
- Progress made on utilization of funds at institutional level
- Quality of training curriculum for pre-service and modules for in-service teacher education
- Processes and pedagogical practices in delivery of programs
- Quality of resource materials used by trainees and teacher educators
- Qualification and experience of teacher educators
- Contribution of institutions in content development, research and action research.
- Issues of governance, linkages across institutions, cadre management, filling vacant posts
- Efforts take to integrate ICT with teacher education
- Quality and adequacy of infrastructural and institutional facilities in institutions
- Knowledge and understanding of NCFTE 2009 and implications for teacher education
- Steps taken to re-align Teacher Education curriculum with NCFTE 2010
- Development of library and resource materials (print and ICT) to conform with NCFTE
- Professional development of institutions
- Linking Teacher Education Courses with vision and expectations of RTE
- Identifying and drawing partners in collaborative practice from higher education, NGOs, civil society

- Developing strategies in teacher preparation for inclusive teaching-learning, multi-linguality, assistive technologies
- Identifying centres of excellence

2.2 Team Formation

2.2.1 Team Members' Profiles

No.	Name	Organization
1	Prof. Arvind	Indian Institute of Science Education and Research, Mohali
2	Prof. Keya Dharamvir	Punjab University, Chandigarh
3	Ms. Meena Kharatmal	Homi Bhabha Centre for Science Education, TIFR, Mumbai
4	Shri Kamal Mahendroo	Vidya Bhawan Society, Udaipur
5	Ms. Lalita Pradeep	Dy.Director(Edu)/Principal, DIET Lucknow
6	Prof. Kuldip Puri	Punjab University, Chandigarh
7	Prof. Jayashree Ramadas (Leader)	Homi Bhabha Centre for Science Education, TIFR, Mumbai
8	Ms. Varsha Sahasrabuddhe	Educational Consultant, Pune
9	Shri Falguni Sarangi	Azim Premji Foundation, Rajasthan

Table 1: Profile of team members.

2.2.2 Roles and Responsibilities of JRM Team Members

A study of relevant documents as outlined in Annexure 1 was conducted by the JRM members. A detailed schedule of the JRM visit is indicated in Annexure 2, followed by a map of Punjab, highlighting the places visited as Annexure 3. Report writing responsibility is outlined in Annexure 4.

2.3 Methodology

2.3.1 Pre-Visit Planning & Preparation Annual Work Plan

Pre-visit planning of the JRM began with a study of the required documents (Annexure 1) as suggested in the ToR (MHRD, 2013b, p. 5), and available from the MHRD's Teacher Education website (http://teindia.nic.in). The objective of JRM being to review and assess the implementation of the Centrally Sponsored Scheme for Teacher Education (CSSTE), we studied the Guidelines for Implementation, 2012 (elsewhere referred to as "CSSTE" / "the Scheme" and "Scheme document" (MHRD, 2012d), and also the NCERT report of

comprehensive evaluation of the Scheme (NCERT, 2009). Salient points in these were circulated among JRM members for discussion. In addition to the Scheme-related documents, MHRD's Format for Annual Work Plan and Budget, Punjab's Annual Work Plan and Budget (referred to later as AWP&B) (SCERT, 2012a), TEAB's Appraisal of the AWP&B (SCERT, 2013a), TEAB minutes (MHRD, 2012a), Punjab's ETT syllabus (2006) (SCERT, 2006), Punjab State profile and various JRM reports (MHRD, 2013d), were studied for an initial understanding.

One month prior to the JRM visit, we were able to contact a Deputy Director of SCERT, later appointed as the JRM local coordinator. Apart from the JRM planning, visit, place of stay, etc., the Deputy Director provided us with several of the above documents specifically related to Punjab, well in advance of the actual visit. The team met at IISER Mohali on June 13, 2013, a day prior to the official start of the visit, for a planning meeting, and to decide on the issues to focus on during the visit.

2.3.2 Visit Schedule

Punjab has a total of 22 districts, of which the JRM visit covered 11 distric Annual Work Plan ts. In total the team visited the following institutions: SCERT including SISE; 1 IASE, 2 CTEs, 5 DIETs, 2 DRCs, 1 BRC, 1 GISTC; 2 Government Primary Schools, 2 Government Middle Schools, 1 Government Elementary School and 1 Government Senior Secondary School. Since the visit occurred in June the team was able to meet only very few student teachers and no school students. In order to get a perspective from the schools, a few weeks after the main visit, two of the local JRM members visited six government schools in Mohali. The institutions visited are listed in Table 2.

In addition to the visits to institutions, the JRM team held meetings with SCERT faculty, staff of the Edusat facility, SSA, RMSA, faculty of the Education Department of Punjab University, members of a teachers' union, members of some NGOs - American India Foundation Trust (AIFT), one NGO in Chandigarh and one in Patiala, government school teachers and some prominent members of the community. On the final day of the visit the JRM team met with the Principal Secretary of School Education, and members of the Punjab School Education Board (PSEB).

Details of the daywise visits, meetings and activities, and a visit map of Punjab, are provided in Annexures 2 and 3.

No.	TEIs	Number	Place, District
1.	SCERT	1	Chandigarh
2.	SISE	1	Chandigarh
3.	IASE	1	Jalandhar
4.	CTEs	2	Faridkot, Patiala
5.	DIETs	5	Verka, Amritsar; Deon, Bathinda; Gurdaspur; Sheikhupura, Kapurthala; Nabha, Patiala
6.	DRCs (upgraded to DIETs)	2	Fatehgarh Sahib; Budhlada, Mansa
7.	GISTC	1+2	Gurdaspur (visited) + Sangrur; Verka, Amritsar (interaction meetings)
8.	BRC	1	Chola Sahib, Sarhali Kalan, Tarn Taran;
9.	SSA, RMSA	1	Chandigarh
10.	Government Primary School	2	Ajitgarh, Mohali
11.	Government Middle School	2	Ekkalgadda, Amritsar; Ajitgarh, Mohali
12.	Government Elementary School	1	Pakharpura, Amritsar
13.	Government Senior Secondary School	1	Ajitgarh, Mohali
14.	PSEB		Chandigarh
15.	Principal Secretary of Education		Chandigarh

Table 2: Institutions visited by JRM-TE Punjab.

3. Teacher Education in Punjab

3.1 Historical Context of Punjab

Punjab (punj-ab: land of five rivers) was the fertile land which formed the cradle of Indian civilization. Geographically Punjab stood at a strategic point where its people were the first to face invaders. It created an atmosphere of uncertainty and also instilled a culture of preparedness to face eventualities with valour. Punjab was the last to be annexed by the British in 1849, ten years after the death of Maharaja Ranjit Singh who ruled Punjab for four

decades. Attainment of India's independence from the shackles of British rule after a long struggle, in which Punjab had a glorious contribution, was accompanied by the traumatic partition of the country in 1947, dividing Punjab into Indian and Pakistani Punjab. Subsequently the present Punjab was carved out in 1966, giving birth to two new States of Haryana and Himachal Pradesh.

The present state of Punjab is spread over a geographical area of 50,362 sq.kms with a population of 2.8 crores. Its borders touch Jammu & Kashmir in north, Pakistan in the west, Himachal Pradesh in north east, Haryana in the south & south east and Rajasthan in the south west. Punjab was one of the leading states in ushering in the green revolution, the benefits of which percolated to a sizable number of farmers but the higher input costs made small farming almost nonviable. The land holdings of big farmers increased and a good number of farmers having smaller units became landless farm labourers. Punjab is still fighting the negative after effects of green revolution on the fertility of land, depleted water table and poisonous fallout of the overuse of fertilizers and pesticides.

Post-independence Punjab faced three major wars, after which, the one and a half decades from the early eighties onwards were most disturbing for the entire state, the worst affected being the areas on the international border. The impact of militant politics was complete and absolute on all the aspects of life, including education. We were told that a pernicious culture of copying and corruption entered the system during this period, and consequently the links between effort, scholastic indicators and job or career success also weakened.

Yet Punjab has had much to celebrate in its social, cultural and religious traditions. Saints, seers and thinkers over the ages promoted the culture of dialogue and academic engagement, the tradition of critical questioning, respect for dissent and blossoming of diverse thought processes. Punjab's heritage celebrates cosmopolitan culture and a legacy of liberal intellectual development and plurality. Despite distortions, which are many, it moves on with its rich and bold legacy. As Guru Tegh Bahadur, ninth successor of Guru Nanak Dev said, '*Bhai kahoo ko det nahin, nahin bhai maanat aan*' *(Neither I dare nor I dread anyone)*.

3.2 State Education Profile

3.2.1 Literacy

Punjab is predominantly a rural state where 62% of the area falls in rural region. Literacy rate in Punjab has been rising consistently from 38.69% in 1971 to 76.68% in 2011. The gap between rural and urban literacy has reduced over a period of four decades, from 27.95

percent points in 1971 to 11.25 percent points in 2011 (Sarkaria, 2012, p.1). Female literacy is 71.3% and male literacy rate is 81.5%. The state has attained Gross Enrolment Ratio at primary level at 104.78 and Net Enrolment Ratio at 90.45 as per census report 2011. GER for upper primary is 96.46 and NER is 81.90.

3.2.2 General Information on Education

The state has divided the school education system administratively into two levels, headed respectively by the Director Public Instruction (Elementary Education) and Director Public Instruction (Secondary Education). Both the directorates are guided and controlled by a Director General of School Education. The Director General of School Education (DGSE) is also the State Project Director of SSA and RMSA.

Table 3 gives some general information about schools in Punjab State. As on March 31, 2013, there were 23,217 lower primary schools and 14,356 upper primary schools. Approximately 22% of the lower primary and 26% of the upper primary schools are private unrecognised. 59% and 46% respectively of the lower and upper primary schools are government or government aided schools (SCERT, 2012a, p.26).

No. of Revenue Districts	22
No. of Education Districts	22
No. of Education Blocks	216
No. of DIETs sactioned/functional	12
No. of DRCs sactioned/functional	5
No. of CTEs sactioned/functional	2
No. of IASEs sactioned/functional	1

No. of State Universities:	3
1) Having Dept. of Education	2
2) Not Having Dept. of Education	1
No. of Lower Primary Schools	23217
No. of Upper Primary Schools	14356
No. of Secondary Schools	4768
No. of Senior Secondary Schools	4117

Table 3: General information about education in Punjab (as on 31st March 2013).
Source: AWP&B, p. 28.

3.2.3 State School System Versus Privatisation

After independence, the state built a vast network of schools in rural areas. The trend continued till the early eighties but slowed down thereafter. In the later decades, new government schools were not opened in pace with population growth, and there was a deterioration in quality of education in the existing government school system. Private investments in school education were also encouraged as a part of Corporate Social

Responsibility, with due provisions of tax exemptions. All this resulted in a situation where opening of further educational institutions was seen predominantly in the private sector.

Table 4 shows that as the levels of education move upwards to secondary and senior secondary stage the schools operating in the private sector outnumber the schools operating in the government sector.

Schools	Primary		Upper Primary		Secondary		Senior Secondary	
	No.	Enrolment	No.	Enrolment	No.	Enrolment	No.	Enrolment
Government	13288	1196804	2928	217790	1789	423783	1537	861394
Pvt.	2013	124872	2781	345492	2989	821144	2497	1439646
Total	15301	1321676	5709	563282	4738	1244927	4034	2330830
(Kendriya Vidyalya and Adarsh Schools have not been included.)								

Table 4: Number of government and private schools and enrolment of students (2012-2013).
Source: PSDCEDI 2012-13

The difference in the numbers of schools in Tables 3 and 4 is due to the fact that schools offer Classes for overlapping grade ranges: 1-5, 1-8, 6-8, 1-10, 6-10, 1-12, 6-12, 9-12 and 11-12. In Table 3, schools which offer Classes from 1-5, 1-10, and 1-12 are enlisted as primary, while in Table 4, only those which are solely primary, i.e. 1-5, occur. This is verifiable from the Punjab State UDISE data, which contain the more detailed break-up of number of all these schools with different grade-ranges separately.

Table 5 shows that around 66% of the schools in government sector have enrolled only 49% of the students. Schools operating in the private sector, which are 34% of the total schools in the state, have their share of student enrolment of 51%. The trend of the enrolment in Table 4 reveals that at the primary stage the schools in the government sector (around 87% of the total schools) enroll 91% of the students and private sector schools (around 13% of the total) cater to only 9% students. The enrolment, as exhibited in Table 6, at upper primary, secondary and senior secondary stages gets progressively reduced in case of schools in the government sector.

Type of Schools	Number	Enrolment
Government	19542 (65.6%)	2699771 (49.4%)
Private	10240 (34.4%)	2760944 (50.6%)
Total	29782	5460715

Table 5: Total enrolment of students from Class 1 to 12 in all government and private schools (as in 2012-2013).

Source: PSDCEDI 2012-13

We note that consistency of Table 4 requires the number of private secondary schools to be 2949 in place of 2989, and the enrolment of private senior secondary schools to be 1469436 in place of 1439646 (so that the column addition holds). This revision of the figures gives the total number of private schools and enrolments consistent with the data given in the third row of Table 5. Having pointed out this apparent minor error we have still retained the original figures in Table 5 so as to leave intact the original table, as in the cited source.

Schools Enrolment (%)	Primary		Upper Primary		Secondary		Senior Secondary	
	No. of schools (%)	Enrolment (%)	No. of schools (%)	Enrolment (%)	No. of schools (%)	Enrolment (%)	No. of schools (%)	Enrolment (%)
Government	86.84	90.60	51.29	38.66	37.76	34.04	38.10	36.96
Private	13.16	9.40	48.71	61.34	62.24	65.96	61.90	63.04
(Kendriya Vidyalya and Adarsh Schools have not been included).								

Table 6: Student enrolment share in comparison to the number of existing government and private schools as in 2012-2013.

Source: PSDCEDI 2012-13

Private unrecognised schools have student enrolment to the tune of around 35% of the students admitted in all types of private schools as shown in Table 7. Majority of these schools, around 59.3%, are functioning in primary and upper primary stage. The stipulation in Right of Children to Free and Compulsory Education Act 2009 does not accept this situation. The data bring into sharp focus the need to develop and execute the procedures of regulating the functioning and academic standards of the institutions running under the private sector.

Type of Schools	Number	Students Enrolled	Percentage of students enrolled
Private Aided	478	273942	9.92
Private Recognised	4553	1508023	54.62
Private Unrecognised	5209	978979	35.46
Total	10240	276094	100.00

Table 7: Distribution of students enrolled in private schools from Class 1-12.
Source: PSDCEDI 2012-13

3.2.4 Pupil-Teacher Ratio

Table 8 shows the student enrolment and teacher strength in all the schools. The pupil-teacher ratio in Punjab in 2007 as per the DPI Statistical Abstracts (cited by Sarkaria, 2012) was 42 for lower primary, 32 for upper primary, 20 for secondary and 28 for higher secondary schools. The percentages of women teachers at these stages of schools were, in 2007, 63%, 53%, 56% and 57% respectively (Sarkaria, 2012; p.44).

Education Level	Enrolment	Sanctioned Strength of Teachers	Total no. of Teachers Appointed	PTR	Total no. of Teachers With NCTE Qualifi-cation	Total no. of Teachers Without NCTE Qualifi-cation	Teacher Vacancy	Annual Average Retiral Vacancy
Primary (I-V)	1200463	44806	42823	28.03	42823	--	--	Approx. 4400 teachers
Upper Primary (VI-VIII)	735348	36617	33096	22.22	33096	--	--	3500
Secondary (IX-X) + (XI-XII)	763960	25297+ 14016 = 39313	22149+ 14016 = 31979	19.00	22149+ 9830 = 31979	--	--	3500
Total	2699771	120736	107898	--	107898			10400

Table 8: Punjab enrolment and teachers in schools (as on 31st March 2013). *Source: Punjab, AWP&B p.31.*

3.2.5 Enrolment of SC Students

Data presented in the AWP&B (p. 26) shows that the total enrolment in government primary schools decreased by 1.4 percentage points (from 12.18 lakh to 12.00 lakh) between 2011-12 and 2012-13. During this year the overall enrolment in all the primary schools went up from 25.82 lakh to 26.05 lakh, an increase of 0.88 percentage points. Most of the decrease from primary schools (58%) was accounted for by SC students. Overall during the year the enrolment of SC students in government primary schools dropped by 1.2 percentage points and in all primary schools by 0.3 percentage points. At the middle school level, however, the total enrolment of SC students increased by 5.38 percentage points in government schools and by 5.20 percentage points in all schools. The trends in respect of SC students and girls have been analysed by Sarkaria (2012) to show that a major expansion in the enrolment of SC students in all recognised institutions took place during 1990-2000.

However between 2000 and 2006, the total enrolment of SC students in the age group 6-11 years in all recognised schools dropped from 9.32 lakh to 9.09 lakh (Sarkaria, 2012, p.37). This is an extremely worrying trend. Based on year-wise data, there is a conjecture that after going through the primary schooling many students (from all categories) may take admission in unrecognised schools and after about five years may appear for the matric exams as private candidates (Sarkaria, 2012; p.38). Such trends need to be analysed for government schools, specifically with regard to SC and girl students.

3.2.6 Capacity of Teacher Education Institutions

Type of TE Institution	**Government**		**Aided**		**Private**		**Total**	
	No. of institutions	Intake Capacity	No. of institutions	Intake Capacity	No. of institutions	Intake Capacity	No. of institutions	Intake Capacity
2 Year D.El.Ed.	17	1500			52	2650	69	4150
1 Year B.Ed.	8	1100			190	25785	198	26885
4 Year Bl.Ed.	Nil	--						
2 Year D.El.Ed. (Special Ed.)	Nil	--						
1 Year B.Ed. (Special Ed.)	Nil	--						
1 Year M.Ed.	4+2	220			30	760	34+2	980

	Uni						Uni	
Total	31	2820			272	29195	303	32015

Table 9: Capacity of teacher education institutions in Punjab. *Source: Punjab AWP&B, p.53.*

Table 9 shows the capacity of teacher education institutes in Punjab. Out of the total intake capacity of 4150 for the 2 year D.El.Ed. (ETT) course, 36% is in government institutions. For the 1 year B.Ed. this percentage is 4% in a total intake capacity of 26,885. The intake capacity of B.Ed. is disproportionately large as compared to ETT, most of it coming from private institutions. Comparing with the data cited by Sarkaria (2012), the actual enrolment for the B.Ed. course was 3,139 in 1971 and 5,987 in 2007 (Sarkaria, 2012; pp.46-47). Apparently there has been a phenomenal increase of B.Ed. capacity between 2007 and 2013. Subtracting the number of posts of appointed teachers from the number of sanctioned posts, as shown in Table 8, one finds a rough estimate of vacancy in teaching posts: 1983, 3521, 7334 at the primary, upper primary and the secondary level respectively. This can be compared with the intake capacity of teacher education institutes at these levels: 4150 at ETT and 26,885 at B.Ed. This shows that the vacancies are too few to be filled in by the trained teachers coming out of these institutes. Rather than indiscriminately continuing to expand the capacity of teacher education institutes, it may be worthwhile to restrain the opening of new teacher education institutes in the private sector, and even to close down a few existing ones.

3.3 Research and Innovation in School and Teacher Education: Role of University Departments

Research is central to the process of creation of new knowledge. The raison d'etre of such institutions is the development of society that builds them. Every aspect of life is touched by what is done and not done by the institutions. In this context the role of universities becomes significant in the sphere of education.

A variety of issues related to educational policy, theory and practice are being taken up for research in the Departments of Education in Panjab University, Chandigarh and Punjabi University, Patiala. Evaluative studies for the assessing the programs and processes are also being conducted. Such researches help developing new insights into the issues having bearing on policy formulation. These researches are in the form of Ph.D., M.Phil. and Masters theses and research papers published by the faculty and students. In some specific areas of social and national interests, the University faculty can be engaged for their expertise. However it is not advisable to fix certain domains of research for some University departments and then expect exclusive results. There is a need to develop a mechanism to share findings of relevant

research with the people practicing in that particular area. Joint research projects and seminars between university, SCERT and DIET faculty are therefore highly recommended.

4. SCERT

4.1 Overall Observations (SCERT)

State Council of Educational Research and Training (SCERT) Chandigarh, Punjab, came into existence in July, 1981 as a nodal agency for bringing qualitative improvement in School Education. There were established 12 District institutes of Education and Training (DIETs) and 5 Districts resources centres (DRCs) with the main objective to provide training and to improve the teaching skills of primary teachers. The DRCs are currently in the process of being upgraded to DIETs. Apart from these, 82 private colleges are affiliated to SCERT, Punjab for the ETT (D.El.Ed.) course. There are 12 in-service training centres (GISTCs), which are being proposed to be merged into the DIETs.

SCERT has five wings: Survey and Data Processing Unit, Evaluation, Audio-visual and Educational Technology Cell, State Bureau of Educational and Vocational Guidance and the State Institute of Science Education (SISE). Its activities, as stated in the AWP&B, are largely around conducting the pre-service exams and courses, in-service trainings at the district level with follow-up, Edusat service and faculty development program on action research. It is also engaged in finalising the ETT curriculum and the PCF, with the assistance of DIETs.

Earlier, the SCERT was housed in a rented building in Chandigarh and has been recently shifted on the 6th Floor of the Punjab School Education Board (PSEB) Complex. Despite the number of stated functions in the organisational charts, it seems that till recently, there was not much activity in SCERT. The only working wing of SCERT was the SISE, which has been described separately in this section. SCERT does not even have the rudimentary office equipment, let alone any ICT infrastructure. The staff also appears to be inadequately prepared to perform the functions properly.

However, we did observe during our visit, that the staff were preoccupied with the state-wide conduct of the TET (see below), a task that comes with considerable pressure and responsibility. The team was informed that in due course, SCERT will be relocated in Mohali, the plan for which has been approved. The State government has allocated land for a composite building in which SCERT will be allotted one floor. A separate campus for SCERT is not envisaged.

The team's understanding is that the process of rethinking on Teacher Education started in Punjab SCERT in 2012, once there was an awareness about the call for proposals under the CSSTE. Within a month of the appointment of new Director and Deputy Director, a Perspective Plan was prepared and sent to MHRD. It is clear that the practice of formulating goals, assesssing progress and submitting plans and proposals is yet to become a part of the system at all levels.

SISE

The State Institute of Science Education (SISE) was established in 1967-68, with an aim to make the teaching-learning process of science and mathematics interesting, to popularize science education at the secondary and senior-secondary school levels, and thus to inculcate scientific attitude among students.

SISE used to organize ISTE programs but post-SSA these were discontinued and the SISE faculty were deputed to SSA, Edusat, and other sections. At present the function of the SISE is limited to organizing of competitions, events, examinations and particularly, science exhibitions in government schools at the district, state levels and national levels, as per the guidelines by NCERT. In addition, science dramas and the National Science Day are organized, in which SISE conducts student-visits to Kapurthala science center. It also organizes student science seminars for classes 6-10. The SISE organizes the Punjab State Talent Search Examination and National Talent Search Examination. It is involved in the selection for National Means cum Merit Scholarship of MHRD, for Class 8 & 10. The scholarship is of Rs. 500/- month. It also conducts the KVPY examination for Class 8 & 10. It is involved in providing booklets, question banks to all school students.

Apart from these events, SISE also conducts adolescent education programs on drug abuse, HIV-AIDS awareness, physical and mental growth etc. over 16 hrs long sessions. It works with DIETs on population education programs.

TET

The SCERT had outsourced the TET to outside agency for setting up question papers. The first TET for 2011 in Punjab was conducted on 3rd July 2011. The second TET for the year 2012 was conducted on 9th June 2013, as it was delayed due to court cases, although the process was started in April 2012. The TET for 2013 would be conducted in December 2013.

TET (Year)	Candidates Appeared	Candidates Passed (Percentage)
TET – I (2011)	1,10,052	1,736 (1.57%)
TET – II (2011)	1,27,079	8,412 (6.61%)
TET – I (2012)	60,382	4,251 (7.04%)
TET – II (2012)	1,68,396	5,141 (3.05%)

Table 10: Summary of TET 2011 and 2012.
Source: SCERT

There are separate eligibility criteria (SCERT, 2013b) for TET I & II. For TET-I (primary I-V), the candidates should have passed the senior secondary or graduate level, and either having or appearing for D.El.Ed., or B.El.Ed., or D.Sp.Ed. For TET-II (secondary VI-VIII), the candidates should be graduate and either D.El.Ed., or B.Ed., or B.El.Ed., or B.Sp.Ed.; or senior secondary pass and B.A./B.Sc.Ed., or B.A.Ed./B.Sc.Ed. In Punjab TET-I is held in the morning session and TET-II is held in the evening session on the same day.

In 2011 a B.Ed was eligible to take both the tests i.e. TET-I and TET - II. Around 1000 B.Ed. teachers who had cleared TET-I were appointed as primary teachers (719 joined) in Punjab on the condition that they would undergo special bridge course within one year of their appointment. The reason thereof is that the curriculum of ETT and B.Ed. is different, the B.Ed. students do not study about the psychology of small children and certain courses which are taught at primary level. The SCERT is finalizing that bridge course. The NCTE changed the conditions in 2012. This time B.Ed was not eligible to take TET-I. However, ETT having done or doing graduation was eligible to take both i.e. TET-I and TET-II. In Punjab and perhaps in all other states ETT is appointed as primary school teacher to teach upto 5th class and B.Ed for 6th onward.

The appointing authority (i.e. DPI Secondary Education) decides the recruitment criteria for secondary stage teachers (6 to 12) and DPI Elementary Education fixes the criteria for recruiting primary teachers. In Punjab, teachers are not recruited to teach exclusively classes 6 to 8. The pay scale of primary teachers and secondary teachers is different and the primary teacher are appointed at a lower pay scale.

4.1.1 Curriculum and Pedagogical Practices (Pre-Service) (SCERT)

In January-February this year (2013), the SCERT in coordination with the PSEB has developed the Punjab Curriculum Framework, 2013. This work was carried out in a brief time

of a few weeks. The school textbooks have been developed entirely by the PSEB. The SCERT is now planning to develop textbooks for the ETT course in coordination with PSEB. To support the ETT course, SCERT intends to produce teacher-handbooks and relevant TLMs.

SCERT is in the final stages of revising the ETT syllabus, aligning it with NCFTE. It has been involved in conducting entrance exams, course studies and semester exams of the ETT course. The profiles of one of the faculty members mentions that an online training program in collaboration with AIFT is in the final stages of being designed, meant for the professional development of DIET faculty, to prepare them for teaching the revised ETT curriculum. Apart from these initiating, SCERT's contributions to pre-service teacher education, as carried on by DIETs has mostly been administrative.

4.1.2 Curriculum and Pedagogical Practices (In-Service) (SCERT)

An important function of SCERT is to organize in-service teacher education annually for all teacher educators, administrators, secondary level teachers and ECCE practitioners (MHRD, 2012d, p.74). SCERT is engaged with the in-service trainings through GISTCs, a special feature of the states. For more details, refer to the section 11 on GISTCs.

Punjab has 12 in-service training centres (GISTCs) at district level, but only about 3-4 are functional. Every year about 1000 teachers are trained through NCERT, NEUPA or SSA. Although administratively the GISTCs fall under SCERT, since past several years, the SSA is working directly with the faculty of GISTCs. The JRM team visited the GISTC at Gurdaspur, and interacted with GISTC Sangrur and GISTC Amritsar faculty.

During the JRM visit, it was noted that GISTCs at Gurdaspur and Amritsar have been fulfilling since 2003, the teacher-training requirements of SSA at the level of Classes 1-8 and RMSA at the secondary level (9-10). The institute faculty perform the role of resource persons or master-trainers for various kinds of training camps conducted at the block or district level. The trainings are usually held for 5-6 days in different batches throughout the year. The preparation of manuals and materials is a centralized process and is usually done by partners of SSA and RMSA. This year the trainings were done for 1623 teachers coming from 93 secondary and senior secondary schools of the district. The feedback mechanism is through school follow up and visits.

SISE

The team was informed that, till 2008 in accordance with the objectives of the SISE, the staff were involved in conducting in-service training for science teachers. However, in 2008, the

SISE was informed by a letter from the then Chief Secretary, that only the SSA is to conduct training for science teachers. The SISE faculty expressed their distress at this development but found themselves to be helpless. The SSA has taken over most of the SISE activities. Out of the 4 remaining SISE staff, 2 are working for SSA.

As a result therefore the SISE is not directly involved in activities related to its objective, i.e. for improving the teaching-learning process of science, and developing new experiments in labs etc. It seems to be functioning only in the aspects of conducting competitions, events and some initiatives in popularization of science. The SISE does not to have an academic autonomy. No programs have been initiated by SISE. It is essential to restore the institutional autonomy of SISE, as an integral part of SCERT and contributing to in-service education of science teachers.

4.1.3 Continuous Professional Development of Teacher Educators and Other Officials

CSSTE (p.74) mentions that adequate opportunities for continuously updating the capacities of SCERT faculty should be created so that they can discharge their responsibilities effectively. While the SCERT staff have diverse experience both in academic and administrative tasks, the former needs an uplift in terms of professional development.

So far, there has been no faculty development program for the SCERT faculty. As mentioned in the Punjab AWP&B, the issues that concern the SCERT staff relate to RtE, TET, Justice Verma Commission Report, use of ICT in education, writing, content development, research and innovation related activities (SCERT, 2012, p.51).

SCERT could approach NCERT, NEUPA, HBCSE, TISS, IIT Ropar, IISER Mohali for short orientation on educational research, pedagogical innovation, leadership, using technology for academic ends, etc.

A brief summary of the profiles of SCERT faculty can be seen in section 4.1.10. They have been part of various expert committees and have attended various workshops but their profiles do not mention, which. They have had significant experience as administrators (DEOs, Dy-DEOs, principals) and it would be worthwhile for them to have a refreshing professional development in academic areas pertaining to the respective wings they head, specifically, with regard to new pedagogic shifts implied through the new national academic vision, meaningful integration of technology into education, reforms in in-service training and research emanating from genuine concerns of villages and districts in Punjab.

SISE

The profile of SISE faculty shows that they have attended workshops conducted by SSA NCERT, RIE Ajmer, CCRT Hyderabad, PSEB, SCERT and MGSIPA. A sound professional development of academic nature would be beneficial for them as they are engaged in inculcating scientific temper through various means, spreading awareness and developing content for Edusat. SISE could approach science education institutes like HBCSE, IISER Mohali, IIT Ropar for professional development courses, specially around experimental, activity-oriented areas, their set-ups and their integration into the coursework and daily classrooms, at all stages from school to teacher education.

4.1.4 Infrastructural Facilities and Instructional Resources (SCERT)

The SCERT is located in one of the floors in the PSEB building. Currently, the SCERT does not have the required infrastructure such as office rooms, classrooms, conference halls, library, laboratories, office equipment, ICT infrastructure etc. The SCERT does not have any special cells, or labs for science, mathematics, language, social sciences. SCERT feels a strong need of a good website, the development of which has been initiated through one of the DIETs, but is awaiting release of funds.

SCERT will be relocated in a new building in Mohali. The state government has provided 3.5 acres of land. This 3.5 acres of land has been got allotted by the Government from PUDA for constructing a composite buildings for SCERT, DPI (Secondary Education), DPI (Elementary Education) and DPI (Colleges). Each of these four Directorates has been making payment of their respective share to PUDA. The SCERT is in the process of separating its part/ building map etc. from the composite plan. Once it is done the SCERT would incorporate estimates for constructing building in AWP&B for getting grant under the head 'Civil Work'.

As the building of SCERT is planned to be built within next two years, proposal for funds for math lab, psychology lab, social science lab, language lab will be submitted then. The other special cell i.e. Computer Cell has also been planned to be set in the Council in 2014-2015.

SISE

The SISE is working in a rented accommodation covering an area of about 15,000 sq feet and is located in one of the floors of an old building in Chandigarh. The overall condition is not good. The condition of the library could not be assessed because the SISE was in the process of shifting to the PSEB premises in Mohali.

The science lab is located in the basement of the building, which has been unused for several years. The access to the lab itself is a difficult and dangerous task due to broken staircase and dumped construction materials. The place remains in complete darkness, in the absence of electricity or natural light. After some delay on locating the keys the team was able to enter and found that the lab had been in-operational since 2006 and currently comprises of very old, broken and dusty instruments, and some old chemicals, kept on one side, the tables being full of dust. The lab is used as a dumping place for old furniture. The SISE faculty is not involved in developing science kits at the present time. The team was informed about science kits procured by RMSA but these could not be shown to us as the SISE has had very little involvement as an institution in preparing/selecting, disseminating and training regarding these kits.

4.1.5 Institutional Leadership and Management (SCERT)

The SCERT is headed by one director and has 5 deputy directors for its 5 wings – Evaluation, Survey & Data Processing, SISE, Educational Technology & Audio Visual Cell and State Bureau of Educational & Vocation Guidance. Out of the 69 (8 academic and 61 non-academic) sanctioned posts, SCERT has filled 40 (7 academic and 33 non-academic) positions (SCERT, 2012a, p.55).

The SCERT staff, as of now, is not adequate, in number or quality. A few of the staff, with excellent academic capabilities and motivation, are functioning under very adverse circumstances. We found that the Annual Work Plan and Budget (AWP&B) and the Punjab Curriculum Framework (PCF 2013) had been prepared in record time, showing that the capability exists, at least in some sections of the faculty, but this capacity is being utilised in emergency, fire-fighting modes, not allowing sufficient job satisfaction and reward for work.

While the new leadership within the SCERT appear to be dynamic, the JRM team observed a lack of leadership of SCERT as an apex institution vis-a-vis the teacher education system in the state. One of the main reasons is that the SCERT itself is non-functional in academic activities. We could obtain no formal presentation about SCERT, although the team had a meeting with SCERT faculty and a brief overview of the activities of its 5 units. However these units did not provide adequate information and there was little awareness on the part of faculty about the duties involved in the units. With a few honourable exceptions, our impression was that of low motivation in the SCERT staff. If SCERT is to play a role in guiding and monitoring the IASE, CTE, DIETs, GISTCs, BRC, and CRCs it needs to be upgraded in terms of both staff and resources.

On the positive side in its 2013-2014 AWP&B, SCERT clearly envisions to take up the challenge of leadership and management by conducting academic, research and innovation activities.

4.1.6 Research and Innovation (SCERT)

Currently, SCERT lacks in basic functionality, hence has minimal research and innovation activities. However, one positive indication is that several of the DIET faculty have taken up research projects under the guidance of one of the Deputy Directors. SCERT has conducted workshops on action research for DIETs. For topics of research see section 9.1.6.

In an article on research in SCERT and DIETs, Sarkaria and Singh (2007), have reported on the paucity of research in Punjab SCERT and DIETs and made several recommendations. These include programs of capacity building of staff, particularly on drafting of research proposals, sampling, preparation of tools and data analysis including training in the use of software. They recommend that research oriented staff should be posted in DIETs and SCERTs instead of making transfers for convenience or proximity, or considering DIET and SCERTs as dumping stations. Setting up of a Research Advisory Committee and a system for critically examining the findings of research studies and their dissemination and follow-up are recommended, as also regular seminars and publishing of bulletins or monographs on specific areas of concern to teachers, administrators, teacher educators. Pertinent recommendations are made for ensuring quality of research. It is heartening to see such progressive thinking on the part of the SCERT leadership. It is necessary to ensure that the SCERT is empowered to bring its vision into reality.

The AWP&B (SCERT, 2012a, p.54) proposes setting up of two special cells viz., computer cell and research, evaluation, publication and monitoring cell in 2013-2014. It is envisaged that the cells will develop parameters of evaluation of TE scheme in the state, collect and analyze data and publish reports apart from conducting various researches. The subject experts of the Council would be placed in this cell who would prepare proposals of collaborative research projects which would be submitted to various funding agencies. This cell would also be responsible for preparing AWP & B of the Council well in time.

The JRM team's visit to the Punjab University Education Department and discussion with the HoD and faculty suggested possibilities of collaboration, with the University Department taking up research projects in areas of interest to the SCERT, guiding research and conducting joint seminars with SCERT, and also periodically with DIETs, CTEs and IASE participating.

4.1.7 Leveraging ICT (SCERT)

The CSSTE sees ICT as encompassing much more than basic computer literacy. It includes a functional knowledge of hardware, of free and open source software and courseware, internet (building website, cyber security) and social implications of these technologies. As a part of curriculum, students should be able to create digital learning materials and access, review and share them on a computer. Softwares like Geogebra, Kstars, Freemind are to be directly used while learning the ETT course. DIETs are to offer virtual learning platforms like Moodle to reach out to larger number of teachers than is possible physically, and to allow them to learn at their own pace along with classroom contact periods (blended learning). Thus ICT could be a vehicle for in-service teacher education. CSSTE strongly states that a public education system should use only publicly owned curricular resources, which are freely available to teacher educators, teachers and students without restrictions, giving an opportunity to schools, teachers and students to freely share the resources, customize and use them as per their local needs. (MHRD, 2012d, p.81-83)

The team found a strong interest in the use of technology in the Punjab education system, but limited progress in this direction. Public-private partnerships are seen in PICTES (*Punjab ICT Education Society)* and Punjab Education Society, both registered bodies at the state level, charged with the integration of ICT in school education. Among its other functions, PICTES promotes computer education in schools, assists the DSE in formulating and implementing strategy, procedures and guidelines, collects fees from beneficiaries on behalf of DSE, works out revenue models to encourage private investments and oversees the implementation of Management Information System to coordinate with the ministry. Companies like Microsoft (Project Shiksha) and NGOs like American India Foundation are pitching in for training state academic staff on ICT skills in relation to content and pedagogy. The functions of PICTES and the other agenices (as gathered through discussion with their representatives in SCERT and in the field) show low awareness of educational objectives and policies of the government of India, in particular those related to publicly owned software and curricular resources.

Edusat

Punjab is said to be the first state in the country to start transmitting educational content through an Edusat network (two-way, audio-video interaction), back in 2008. The SCERT acts as a hub and has the required infrastructure (servers, video cameras etc.). The staff at the Edusat facility, mostly young and highly motivated, are involved in creating lesson modules. The modules are developed in the form of lectures with blackboard, animation and visuals. SISE provides content support for Edusat. The content developed is mostly for the secondary and senior secondary level, including regular tutorials for competitive exams like IIT, AIEEE,

AIPMT etc. for Government school students. The present initiatives could be improved by widening Edusat's use to include teacher education on one hand and on the other hand by developing more engaging and participative content. Edusat could be used to network teachers, teacher groups and teacher educators with one another, rather than only in top-down mode.

While the thrust on Edusat is admirable, it should not be the sum-total of all ICT efforts. Edusat is not to be understood as a substitute for computer labs, which are completely absent not only in the DIETs and the DRCs, but even in the SCERT. It is important to ensure that SCERT is equipped with a computer lab with networking facility. Moreover, SCERT faculty should be able to handle these well and most importantly use them directly in areas of content development, creating database, pedagogic innovations, etc. They should be self reliant so that outsourcing for such services are not required. To integrate technology into education is essentially more of an educational issue than a technological one and needs to be considered with a sound academic perspective. It is worth mentioning here that CTE Patiala has set a good example of actually using the technology for academic ends. Use of free and open source software needs to be initiated urgently which will benefit in the long run.

Hands-on experience with ICT tools is essential for all faculty. In SCERT, the team observed that the faculty have only a superficial awareness of the technology and terms like smartboard, but no idea of their use. The team expressed concern that with the faculty lacking awareness of usage, there is a possibility of premature investments in hi-tech equipments, which would just be lying around unused. On the other hand, qualified faculty could make all the difference. For example, in a well functioning CTE Patiala, which was well equipped with computer lab, wi-fi, smartboard, lcd projector, it is being well utilized as the faculty are knowledgeable and confident on using the technology in their B.Ed., M.Ed. Course.

The JRM team wanted to get a first hand experience of the Edusat facility in communication with the DIETs and ISTCs. For this, a live discussion session with all the DIETs was conducted from the hub situated in SCERT Chandigarh. A few important points emerged which are discussed elsewhere. The team appreciated the power and potential of Edusat and its possible use in DIET-SCERT communication.

4.1.8 Annual Work Plan and Fund Utilization (SCERT)

Submission of Punjab's AWP&B (2012-13) for funding under CSSTE went through a few iterations. The current Director and one of the Deputy Directors joined SCERT in mid September 2012. In October 2012, the AWP&B was prepared as per the revised scheme of TE

(SCERT, 2012) and sent to the Principal Secretary of School Education to be forwarded to MHRD. However, a copy was submitted directly to MHRD through a special messenger. In October SCERT was informed by MHRD that the former SCERT Director had sent AWP&B 2012-13 to MHRD in the old format which was subsequently returned by MHRD to SCERT with the direction that the AWP&B be submitted in the new format as per the revised guidelines of MHRD. From the AWP&B in the old format, only the salaries of DIETs/ DRCs were projected, which were approved by the Centre in the fourth meeting of the TEAB held in November 2012 (MHRD, 2012g). Thus the payment of salaries was delayed inordinately.

In the old AWP&B, the SCERT did not yet propose any estimates/plan for constructing its building. No funds were demanded for civil work for SCERT for 2012-13, and therefore no such grant for civil work was given to SCERT. However, for 2013-2014, ₹ 30 lakh was proposed for equipment and ₹ 29.3 lakh for setting up two special cells. These two amounts were approved by TEAB (MHRD, 2013c). The SCERT, presently located in the PSEB building, does have some space for setting up these new cells and placing equipment.

Overall, in its AWP&B 2013-2014 (p. 23), the SCERT has earmarked ₹ 59 lakhs (about 60%, non-recurring) of its funds for building infrastructure, civil works, and setting up of special cells, as it is planned to move SCERT to a new location. As per the AWP&B (p. 59), funds amounting to ₹ 40 lakhs (about 40%) are earmarked for academic activities related to content development, research and action research modules, faculty development program for SCERT, capacity building programs, induction training programs of teacher educators, conducting training need analysis for DIET faculty, BRC, CRC coordinators, on-site support and technology in education. This perhaps shows that SCERT has a vision for focusing on academic, innovative research and development activities in 2013-2014. In fact all these activities were proposed earlier for 2012-2013, but SCERT was not able to begin any of these as the funds were not available. As seen from the appraisal note on the AWP&B for Punjab, the Center has approved ₹ 99.03 lakhs for SCERT (74.27 lakhs : 24.76 lakhs). However, a mechanism of quick disbursal of the funds needs to be put in place to accomplish the work on building infrastructure and conducting academic activities.

Flow of Funds

The team understood that there are some systemic problems in the flow of funds under CSSTE. The SCERT prepares the AWP&B giving a provision for the States Share i.e., 25% as per AWP&B estimates, and submits the same to MHRD through the Principal Secretary School Education. The Plan is discussed in a TEAB meeting and, whatever funds are approved, 75% thereof is released in two or three installments to the State. The funds are released sub-head wise i.e. salary, civil works, recurring, non-recurring, etc. The released funds are sent to the

Department of Finance, Punjab Government. SCERT Punjab gets a copy of the letter which is sent to Principal Secretary of Finance and Principal Secretary of Education. After receiving the approval from Finance Department and Education Department the funds are ready to be disbursed to IASE, CTEs, DIETs etc.

At this point SCERT sends the fund requirements of DIETs and other TEIs to the Finance department. After receiving the request the Finance department sends the funds to the administrative department, which releases them to Director, SCERT. Thereafter the Director SCERT disburses the funds to the concerned DIETs and other institutions as per their requirements. The respective institutes then prepare the bills and send them to the respective treasuries. by the Centre. Monitoring of the entire process is done by SCERT. The audit of funds are conducted by the Accountant General of Punjab at DIET level. This long and complicated process results in late release of funds by the Centre, creating problems in conducting academic programs, including training and other activities, within time.

This year Punjab SCERT's AWP&B was considered in the TEAB meeting held on May 29, 2013 (MHRD, 2013c) and the funds were approved. Subsequently, the team learnt that the first instalment was released in August 2013 and the SCERT received the information on August 19, 2013. The SCERT sent the letter to Finance through the Principal Secretary and the funds were released by Finance on September 19, 2013. SCERT would now disburse funds to DIETs and then DIETs would submit bill to the treasuries of their respective district. The procedure thereof is long and tardy.

It is recommended that the Centre takes a re-look at this entire procedure to ensure release of funds in time. Apart from Centre and State, SCERT does not receive any grants from NGOs.

Fund Utilization

At this point, we cannot comment on fund utilisation, since the process can be implemented only when the funds are released from the Centre and State, and further when the SCERT actually receives them in hand.

Referring to the AWP&B (non-recurring), the JRM team felt that the emphasis should be on acquiring multi-purpose equipment rather than routine specimens or ready-made teaching aids. In this context, we suggest as a recommendation, the possibility of approaching IISER Mohali's outreach program for help in setting up a resource generation lab at SCERT. Some specific suggestions on the AWP&B for a low cost, non-traditional and activity based science lab are below.

- In the proposal for a science lab in the non-recurring plan (SCERT, 2012b, p. 15), activities have been framed in a traditional approach. For example, the study of micro-organisms it is proposed to buy permanent slides of amoeba, yeast, etc. (p. 15, item no. 24). Instead of passively observing age old slides, all students may easily observe live micro-organisms in pond water or yeast being grown in a sugar solution. It would generate interest, fun and curiosity in students. Through this approach one would not be confined to observing a few set micro-organisms, but many other unexpected ones as well. This will result in doing hands-on science rather than watching static dead preserved organisms under the microscope. The total cost saving would be ₹ 6,800/-.
- In the social science labs, charts of the solar system, lunar eclipse, composition of water, etc. (p. 17) should be made by all students in groups every year. This way they will build a shared understanding and also the insititute can save funds of ₹ 71, 200 (4,200X17= 71, 200/-). For the social science lab (p. 17), there is provision of buying a set of rocks for ₹ 22,500/- and set of minerals for ₹ 15,000/- which come in sealed boxes. These materials may have their use but the actual specimen we observed in the DIETs were of poor quality, were often out of context and did not make sense in the local surroundings. Instead the students could be assigned to collect such materials from field trips. Building up a collection of actual specimens would lead to a sense of ownership in students and the DIETs could save funds ₹ 6,37,500/- (22,500X17+15,000X17). In this way field visits to gardens, beaches, historical places, villages, etc. could be made mandatory in the ETT syllabus and connect with science and social science activities.
- In the buying of the ready-made materials, there would be a constraint of buying specific items as per the budget. During collections, there is no limit one can choose based on our interest, curiosity and region specific considerations. The money could be more invested in buying books on identification of rocks, minerals, shells, fossils, flora, fauna, etc. in the surrounding.
- The number of equipments estimated for the science lab should be re-looked. Overall all the items are proposed in a quantity of 5. This includes not only microscopes but also, the consumable test tubes, slides, and filter papers. Careful vetting of these estimates is necessary.

4.1.9 Inter-Institution Linkages (SCERT)

Inter-institutional linkages hold the key to quality of the educational system. Linkages with academic institutes at the university and research levels enable teacher educators to access expertise and resources in the necessary subject areas, related to both content and methodology. At the same time, researchers and developers located in the university and teacher education systems must get familiarised with the potentials and possibilities, needs and priorities of the school education system, thus ensuring the relevance of their work to the

school students. For SCERT administrative linkages, with the state education department as well as with DIETs, are needed to facilitate timely planning and monitoring, and prompt flow of funds.

The SCERT at present has no linkages with the universities or research institutes. Academic linkages with DIETs have been lacking in the past but very recently there have been some efforts to establish these.

The AWP&B states that SCERT holds regular meetings with SSA/RMSA, IASE, CTEs and DIETs,but the team was informed that the SCERT-DIET interactions are very few and mostly non-academic. SISE, a part of SCERT which could bring about grass-root changes in science education, is sadly insulated from DIETs and other institutes.

We recommend that the first basic linkage, crucial for SCERT to establish, is with the DIETs. CSSTE urges the SCERT to move away from a hierarchical relationship to nurture DIETs, to promote institutional autonomy at the level of the DIET itself. It asks for a formal involvement of DIET faculty in deciding state academic priorities. DIET personnel are also to be considered for various committees under SCERT (SCERT, 2012b, p.46).

A monthly academic meeting with DIET faculty (representatives to be selected depending on the agenda of discussion, while giving opportunity to every member in due course) is an imperative. The topics for such meetings could be: building curricular material for the revised curriculum, implementing NCF, PCF and NCFTE, innovative pedagogies to transact specific topics from ETT syllabus, developing ETT textbooks, framework for school-visits by DIET faculty-student teams, use of virtual learning platforms like Moodle in pre-service and in-service courses, ways to document local knowledge resources, etc. SCERT faculty members should be in regular contact with DIET principals and even faculty members on specific topics discussed in the last meeting. In addition, fortnightly Edusat forums could be used to bring together all the DIETs. This will ensure that the linkages are continuous and not intermittent.

SCERT requires more sustained engagement with NCERT, NUEPA at the national level and IISER-Mohali, IIT-Ropar, Guru Nanak Dev University, Panjab University as well as Punjabi University at the state level. SCERT could approach these institutes for the following purposes: workshops in areas of need like suggestions for science practicals to be integrated into the new ETT syllabus, standard science labs to be set up in DIETs, innovative areas of action research, curricular material for the new ETT syllabus, technical inputs for ICT including the use of public softwares, professional development of SCERT and

IASE/CTE/DIET faculty etc. These linkages could take the form of joint seminars, interactive workshops and collaborative research projects.

Participation of university and research faculty in school textbook writing is discussed in section 3.3.

At the state level, SCERT needs to establish sustained linkages with IASE and CTE. IASEs are to help build capacity for CTE faculty. CTEs, in turn, are expected to continuously support DIET faculty through a series of workshops on specific subjects, on research methods, and to be flexible in responding to DIETs' voiced needs for capacity building. (MHRD, 2012d, p.58). SCERT could provide just the forum for them to come together. As there is just one IASE and two CTEs, it should be possible for SCERT to stay in communication (telephone, email, Edusat) with them, while collaborating on the following: ways to fill up vacancies in these institutes, providing a framework for IASE-CTE faculty-student teams to visit schools and DIETs, a forum for them to interact on issues of training secondary level teachers etc.

SCERT and PSEB are located in the same building and have collaborated to some extent on PCF 2013. School textbook writing is currently the domain of PSEB. SISE members are part of committees on Syllabus revision and book reviews, organized by the PSEB. The involvement of SISE members in textbooks preparation does not seem to be too systematic. There are some obvious rivalries between SCERT, PSEB and SSA. These issues need to be resolved for the state to have a united team working for school education.

4.1.10 Cadre and Personnel Management (SCERT)

Cadre and personnel management is one area which CSSTE considers is in urgent need of action and reform and in which there has been inadequate progress in most states. Under the Revised Scheme, creation of a cadre of teacher educators and filling up vacant and new posts in a time bound manner are essential requirements. It is suggested that modeling the cadre on the college system could be considered and that this cadre of teacher educators could serve DIETs, CTEs, IASEs, and SCERTs. (MHRD, 2012d, pp.42-43). Clear guidelines are available regarding recruitment procedures, deputation and cadre management in CSSTE (MHRD, 2012d, pp.98-101).

SCERT Punjab has a director, assisted by five deputy directors, mostly M.A., M.Ed., with one of the deputy directors having a Ph.D. The members have earlier served as principals of senior secondary schools, deputy DEOs and the DEO, lecturers, DIET faculty, OSD to education

minister etc. They have had experience in framing service rules, making policies, spreading awareness on socially important issues etc.

After the merging of GISTCs in DIETS, it is proposed to shift the faculty posts to SCERT and the faculty members per se to the DIETs, which are facing a shortage of the same. Existing non-functioning staff may also have to be transferred and new faculty recruited so that the SCERT is revamped into an academic body.

SISE

SISE has 16 teachers (10 lecturers) as part of academic cadre, including 1 Dy. director and 1 Coordinator besides 1 librarian and other supporting staff. The academic staff appears to be well qualified and experienced. Two among the lecturers hold a Ph.D.- one in Chemistry, along with an M.Ed. and the other in Education (with expertise in Population Education), two among them have an M.Sc., M.Ed. (Chemistry and Zoology), one an M.Phil. (Botany), two with M.Sc., B.Ed. (Chemistry and Maths) and one faculty member is an M. Ed. with humanities background, and has been an environmental activist. It is worthwhile to get at least one physics lecturer, as school students find physics to be the most difficult subject at a higher secondary level. As mentioned in earlier sections (4.1 & 4.1.2) most of the SISE faculty are deputed elsewhere and remaining are involved in conducting scholarship examinations. This scenario needs to change if SISE is to be empowered as a state level academic body for science education.

4.1.11 Partnerships and Collaborations (SCERT)

If inter-institutional linkages are strengthened (section 4.1.9) and coherence established then partnerships and collaborations from outside the state education system could be sought in a systematic and need-based way. Currently, there are various collaborations with NGOs like American Indian Foundation Trust, U learn today etc. There needs to be better co-ordination between SSA and SCERT so that there is no duplication of programs and the resources are used optimally.

Members of SISE held various activities in collaboration with Punjab State Council for Science & Technology (PSCST), PSEB in curriculum development, Punjab State AIDS Control Society and State Institute of Education, UT.

4.1.12 Process and Performance Indicators (SCERT)

The CSSTE scheme (p. 78) suggest that SCERT should have a Program Advisory Committee (PAC), comprising of representatives from the state universities, the DIETs, the IASEs and

CTEs, teachers from national institutions and from NGOs and other institutions with experience of supporting work in education at various levels. Currently SCERT has not constituted a PAC.

SCERT is revising the ETT Curriculum based on the NCFTE 2009. It was mentioned that the curriculum will be ready by August. The new curriculum will be implemented in the session 2013-14 of ETT.

The unit on Evaluation is responsible for conducting examinations for ETT course, conducts TET, is an examining body for private colleges and looks into affiliations, framing rules, etc.

4.2 Recommendations for SCERT

Currently, the SCERT in Punjab is not well poised; it is barely functional, does not conduct any research, has no publications, does not guide the DIETs academically. It is acting as a small administrative body, managing DIETs and teacher training institutions affiliated to it. The main reasons for this are lack of faculty and funds. The SCERT admits their weaknesses and hopes that the implementation of CSSTE would facilitate its strengthening, and in finding solutions to its problems.

The JRM team recommends the following with regard to SCERT.

- **A state-specific vision linking school and teacher education**: SCERT should build an original, state-specific vision for overall education in Punjab, ensuring that reforms in teacher education clearly lead to improved learning in schools. Teacher education should be intimately informed of challenges in school and should be answerable to it.

- **Academics to be brought in as central to SCERT's concerns**: More academic appointments could be made under the Deputy Directors, at the same time diversifying SCERT's activties to include expertise in viable themes for in-service trainings, professional development of teacher educators, imbibing critically the spirit of NCF and NCFTE enriching it by bringing in state perspectives, research relevant at grass-roots etc. The head should be a noted educationist with relevant experience and expertise at all levels of education. A separate cadre for teacher educators may be considered.

- **Ensuring infrastructure, a better understanding of academic roles**: The immediate requirements are to move into a stable office, appointment of staff, setting up of library and science labs, identifying some original research areas emanating from specific concerns in

schools and to conduct faculty development programs. The officials need a better understanding of their academic roles.

- **Monthly meetings with IASE, CTEs and DIETs to ensure good linkage**: SCERT should make it a point to hold monthly meetings separately with IASE, CTE, DIETs and one of the meetings should be with all on board at once. Section 4.1.9 enlists some possible academic issues which could be discussed in these meetings. A monitoring mechanism should be in built into these meetings, with clear assignment of academic responsibilities.

- **Professional development initiatives**: SCERT faculty, apart from NCERT, NEUPA etc., can approach IIT Ropar, IISER Mohali, Punjab University, GNDU, and even HBCSE, TISS etc. for short orientation on better understanding of constructivism, activity/project/inquiry based learning and other pedagogic shifts implied in the new national academic vision, meaningful integration of technology and labwork into the main curriculum, research, leadership, etc. In turn, they should also conduct such programs for IASE, CTE and DIETs, while linking them to each others' professional development.

- **An academic revival of in-service training**: SCERT needs to engage deeply in the content areas of in-service training, something which SSA training camps are lacking. They can prepare a format which CRPs can take to schools to gauge the training needs. They can come up with some relevant themes for these workshops and think up different, more interactive ways to transact these in workshops. For this, SCERT faculty also need some professional development in areas of pedagogical content knowledge, students' alternative conceptions, using classroom-diversity as an academic resource, experience in scientific method etc.

- **Better coordination with SSA**: This is an important imperative, implying involvement in formulating state academic plan together, more expedient sharing of data and a good and a collectively-agreed plan for in-service trainings (in which relevant academic inputs are crucially missing).

- **Resource Generation Laboratory**: SCERT could try and set up a resource generation laboratory, a place where teachers can visit, interact and generate material based on the school curriculum which they can later take back for use in their respective schools.

- **Expansion of Edusat into primary level, teacher education and professional development of teacher educators; meaningful contributions from TEI faculty and**

students: At the Edusat facility, it is recommended that the DIET faculty and school teachers should be involved in preparing the lesson modules. The Edusat modules can be activity based, developed in an outdoor mode the context of real life. Recordings can be conducted directly in the laboratories with live experiments. Edusat should expand into the sphere of primary education, teacher education and professional development of teacher educators.

- **Autonomy for SISE, better utilisation of its academic expertise through diversification of its activities**: The SISE should be provided with academic autonomy while still maintaining a good linkage with the SCERT. It should look into the concerns and also be accessible by both levels of school and teacher education in integrating lab-work with curriculum, building labs as far as possible from local resources, orienting teachers in experiments, encouraging innovation, professional development in themes in science education etc. It can seek support from IISER Mohali, IIT Ropar, HBCSE etc. in this regard.

5. SSA

The SSA is a scheme for implementation of the universalisation of the elementary education program in the country. In Punjab, the SSA began functioning in 2004-2005, and the RMSA in 2009-2010. SSA is concerned with classes 1-8 and the RMSA with classes 9-12. Both SSA and RMSA are administered by the DGSE-cum-SPD, Punjab. There are 7 additional SPDs and 2 deputy SPDs to manage SSA, RMSA and ICT initiatives.

The team found it problematic that SSA deputes qualified, trained teachers from the school for inspection and administrative duties. In place of one qualified, trained teacher in a regular position, the SSA supplements with 3 lesser qualified para teachers (called Shikhya) to the school. The team was told that this creates a gap and hampers school education. The scale of pay of Shikhya is based on qualifications. For graduates only, or graduates having done an ETT course, the pay is Rs. 6500. For B.A., B.Ed. it is Rs. 7250. While for M.A., M.Ed., the pay is 8,000. As a result of this scheme, at present, in Punjab there are a total of 6985 (i.e. ~7000) teachers who have been taken away by SSA out of 14356 upper primary schools. In the schools there are said to be 1638 untrained teachers, more than 50% of whom are reported to be undergoing the ETT program. Such student teachers were observed in DIETs Patiala & Amritsar. However, the numbers of these students reported by the DIET faculty were different (section 9.1.1).

In DIET Bathinda , faculty members were also employed for disbursal of teacher conveyance of SSA training (Section 5). The team agreed that the expertise of DIET faculty should be

channelised academically and not in such de-motivating ways. This will significantly address the resentment which is caused as a result.

Later, in the school visits the team members found that some of the resource materials prepared by the SSA team were appreciated by the teachers.

6. PSEB

The Punjab School Education Board (PSEB) is involved, since 1969, in developing the school curriculum and textbooks and conducting examinations at class X level textbooks. PSEB provides textbooks to all government schools. In Punjab it is not mandatory for the private schools to use PSEB textbooks. The PSEB develops the textbooks with the help of a group of practising teachers and experts from the university. However the team's impression was that the rigour seen in early years (post-independence) in the textbook writing process is now missing.

The team was informed that the earlier PSEB textbooks of classes 1-10 were evaluated by NCERT based on NCF 2005 and the evaluation report has been published. The school curriculum has subsequently been modified as per NCF 2005. At the same time PSEB jointly with SCERT has developed PCF 2013. The coordination between these events is not obvious.

The PSEB now plans to revise the science books for classes 6-10 and mathematics books for classes 1-10. Class 1, 2 & 9 textbooks are revised. The science textbooks for classes 6-10 are perceived to be too content-oriented, and it is required to make them more activity-based. EVS textbooks for class 3, 4, 5 are perceived to be good as per PSEB. English textbooks for classes 1-5 have been developed while those for classes 6-8 are to be revised. Textbooks for Punjabi have also been completed. Under the Pravesh scheme, the SSA makes flash cards based on textbooks and distributes them in the districts.

As mentioned in section 4.1.9, a coordination at the institutional level between PSEB and SCERT needs to be achieved for developing curriculum and textbooks. Good textbooks should be seen as a strong priority and the best resources of the state should be given to this task.

7. IASE

7.1 Observations on IASE

Punjab has a paradox of an institution that is functioning as fairly good college of education, which is designated as an IASE, but is not able to fulfill the mandate of an IASE because the required infrastructure facilities have been taken away from it. The background is as follows: Government Training College, Lahore was established in 1882 to prepare teachers for school education. The background is as follows. After partition the college was relocated at Jalandhar in December 1947. The institution, now named as Government College of Education, is housed in a magnificent old British-styled redbrick building with large open ground at the back. The college has stood with distinction for its quality of the teachers produced since then. The National Accreditation Council visited the college in 2005 and awarded it a B++ grade. The college is affiliated to Guru Nanak Dev University, Amritsar and runs two programs – B.Ed. (200 seats); M.Ed. (35 seats). Out of 19 sanctioned faculty positions 10 are filled and 9 are vacant. Some of the faculty members are qualified to supervise research scholars for the degree of Ph.D.

The institution was elevated to become Institute of Advanced Studies in Education during the year 1987-1988. A grant of around 80 lakh (exact amount not confirmed) was given to the college for construction of a block to house the IASE. The work started and as the building was under construction half way, the newly established Punjab Technical University was asked to run its operations from that campus till the university could have its own campus built. When the Punjab Technical University shifted to its new campus, the vacated building was allotted to a Constituent College of Guru Nanak Dev University, Amritsar and that Constituent College is still running in the same building. The College of Education now does not have the access to the building originally meant for IASE. No activity pertaining to IASE has been undertaken as yet. The college has a rich library with around 34,000 books aesthetically stored using the space to its optimum level. It has good range of books, new and old both, on a variety of issues of educational importance including educational research. The library records showed that students regularly visit the library and have easy access to the books.

The college has a science room, a common room and other basic facilities needed for the students. However the college building needs special care as it has started showing signs of aging. The JRM team independently had some discussions with a school teacher who had acquired a B.Ed. degree from Government college of Education, Jalandhar, who reported infrastructural problems, hostels in need of main tenancy and unsanitary conditions in the

mess. However these observations were not independently visited. This student, being himself quite mature and well-read, was dissatisfied with the quality of B.Ed. courses and textbooks and felt that a two-year course would better fulfil the requirements of B.Ed.

The principal of IASE mentioned that the college has even earlier organized some in-service training programs for school teachers and expressed enthusiasm for conducting more activities under IASE.

7.2 Recommendations for IASE

- **Concerted efforts to revive IASE**: The college should revived in order for it to be able to assume its wider mandate as an IASE. All necessary support should be extended by the state and central governments.

- **Filling up vacancies**: The vacant faculty positions (9) out of the sanctioned position (19) should be filled on a priority basis as this is the minimum requirement for conducting B.Ed. and M.Ed. courses being run by the college. Some faculty positions exclusively for IASE (as per requirement) should be sanctioned and filled.

- **Building meant for IASE to be restored**: The building originally planned and constructed for IASE, with the grant received for the specific purpose, should be given back to the college for running the IASE.

- **Equipping the computer lab**: Efforts need to be made to equip the computer laboratory as per present day needs. This would ensure appropriate use of ICT in the educational process.

8. CTE

8.1 Observations on CTEs

The JRM team visited Government Teacher Education Colleges in Patiala and Faridkot affiliated to Punjabi University. A stark difference in the level of motivation in these government colleges of education was observed by the team which was due the crucial role of the attitude and initiative of the faculty members. At CTE Patiala, The team could sense a high level of motivation, commitment and team spirit with which the faculty of the college were working. CTE Faridkot, needs much more motivation, and has much to improve in, to play a worth-while role in addressing the state of education in Punjab.

8.1.1 Curriculum and Pedagogical Practices (Pre-service) (CTEs)

The two universities – Guru Nanak Dev University and Punjab University conduct the admission process in alternate years for the B.Ed. course. The Punjab University conducts the admission process for M.Ed. The B.Ed. curriculum was revised by the Punjabi University in 2012. However, as mentioned by a faculty of CTE Patiala, it is not fully compliant with guidelines and suggestions made in NCFTE 2009. The team was informed that new topics have been added to the earlier syllabus and old ones have been retained resulting in an expansion of the earlier syllabus. This matter needs to be looked into.

CTE Patiala, popularly known as State College of Education, was founded in 1955. It is functioning as Government College of Teacher Education since 1988. It was heartening to see that the faculty was well aware of NCFTE 2009. Though there was no opportunity to observe and understand the delivery of the course content, the discussions with the faculty members reflected their efforts to introduce innovative methods of teaching to student-teachers. There is an intake of 200 students for B.Ed. and 50 students for M.Ed., since 1988, through a centralized admission process. CTE Patiala attracts students not only from Punjab but from other states, too. The number of girl students here is remarkably higher (190) than the number of boy students (45). The courses offered to B. Ed. students are: Philosophy of Education, Educational Psychology, Educational Technology, Teaching-Learning Processes, Guidance and counseling. The optional methodology subjects offered at the college are: Home-science, Music, Fine Arts, Social Studies, English, Punjabi, Economics, Geography, Computers, Mathematics, Physical Science and Life Science. Courses are taught in three languages: Punjabi, English and Hindi. Art, sports and community service are compulsory non-core subjects for all the students. In addition to lectures and demonstrations, various innovative methods of teaching learning are practiced here, e.g., inter-class quiz, inculcation of self study habits by library work and various assignments, exposure visits including a visit to a book exposition in Delhi, meetings with educationally advantaged and disadvantaged students, interaction with experienced school teachers and so on. Students get an opportunity to prepare and make presentations on LCD projector; they participate in debates, essay competitions and so on. Students are supposed to spend 40 working days in practice school guided by subject experts, teaching 32-35 lessons. They create lesson plans as their pre-planned objective. Lesson plans made by students were shared with the team, which were well written and reflected the effort of the faculty to introduce innovative teaching practices to teacher-students. There is also some online interaction between students and lecturers about the lesson plans made by the students.

At CTE Faridkot, however the team's experience was entirely different. Neither the faculty members nor the Principal were present when the JRM team reached the college, in spite of the intimation of the visit sent to them in advance. The principal did arrive much later and reluctantly one full time and one part-time faculty were present for interaction. The principal is handling CTE as an additional charge with main assignment as a principal of a local Government degree college nearby. It was felt that perhaps he is overburdened with his work and could not focus on the CTE as required. The principal is apparently a man of good standing, is well known in the locality and much respected for his dedicated work and commitment. Yet, for reasons not completely known to the team, a focus on CTE is lacking. There was tremendous reluctance on the part of the Principal to call any of the other faculty members although he himself was not conversant with the details of the courses offered at the college, perhaps because of the overload of responsibilities. It was disappointing that nobody could provide systematic information on curriculum and pedagogical practices. The Principal was completely unaware of the curriculum of teacher education, and revision of the same on the basis of NCFTE 2009. However despite the low faculty strength (section 8.1.10) and other problems at CTE Faridkot, students are admitted as per norms, 140 for B.Ed. and 35 for M.Ed. Here too, there is a remarkable majority of girl students: 119 out of 140 B.Ed. students are girls and 29 out of 35 M.Ed. students are girls. Most students are from science background and are post-graduates. 50 students cleared TET in the batch of 140. More than 10-15 cleared NET for M.Ed. course.

8.1.2 Curriculum and Pedagogical Practices (In-service) (CTEs)

Neither of the two CTEs in Punjab are currently doing in-service teacher education.

A Government In-Service Training Center (GISTC), affiliated to SCERT, is located in Patiala itself, fairly accessible from CTE, Patiala. It is one of the twelve centers established in the state before the DIETs came into existence. These centres are now being merged into DIETs. Some lecturers from this center have been deputed to DRC, Fatehgarhsahib which will soon become a DIET.

Although located in the same district, GISTC and CTE, Patiala have no formal connection. It was disheartening to know that though faculty members of CTE had offered to conduct some sessions on voluntary basis in training for in-service teachers, this was not facilitated by the system. None of the resources available in the CTE are used for in-service trainings.

No information could be obtained about in service training at CTE, Faridkot.

8.1.3 Continuous Professional Development of Teacher Educators and Other Officials (CTEs)

CTE, Patiala has an able leadership of the principal. It has 19 sanctioned posts of faculty members which are all filled. There are 13 permanent faculty members and six guest faculty members. Five faculty members are Ph.D., two are doing their Ph.D., and six faculty members have Masters/M. Phil. degree. The qualification of the faculty clearly has a positive impact on the overall inspiring atmosphere in the college. Conferences have been conducted by CTE Patiala in collaboration with British Council Library. In-service workshops have also been conducted for teacher educators and student teachers by BCL at the CTE, Patiala. Some of the faculty members visited Cambridge as a part of a collaboration between CTE and BCL. During the last five years ten faculty members attended staff development programs conducted by different universities in Punjab. Staff of CTE Patiala appear to be outstandingly active as a team for their own development.

The situation at CTE, Faridkot was not as encouraging as at CTE Patiala. The postings of principals have been very short and have often been vacant (e.g. from July 2012 to January 2013, as noted from a board in principal's office). The present principal of CTE Faridkot has this post as an additional responsibility and it has a serious impact on the overall atmosphere in the college in terms of low levels of motivation and team spirit. AWP has not been submitted by the college.

Against the sanctioned fourteen posts, posts of only five full time faculty members and three part time faculty members are filled at CTE Faridkot. Two of the full time members are Ph.D. and three are M.Phil. One of the part time faculty members is Ph.D., one is M.Ed. and one is M.P. Ed.

No specific information on workshops and seminars attended by the faculty members or conducted at CTE Faridkot was available. One faculty mentioned that he wrote a paper which was published in the year 2010; however, he could neither quote the title of the paper, nor the name of the publication.

8.1.4 Infrastructural facilities and Instructional Resources (CTEs)

CTE, Patiala has a huge old but well maintained building with an area of 5,177 square metres. The Principal of CTE Faridkot was extremely reluctant to show the premises to the JRM team. The college has a massive structure which needs to be optimally utilised with vision.

- **Library**

CTE, Patiala has an excellent library with a well planned architecture and tall windows so that the library gets natural light, and has proper ventilation. The library collection includes 39,676 books, 100 encyclopedias and 50 dictionaries, and subscriptions to 16 educational journals, 20 magazines and 9 newspapers. The library staff is qualified and well trained. In addition to the staff, there were trainees in the library who were working on creating barcodes for the books. Students and staff of the college have access to over 80,000 e-books and 3,800 e-journals from the library and from home. The library has subscribed to journals through the Inflib network and provides access to students. Students can access the journals either from college or from home. The library has some books and gazettes which date back to the first decade of last century and efforts are made to preserve them as they are of historical value. The library may consider a collection of children's books, especially books appropriate for students in secondary schools.

CTE, Faridkot too has a naturally lit library with over 16,460 books. The system of issuing books needs to be refined. The issuance register had no record of the date on which a specific book is issued to someone. There is no regular librarian and the concerned library staff have no knowledge of computers. Registers are maintained manually, and not efficiently. Record of the purchased books is so complicated that it was impossible to calculate the total number of books purchased in a particular year. 500 books were purchased in 2011-12, utilising grants worth Rs.90,000 by UGC. These grants are apparently not fully utilised. There was no book purchased in the year 2012-13. There is no mechanism to decide which books need to be purchased. There are no periodicals subscribed to by the library, nor are any online subscriptions made by the college.

- **Laboratories**

CTE, Patiala has laboratories for psychology, science, geography and language but they were not setup, as they were to be moved to a different wing and their space was being used to create a computer facility. These labs also had resource materials of various kinds. As the rooms were locked, the team could not take a closer look at the nature of materials. The team was informed that the equipments are functional.

In CTE Faridkot, at the time of visit, the science lab was being used as a store-room for examination papers. It was reported that 10 practicals are taught to B.Ed students as per the syllabus, but the overall atmosphere in the lab was not lively, and was disorganized.

- **Conference Halls**

CTE, Patiala has a huge auditorium with a capacity of 500, a mini auditorium for its morning assembly, and a seminar hall. The team was informed that CTE has asked for funds to renovate the halls as thechairs and equipments are being used for many years and are quite old.

The classrooms in CTE, Faridkot are large and lit with natural light. There is a seminar hall with a capacity to accommodate over 200 students, which is mostly used for conducting written examinations and not for any seminars.

- **ICT and Instructional Resources**

CTE, Patiala has a well equipped ICT laboratory with 76 computers, an LCD projector and an interactive white board. The plan is to make the college building wi-fi enabled in the academic year 2013-14. The team was shown the lesson plans that students make prior to their practice lessons. The team discussed with a small group of students about their learning experience. The students seemed quite happy and mentioned that they were enjoying their studies.

The ICT lab in CTE, Faridkot was meant only for M.Ed. students. B.Ed. students do not use it. The lab has a couple of computers in good condition and internet connected as well. The training rooms have sufficient and good furniture, but they cannot be categorized as "ICT-enabled structures". Edusat has never been used in the institute on account of a dysfunctional camera. The team was shown a very sleek LCD projector from HP and was told that faculty used them in classroom for projections, etc. Work experience projects were lying in piles in the multimedia lab. There was a huge pile of TLMs made of thermocol stored in the room. The team feels that the models and TLMs made of thermocol, besides lacking in eco-friendliness, are often imaginative and wanting in relevance and purpose. Models should be more subtle, indicative and dynamic. "Making" projects, for the sake of completing the syllabus is a meaningless exercise. Overall, TTIs need to generate innovative ideas while conducting practicum in PST and INST programs.

The ET room in CTE Faridkot, was large in size and paper correction work was on. We could see faculty busy in their work. Remarkably, we found a projector of early 70s model, printer of similar age, and also one HMV audio system. Such age-old models were lying in a working lab.

However, these antique models may have their own educational values, if they are used creatively.

- **Hostel accommodation**

CTE, Patiala has a facility of hostel for 180 girls and 200 boys. The hostels also have a back up of a gen-set.

CTE, Faridkot has a hostel for girl students which can accommodate 40 students. Staff quarters have been converted into a hostel for M.Ed. students.

8.1.5 Institutional Leadership and Management (CTEs)

There was a sharp contrast in two CTEs as far as leadership and management are concerned.

CTE Patiala reflected a high level of team spirit and motivation which are a driving force for various academic activities in the college. There is no vacant post, which also has a positive impact on the efficiency of the management. CTE Patiala has the potential to play a leading role in the field of TE as well as innovations in school education.

8.1.6 Research and Innovation (CTEs)

Five faculty members of CTE Patiala have a Ph.D., two are doing their Ph.D., and six faculty members have a Masters/M Phil degree. This has made a positive impact on the overall academic atmosphere of the college; however, there was no evidence of any focused research work initiated to channelize the energies of student-teachers. CTE, Patiala has the capability to perform a leading role in providing guidance to its student teachers as well as the faculty members of various DIETs on research projects related to the realities of contemporary classrooms. The college could consider the option of adopting a school with the specific purpose of enhancing classroom experiences based on focused experimentation. The faculty members of the college may further support such experimentation in at least one school in the vicinity of each DIET with meaningful contribution from DIET faculty members. Findings of such experimentation and research at grass root level may be shared with all the DIETs, other CTEs, IASE, SCERT and departments of education at universities through a website.

Some action research was also being carried out. Modules, booklets on delivery and methodology were available. CTE Patiala has also conducted research studies in inclusive education.

CTE Patiala has proposed seminars and workshops on different themes: 1. Findings by ASER related to learning levels, 2. Challenges related to implementation of RTE 3. New techniques in research methodology, 4. Role and importance of languages Punjabi, Hindi and English, 5. Role of technology with special reference to Geography and other subjects of education, 6. Using latest technology in teaching-learning processes (SCERT, 2012a, pp. 122-129). We recommend to involve DIET faculty in these workshops or seminars, so that DIET capacity could be built up through contact with the CTE.

CTE Faridkot has to go a long way to be able to lead as Government College of Teacher education and make contributions by carrying out relevant research.

Both the CTEs should take a lead in exploring ways to connecting researches on teaching-learning being conducted worldwide to classroom teaching, making Punjabi translations of the findings of various researches available to student teachers as well in service teachers.

8.1.7 Leveraging ICT (CTEs)

It was heartening to witness that CTE Patiala has an ICT lab equipped with seventy six computers and an interactive white board. The Edusat facility is in place. They have a plan to make the college premises wi-fi enabled in the year 2013-14. All the student-teachers and the faculty members have access to over 80,000 e-books and e-periodicals, which is a positive aspect. Faculty members, students and alumni of the college are also connected through social websites.

ICT must be optimally utilised for inter institutional linkages, maintaining data and sharing findings on experimentation at the grass root level which is made as part of the course work of PST. There is ample scope to enhance the understanding about the teaching-learning processes by using internet as a gateway to knowledge being generated in the field of education.

CTE Faridkot needs to seriously consider how B.Ed. students may also avail the facility of ICT in the college. The library needs to digitize the records of books and periodicals to facilitate efficient access and issuing. The possibility of subscribing to periodicals on education from all over the world needs to be urgently considered as well.

8.1.8 Annual Work Plan and Fund Utilization (CTEs)

CTE Patiala has submitted AWP which lacks plan and demand for collaborative work with DIETs and other district level institutes. There is a plan for seminars and workshops on six

different topics aimed at enhanced understanding of issues related to school education and application of technology at TE level. However, the vision for dissemination of the outcome of such seminars does not get reflected in the AWP. Although the college receives funding for research from UGC, no claims have been made for research in the AWP.

When the team visited CTE, Faridkot and despite best of our efforts, we could not secure a copy of AWP of the institution for the year 2013-14. Later on, team was told by an official in SCERT that the concerned CTE didn't submit any plan for the critical year. Team observed that senior officials like Principal of a CTE has no idea what an annual plan looks like, or whether it was submitted by them or not.

8.1.9 Inter-Institutional Linkages (CTEs)

At present inter-institutional linkages are missing in both CTEs. There is a great need that CTEs develop linkages with DIETs in the state, SCERT, block level institutions like BRCs as well as Departments of Education in various universities, for academic enrichment and nurturing innovations in TE as well as classroom practices at school level. Faculty members, officials and resource persons from district level institutions like BRCs and DIETs may visit CTE Patiala on a regular basis which will keep them motivated by witnessing the results of team spirit and commitment with which the faculty at CTE Patiala is working.

Both the CTEs should offer their expertise to district level institutions with a view to enhance the quality of PST courses offered there. AWP submitted by CTE Patiala does not contain any systematic plan for such collaborative work. CTEs may undertake researches in collaboration with various representatives from organisations like SCERT, DIETs, BRCs and Departments of Education at various Universities.

8.1.10 Cadre and Personnel management (CTEs)

At CTE Patiala all the sanctioned posts are filled, a positive impact of which on the overall atmosphere and the academic activities in the college is obviously sensed.

It was observed that the tenure of the principals at CTE, Faridkot has been considerably short and there were frequent periods when the post of the principal has been vacant as it was noted on the board in the principal's office. The present principal of CTE Faridkot has the additional responsibility of this post and it has a serious impact on the overall atmosphere in the college in terms of low levels of motivation and team spirit.

Against sanctioned fourteen posts, only five full time faculty and three part time faculty members are employed at CTE Faridkot.

8.1.11 Partnerships and Collaborations (CTEs)

CTE Patiala organised some seminars in collaboration with the British Council Library from which students and faculty benefited.

Academic partnerships with other organisations were observed to be absent in the case of CTE Faridkot.

8.1.12 Process and Performance indicators (CTEs)

CTEs do not have a database on the teacher education institutions and teacher educators in the area they are serving. Meetings are not held with SSA, RMSA, DIETs or other CTEs on a regular basis. Meetings with SCERT are held mainly for administrative purposes. Need analysis for training of teacher educators has not been done. Records at CTE Patiala indicate positive feedback by students who have completed pre-service courses. No such record is available with CTE Faridkot. CTE Patiala has conducted research studies regarding inclusive education. A small number of faculty members from both the CTEs were deputed for various conferences, however the privilege of study leave has not been utilised by anyone. CTE Patiala has constructed its website during the last academic year.

8.2. Recommendations for CTEs

- **CTE Patiala, a model TEI for the entire state, to assume a leadership role**: CTE, Patiala offers a good model of a well-functioning institute for the entire state. It could set up science and computer labs for DIETs, come up with professional development programs for DIET faculty, gauge the pedagogic challenges in school and in-service trainings and invite visits of student-faculty from other TEIs across the state.

- **Urgent attention to CTE Faridkot**: Functioning of CTE, Faridkot needs to be improved. A permanent principal and permanent faculty are urgently required for CTE, Faridkot. On this alone, rest much of the other improvements needed in the CTE.

- **Hostel facility and permission to use computers for B.Ed. Students at CTE Faridkot**: Hostel facility for boys enrolled in the B.Ed. course is required in CTE, Faridkot. B.Ed. students should also be given permission to use the computers of the institute, presently permitted to M.Ed. students alone.

- **Librarian, support staff and a management system for CTE Faridkot**: CTE, Faridkot has a good collection of around 17,000 books, sadly, unmanaged. Efficient support staff and management system for the library must be ensured.

- **Waking up to the mandate of in-service**: CTE, Faridkot must be facilitated to at least start considering in-service training, at present, completely uninitiated.

- **Awareness of policy documents**: Copies of NCF and other policy documents must be ensured in all the CTEs, and in general in all TEIs across the state.

- **Translation initiatives**: CTEs could take the initiative to translate the policy documents and relevant literature on education research into Punjabi.

- **Inclusion of state-wide DIETs in workshops**: The CTEs should enter into deeper engagements with DIETs, for the benefit of both. The workshops conducted by the CTEs must involve DIET faculty and should have a dissemination component built into them.

9. DIET

The DIETs were envisioned in the NPE 1986, and were created by the MHRD, GOI, in the early 1990s. They are to strengthen elementary education and to support the decentralization of education to the district level, under the CSSTE, by following the guidelines suggested in the so called 'Pink Book'. Established as a third tier, they are expected to play a crucial role in the process of decentralisation by exercising autonomy in developing a vision for their district. Broadly, their mandate is, to conduct pre-service and in-service courses, direct field interventions for school improvement, research on education and policy and to advise the state, annual planning and to act as a resource centre and forum for all students, teachers and others concerned. (MHRD, 2012d, p.28-39)

The Punjab State has 5 DRCs, of which 3 DRCs at Moga, Nawanshahar, Mansa, were established in 1998-1999. In addition, 2 more DRCs at Fategarh Sahib and Sri Muktsar Sahib, were established in 1999-2000. DRCs in Punjab were sanctioned in new districts which emerged out of old larger districts, and these new districts had lesser population. Under the Scheme, DIETs can be sanctioned for the districts created upto March 2011 (SCERT, 2013a). As per the AWP&B, all the 5 DRCs are being upgraded to DIETs. The team was informed that these 5 DRCs are with new infrastructure and are well-equipped. When the DRCs were under

construction, these were functioning in the nearby schools. 2-3 rooms were taken from a school in each of five districts where the the DRCs were set up.

9.1 Observations on DIETs

Punjab has 22 districts for which there are 12 DIETs and 5 DRCs. The DRCs are to be upgraded into DIETs shortly. All the 12 DIETs are NCTE recognized for conducting the ETT course. At present DIETs are, in a sense, working in isolation, with marginal academic support from SCERT and weak or no linkages with other institutions like BRCs at block level, DRC at district level, or CTE/IASE/departments of education at state level. They also do not have a forum to communicate among each other. None of the DIETs have a website and also none could submit their perspective plan to SCERT. The teaching and non-teaching positions have been filled up by transfer from the department of school education. The faculty is drawn from among the secondary school teachers.

Of the 12 DIETs the JRM team visited 5 DIETs in Kapurthala, Amritsar, Patiala, Gurdaspur and Bathinda. Of the 5 DRCs, only 3 are functioning and about to be upgraded to DIETs. Of these the team visited 2 DRCs, in Mansa and Fatehgarh Sahib.

9.1.1 Curriculum and Pedagogical Practices (Pre service) (DIETs)

Pre-service teacher education (PSTE) is a chief mandate of the DIETs. The PSTE task of the DIETs as outlined by the CSSTE (MHRD, 2012d, pp. 30-32) is to contribute to the revitalization of PSTE by applying quality standards in all respects and to play a leading role in implementing curricula reformed in the light of NCFTE 2009. The revised teacher education curricula are expected to encourage lively engagement with children and develop in the student-teachers a capacity for self-analysis, self-evaluation and collaborations, relate subject matter with the immediate social environment, develop skills in pedagogy, encourage documentation of local knowledge resources and use creative arts in teaching. Especially important in the spirit of RtE, is for PSTE program to empower student-teachers to address themselves creatively and sensitively to a range of issues that will arise in classrooms with a diverse student population and enable the success of all students including first generation school goers. (MHRD, 2012d, p.31)

At the time of the JRM visit, the ETT 3rd semester exam was in process, hence the team could not meet many student-teachers. An ETT curriculum framed in 2006 was in use. The JRM team was shown a draft of a revised curriculum which was being prepared along the lines of NCFTE 2009. An Edusat meeting with faculty of all the DIETs (including the ones not visited by the JRM team), brought out that earlier the curriculum revision process used to happen in

closed room, but now it happens through an open process which is useful. A team at DIET Kapurthala was especially active in framing Punjab's new ETT curriculum, along the lines of the model curriculum proposed by the NCTE, and had added the subjects of Punjabi and Hindi to it. The revised curriculum is due to be implemented from session 2013-14. Apart from this experience, the JRM team found that in most of the other visited DIETs, there was little to almost no awareness about a TE syllabus based on NCF and NCFTE. The team was informed that, at a meeting of all principals of DIETs held at SCERT in February, 2013, it had been especially emphasised that principals of all DIETs/DRCs should ensure that they kept on their table and in the library of the institute a copy of NCFTE 2009 and other guidelines of NCTE/MHRD relating to teacher education. The minutes of the above meeting had been signed by all the principals or their representatives, yet implementation was missing.

Clearly therefore much more effort is required to create awareness and understanding of the NCFTE in DIET faculty as well as students. A clear understanding of expected shift in pedagogy, as suggested in documents like NCF and NCFTE, has the potential to lead to a gradual process of transformation of the scenario in classrooms at grass-root level. The team found that while teacher educators, teachers and RPs at block level are familiar with terms like ‘activity based' and 'experience based' learning, a deeper understanding of their essence is lacking. Most importantly, clarity is required as to how to translate these ideas into classroom practice.

The AWP&B mentions that the SCERT and DIETs carried out admissions to the ETT course for 2012-14, including those for private colleges (SCERT, 2012a, p.41 & 64). However, regarding admission criteria for the PSTE course the team was informed as follows. Before 2006-08 session, admissions to the 2 year ETT (D.El.Ed) course was done on the basis of an entrance test. Between 2006-08, admissions were solely on the basis of 12th class marks. But, notably, in the sessions 2009-11, 2010-12 and 2011-13 teachers who were employed in Punjab under the EGS/AIE/NFE schemes of SSA and others were admitted in DIETs of Punjab for doing the ETT course. Since then, the seats remaining, after these students are admitted in DIETs and private colleges, are being filled on the basis of merit. In particular, for the session 2012-14, the Government of Punjab required of the DIETs to admit around 200 teachers of alternative education or teachers working in informal centres for the ETT course, to meet the RtE 2009 requirements in Punjab. The numbers obtained from SSA were different (section 5), but whatever the actual numbers, the State government is thereby making an effort towards providing training to these contract or para teachers. However, in the session 2011-13 private colleges in Punjab, on their own, admitted fresh 12th pass students on the basis of their merit. This action was later ratified by the Punjab & Haryana High Court, Chandigarh. Consequently

the training of the para teachers has been left largely to the DIETs. Also apparently the private colleges are independently carrying out their admission processes.

In DRC, Mansa, we found that even many B.Ed. qualified students had enrolled themselves in ETT, in the hope of securing a Government service, as vacancies for elementary teachers are expected to have gone up due to enactment of RtE 2009. In DIETs, Mansa, Bathinda and Gurdaspur, we found several students who were teachers in their mid-career with family and nowhere to go. Some of them were doing the ETT course in the hope of getting a government job after the course. For many, it might be difficult to clear the Punjab State TET. There are issues of readiness to learn, motivation and capacity of student-teachers.

There are also some positive observations with the students. In DIET Sheikhupura, Kapurthala, the JRM team interacted with few female students on campus. The students were positive about their choice of taking the ETT program and were ready for taking up the teaching profession. They prepare lesson plans and discuss with their faculty and then conduct practice lessons in schools. One of the students dwelled upon the issue of child psychology, classroom teaching as – *"we need to understand children by way of their thinking"*.

In DIETs Bathinda and Gurdaspur, and in DRC Mansa, there was a very old photocopy of the ETT syllabus and no prescribed textbooks for students or manuals for teachers. Most faculty and students refer to the commonly available passbooks, guides, generally monopolised by a specific publisher. In DIETs, Nabha, Patiala, we found that the textbooks developed by a private publisher were being used. The science faculty pointed out that the textbooks contained a lot of errors in diagrams of respiratory system, digestive system etc. and some conceptual errors too, creating misconceptions among students. It seems that teaching-learning is reduced to cram questions and answers and the intent is to clear the exams and get a certificate. This has created a significant dent in the overall quality of the education system and the motivation and preparation of teachers and teacher-educators.

The teacher preparation at the pre-service level is severely affected by inadequate number of faculty, resources and infrastructure, for example in DIET Gurdaspur. Further it is also affected by private teacher education colleges, for example in Bathinda. It was mentioned that in private teacher education colleges, one need not attend the classes, assignments/projects are only reduced to paperwork and there are large scale instances of corruption relating to the examinations and affiliation-status of these institutes. The course fees in private colleges are Rs. 45,000/- per semester compared to the Rs 10,000/- per semester in DIETs. All this has affected the service, dignity, morale and quality of teacher preparation in Bathinda.

9.1.2 Curriculum and Pedagogical Practices (In service) (DIETs)

DIETs are currently not involved in the in-service trainings. GISTCs, specific to the state, are conducting the same for school teachers in collaboration with SSA. For details on the in-service training programs, see section 10 on GISTCs.

9.1.3 Continuous Professional Development of Teacher Educators and other Officials (DIETs)

With regard to professional development of DIET faculty, the CSSTE makes strong recommendations for development of a range of short diploma/certificate courses by various institutions of higher education in the State, including Universities, IASEs, CTEs and some capable NGOs with relevant expertise. (MHRD, 2012d, pp.47-48, 89). The CSSTE also recommends seminars, workshops and study tours, publications and leave up to 2 yrs to pursue research or higher education in a relevant field. (MHRD, 2012d, pp.48-49). The CSSTE also recommends 'forums' as key spaces for the strengthening of reflective practice and, at the DIET level, calls for a weekly academic seminar in which faculty present their academic work along with other invited speakers, to be open to all teacher educators and education NGOs in the district (MHRD, 2012d, p.39)

From the DIET faculty profiles of Amritsar and Patiala made available to the JRM team, it seems that over the course of their careers, most faculty have attended at least 5-7 and up to 10-15 professional development courses, many of them conducted by RIE, NCERT, NUEPA, CIET, CCRT and a few other agencies and others, about once a year conducted by SCERT, SSA etc. Most of these workshops have occurred during the last decade (2003-12). Overall, the workshops have focused on bringing technology into education, sensitisation to socio-cultural issues (gender, human rights, disability), awareness of new developments like RTE, CCE, RTI etc., curriculum and TLM development, research methods, general issues of quality education, state-specific issues, cultural exchanges, and also subject-specific workshops. Training for DIET faculty on Total Quality Management, action research and ICT has been proposed for 2013-14 (SCERT, 2012a, p.47).

Thus the faculty of at least two DIETs have been attending a fair number of professional development courses on a broad range of areas. It will be most helpful if the content of these courses is documented and shared across the state and the country. The JRM team found in DIET Amritsar, an ISTE package for primary school teachers published by NCERT (NCERT, 1988). Such materials need to be used, updated and translated into local languages. Next, if the learnings from these workshops are to be translated into practice in the districts, then they

should be shared and discussed within the DIETs through the medium of seminars in which the faculty and the DIET principals should participate.

The JRM team was not able to find any significant mention of the professional development of teacher educators or other officials. DIET faculty did not seem to have any opportunity to participate in any program (other than trainers' training by SSA/RMSA), like a seminar or conference on education for their own professional development nor did they seem very keen on such participation. Neither had any faculty gone on study leave to pursue any particular issue of interest nor has any exposure visit been conducted for them within Punjab or elsewhere. In DRC Fatehgarh Sahib, it was expressed that no in-house programs could be conducted for the professional development of the faculty as lecturers belong to different DIETs. It is highly recommended that faculty members at DIET get opportunities to participate in seminars on education in and outside Punjab. Similarly such events on a smaller scale need to be organised at district level also. Once they experience the joy of such participation and enjoy the process of their own growth as teacher educators, it is more likely that they would demand for such opportunities.

9.1.4 Infrastructural Facilities and Instructional Resources (DIETs)

Apart from a few relatively good DIETs, most of the other DIETs visited, require some careful attention in renovating the buildings, and enriching libraries, labs and TLM making initiatives. It is not just the release of funds which is important, but a linkage of these facilities with the curriculum and classroom, a culture of usage and presence of suitably trained personnel to manage these.

- **Buildings, classrooms and conference halls**

Apart from a few, most DIET buildings need renovation and minor civil works. DRCs have new buildings, as they go on to be upgraded into DIETs, but need equipments. Overall, the buildings of the DIETs we visited, Amritsar, Bathinda, Gurdaspur, Kapurthala and Patiala are old and in need of maintenance. However in a few DIETs, there have been attempts to improve certain aspects like hygiene, cleanliness and planting of trees (Patiala). Both the DRCs we visited, Fatehgarh Sahib and Mansa had new buildings, renovated as a part of the initiative to upgrade the 5 DRCs into DIETs.

DIETs in Bathinda and Gurdaspur have not been repaired since their inception in around 1990 and 1913 respectively. They have huge training halls, rooms for labs and library, 4 classrooms with seating capacity of 50-60 each and 4 additional rooms for staff offices, stores etc. None of the structures of DIET Bathinda are well equipped to be able to perform the kind

of work a TTI is supposed to perform. In DIET Gurdaspur, staff security and maintenance of buildings were found to be grave and problematic areas. There, the condition is rather serious: classrooms lack basic infrastructure and need immediate attention.

DIET Patiala has a dilapidated building, broken windows, poor ventilation, unmaintained campus and is in need of a whitewash. A few classrooms are divided by wooden partitions, in a makeshift arrangement and are not appropriate for conducting the ETT program. However there is evidence of recent cleaning up and planting of trees in the area near the main building.

DIET, Kapurthala, while having fairly good infrastructural facilities, needs to repair a broken boundary wall, across which on either side there is a railway line and a main road. The hostel building is also in need of major repairs.

DRC Fatehgarh Sahib is located in newly constructed building for the past two years. The building has a compound wall around it and a ramp at the entrance has a fresh look. It has naturally lit, spacious rooms that are constructed as per norms for a DIET. There are twenty rooms in the building. All the rooms were vacant except for some ninety benches donated by the Additional Deputy Commissioner for the students.

DRC Mansa has 2 large training halls, 2 rooms for labs and library, 6 classrooms with a seating capacity of 50-60 each and rooms for the staff and for other purposes. All the rooms are well furnished and connected with electrical appliances like fans, coolers, lights etc. The computer lab also has a power back up. A conference room of 2000 square feet area, was not well-equipped and did not even have chairs. A well designed conference room, with a good audio-video system, is an asset and could be rented out to other organizations and the institute could get a sustenance revenue from it.

- **Library**

Libraries of all DIETs need upgradation to different extents. The libraries in DIETs Amritsar and Kapurthala have a good collection of books, but both do not have sufficient space and are being managed by just one person each, separately. DIET Bathinda has a very minimal (100 odd books), and non-functional library because of lack of funds for procuring books. The library of DIET Patiala was closed on account of some building problem, and no books could be shown either. While the library of DIET Gurdaspur is in the new premises, it needs serious attention. In DRC Mansa, there were just a few books, lying on the floor, in the absence of furniture and a librarian. In DRC Fatehgarh Sahib, although space have been allocated for the

library, release of the approved budget is awaited and presently there are only 157 books in the library.

In DIET Amritsar, the library space was relatively small for a DIET. The library had old broken furniture, cupboards, and was dusty (Annexure 6). The library has 7,000 books, but no journals. There are some old newsletters that were received in 1988. A magazine – *Punjabi Sikkya Sandesh* – is received because it is free. There was one library staff alone managing the library records and arranging books. It was interesting to note that DIET Amritsar has some good books, especially about in-service teaching programs, school textbooks, and other reading materials. However, there was no issue register and no good seating arrangement in the library.

The DIET Kapurthala library has 1481 books and 4 journals subscribed from GNDU and NEUPA. The library has displayed posters of Punjabi poets, and there exists a copy of Harwinder's books on Punjabi poetry that is recommended by Punjab Board. But the space for library was not sufficient. The library was being managed by a single librarian.

In DIET Patiala, no library was seen. On asking, it was mentioned that the library is closed due to some building problem. In DIET Bathinda, there are no funds for procurement of books. The library is very small and has around 100 odd books, probably not able to meet the requirements of PSTE and is not functional also. In DRC Mansa, the library was not equipped with any furniture. Books were lying on the floor. Even if they are kept properly, there is no proper cataloging system in place, because there is no full-time librarian.

It is important to note that most student teachers come from areas where they rarely have had an opportunity to use library as a resource for self development or for studies. Schools which they come from do not have a 'reading culture' either. 'Use of books for children and for themselves' needs to be an important part of their syllabus along with practical lessons to be conducted with children, especially by using books other than text books.

DIETs and DRCs need to be well equipped with a library having relevant books, periodicals, both magazines and journals and films. They should have books at all the levels: those for teacher educators, teachers and students. For the library to function efficiently and for it to be a resource in the real sense, appointment of a librarian and support staff is a must. The librarian and the faculty members are required to have an orientation towards how to select books, journals, documents etc. and to catalog and manage them. In a longer term, it is

important to move towards maintaining a digital library and making DIETs the place for academic resource materials.

- **Science laboratories**

All the DIETs need to procure newer lab equipments, get trained personnel to manage them and acquire a habit of frequent usage. None of the DRCs have a lab. Of the DIETs visited DIET Kapurthala was found to have reasonably good science and mathematics labs, even used as a resource centre for school teachers and students. The reason may lie in motivation of the faculty to get equipment fabricated. The labs in DIETs Patiala and Amritsar are underutilised, largely non-functioning, and are in serious need of renovation and a culture of usage. The science lab of DIET Bathinda is huge but non-operational while there is no science lab in DIET Gurdaspur. The two DRCs visited, those in Mansa and Fatehgarh Sahib did not have any labs and approved funds are awaited to be released in the latter. It is also important to remark here that the curriculum must clearly establish a connection between theory, classroom practice and lab-work and specifically state which experiments/activities are to be done.

The DIET Kapurthala has well maintained science and mathematics laboratories. In both the labs, posters and other materials were on display. There are models fabricated of iron and cardboard, devices to demonstrate geometrical objects and mathematical equations. The microscopes were available and functioning. The science lab had posters of Indian scientists, TLMs for the structure of eye, digestive system, atomic model, periodic table, yogasanas, etc. The lab is used as a resource centre for schools, and ISTE.

In DIET Patiala, the science lab is underutilized. There TLMs are not sufficient; only old thermocol based dusty models (e.g. human body) were seen in one corner of the lab. Some of the TLMs were broken (windmill) and so not in use. A large number of old, wooden working models of telephone, microphone, steam engine were put up for exhibit on the attic of the lab. These seem to be provided by the SCERT when the DIETs were formed. Currently these are not in use. Some materials were seen in the cupboards. A few science kits were lying in one corner of the lab- locked and dusty. Although, it was mentioned that the material was being used for science experiments with students, it was not clear for which experiments they use the materials. Probably the kit is not being used regularly.

In DIET Amritsar, the science lab did not seem to be functioning. The lab had two large empty tables. No lab fittings or materials were visible, no TLMs were put up. It was mentioned that since the lab windows were not fitted with glass, dust gathers on the materials. Thus repairs

and renovation are needed. The lab has a small storage room which stores the TLMs prepared by students and some books used for ETT programs. In DIET Bathinda, there is no science lab.

In DRC Mansa, there is no science lab and the class rooms did not suggest the presence of any science corners or activities. In DRC Fatehgarhsahib, labs have not been set up probably because of the fact that the DRC is run by the lecturers on deputation and that approved funds have not yet been released.

- **Computer lab**

In all the visited DIETs and DRCs, with the exception of DIET Amritsar, no computer lab was found. The computer lab in Amritsar was run by the NGO AIFT. Often it was observed that the DIET has a computer for Edusat facility and it is considered as a computer lab. Currently there is no computer education paper in the ETT curriculum and the faculty are also limited by their use and knowledge of computers. It is now required that DIETs should have computer labs and PSTE should include the role of technology and integrating technology in education. In the Punjab AWP&B (p. 85), SCERT has proposed for DIETs a computer lab, hardware support and internet facility. The JRM team suggests that the Edusat facility and computer lab should not be equated and that each DIET should develop and set up computer labs to cater to the new ETT course and conduct training on integrating technology in education. New faculty inductions should take this requirement into account.

In all the visited DIETs, and DRCs too, there was a functioning Edusat facility in a separate room comprising of desktop computer, video camera, microphone, amplifier, UPS, chairs to accommodate 10-15 people. However, the need for a computer faculty to enable Edusat facility is felt (for example, at DIET Mansa). Where computers are installed, only proprietary software is in use. There is no evidence seen of the use of open source software as recommended in CSSTE (MHRD, 2012d, pp 81-83).

- **Instructional resources**

In the visited DIETs, there is no provision for activity based learning room for developing and using teaching-learning materials. The instructional resources were found to be either in library, or laboratories.

In DIET Kapurthala, the faculty have developed good quality instructional resources (Annexure 7). There were posters in mathematics, and science laboratories. Both the labs had TLMs related to the ETT course and school syllabus as described on the section on science labs.

The DIET Kapurthala publishes a magazine – *Udaan*, which has contributions from faculty and students, regular newsletters. The DIET has its own blog page at http://kapurthaladiet.blogspot.in/ and facebook page https://www.facebook.com/pages/Distt-Institute-of-Education-Training-sheikhupur-Kapurthala/401561599878282

In DIET Patiala, there was lack of sufficient and appropriate TLMs. For the art and work experience, quite a lot of handcrafted materials were on display, probably procured from shops. Some of the materials like pots, calendar, file folders, etc. were handcrafted by students as part of the art and work experience.

In DIET Amritsar, the JRM team observed some reading materials, textbooks and TLMs.

In DRC, Mansa, the teaching learning material prepared by pre-service teachers and teacher manuals were available in two rooms, fully stacked and probably in use during training programs. No such material was available in DRC Fatehgarh Sahib.

9.1.5 Institutional Leadership and Management (DIETs)

An institution's successful functioning depends a lot on motivation, leadership and management of the staff, faculty and the principal. A good management involves a convergence of all kind of skills to make things going even in worst of conditions. It is important to understand that each person contributes in an essential way to the process of building of an institution.

An understanding of the policies and realities of the educational system is necessary. The national policy documents should be read and interpreted carefully from a district perspective and an institutional vision should be framed. From this, the structures and processes must follow. Innovative practices of teaching learning will reach the classrooms only if the leaders of DIETs themselves are aware of them and actively motivate their colleagues to keep themselves updated about the findings of the researches related to learning and child development.

During the JRM visit, the team observed that, a lot was missing in almost all the institutes visited, in terms of institutional vision and motivation within the staff. Motivational level is at its lowest ebb in DIETs because officials posted there are convinced that they are posted in a parking zone. It is impossible to see an institution doing well if leadership is demotivated. An

exception was found in DIET Kapurthala, which has a good institutional leadership and management. It conducts various activities such as, Earth Day, World Book Day and organizes workshops, open house for schools. DIET Amritsar was also found to have a good leadership and management.

One issue that emerged from the interaction with the faculty of DIET Kapurthala, is that they have to maintain students' records in a register, a task given by SSA for fulfilling CCE guidelines. This increases their load of work. Management is indeed a difficult issue in institutes like DRC Fatehgarh Sahib, where in the absence of a principal, a DDO (Drawing and Disbursing Officer) leads and the faculty members are deputed from GISTC Patiala (located in CTE Patiala) and various DIETs and visit the centre twice a week. Effective academic progress can only be made if such temporary arrangements give way to stable and permanent appointments.

Careful and precise analysis of training needs or of impact of the courses offered at DIETs has not been done at DIETs nor have the lecturers received any kind of training or exposure for the same. Awareness about need analysis for teachers' trainings was absent at DIETs as well as the methods for doing the same. As a part of a systematic training-need-analysis (as recommended in the guidelines for TE), trainers need to meet with the same group of teachers again, after they have had some opportunity to practice, so that they can discuss what worked, what did not and also address the issues arising from the teacher's experience. Real needs of the teachers are addressed in such a 'Split Model.' Records of feedback by the student teachers as well as alumni of DIETs may contribute to need analysis on a concrete way. (MHRD, 2012d, p.34)

According to the CSSTE, DIETs should maintain a close connection with schools in the area. It will prove to be a valuable source for identification of needs arising out of diverse background of students many of whom are first generation learners, the contemporary classroom situations and challenges therein.

NUEPA, IIMs and state/national level management colleges may offer courses in management of contemporary academic-administrative situations in education. Such courses may be developed in collaboration with SCERT-DIET faculty. In addition, SCERT could provide a common platform to the DIET faculty and principals to share their works and ideas. Faculty meetings and more general meetings too, may bring together faculty and non-academic staff to collaborate on institutional tasks. DIET faculty members could volunteer to take up liasioning with student-teachers, clerical staff etc. These exercises have the potential to build a

team-spirit and mutual respect for each other's work and concerns. It must be borne in mind that all the efforts to manage the institute internally, must be conscious of their output in terms of learnings of student-teachers and school students (indirectly, yet, crucially).

9.1.6 Research and Innovation (DIETs)

CSSTE expects every DIET faculty member to be involved in carrying out a small or medium level research study, and to make a presentation at least once a year in a faculty forum in their DIETs. DIETs are also to support publication by teachers in their district by publishing a magazine. Faculty members may be deputed to work at universities to experience different work cultures and issues (MHRD, 2012d, p.48). NPE 1986 recommends that DIETs facilitate action researches to enable practising teachers to address classroom issues. DIETs have to initiate researches on contemporary issues like enrolment, retention, gender issue, innovative teaching-learning, learning levels and so on, in the post RTE classrooms (MHRD, 2012d, p.28).

Judging from the AWP&B, action research has got a significant thrust in Punjab in the last few years. CSSTE's grants were used to conduct workshops across the state for faculty development in action research (SCERT, 2012a, p.41). For providing faculty development in AR, Punjab was divided into five zones and DIET faculty participated in 5 days workshop in their respective zones. 84 faculty members including principals were trained in these workshops. In the last two years, DIETs are said to have imparted 5 days training to 661 primary and upper primary teachers on action research, along with other areas like RTE and use of ICT (SCERT, 2012a, p.65). Profiles of DIET faculty members (DIET Patiala, Amritsar and GISTC Amritsar) shared with JRM also show that NUEPA and ASER have conducted training for them in use of quantitative techniques and research respectively. NCERT has conducted a 10 day program on AR in New Delhi. For the session 2013-14, SCERT has proposed for the DIETs a list of relevant areas for research (SCERT, 2012a, p.71).

From the profiles of two of the DIETs (Amritsar and Patiala), it is seen that most of the faculty members have an M.A./M.Sc., B.Ed./M.Ed. A few have an M.Phil. and still fewer among them have a Ph.D. Almost all the faculty members of DIET Amritsar and a few in DIET Patiala and GISTC Amritsar seem to be involved or have been involved in a research project and quite a few are published in form of M.A. /M.Phil. dissertations, magazine articles, induction training modules for in-service teachers and DIET newsletters. The vice-principal of DIET Patiala had a study published in Asian Journal of Psychology and Education on attitude of primary school teachers towards their profession. The faculty of DIET Amritsar have been involved in

researches and reportedly published them too but no information was shared as to where these studies are published.

The areas of research have been related to inculcating values and discipline among students, spreading awareness about traffic signs, microorganisms, environment, etc., developing pronunciation and vocabulary in students, subject-specific studies specially in students' learning of maths, number recognition, activity-based science learning, art and pot making, attitudinal studies of students and teachers and general systemic issues like child health care.

The field visits however showed that much still needs to be done. Peer review of research is lacking which reflects in quality and meaningfulness. A lack of research orientedness was sensed by the team at DIETs. Discussions with the faculty members did not reflect their keenness on reading or their awareness of current research in education or in related areas like child psychology. In DRCs and DIETs Mansa, Bathinda, Gurdaspur, there was just a passing mention of 'Action Research' trainings for teachers. There is no conscious plan, motivation or process to take up any original research work by faculty or teachers, leave aside innovation. From the limited number of faculty profiles obtained by the team it seems that a number of action research projects are underway, and a few research projects aiming for journal publications. Remarkably, nearly all the faculty members of DIETs and DRCs, whose profile the JRM team could obtain, were doing research projects under a single faculty member of SCERT.

It seems that action researches (ARs) are largely being done because it is a part of the PSTE curriculum and also because it is perceived that it does not require professional skills and a little orientation is good enough for it. While there are a lot of ARs being conducted, hardly any study comes out sharply and is well-circulated, discussed and replicated. They may not require specialized supervision, but certainly ask for academic rigor. Often the difficult part of AR is to upscale and replicate it. ARs should not become a routine and repetitive exercise. With regard to the ARs proposed in the AWP&B, participation of all the DIETs should be ensured.

Another issue of concern is that DIETs have no connection with researches done at the university level. During JRM's visit, the department of education in Punjab University presented a long list of researches conducted by trainee-students and researchers under the guidance of university professors. At the same time, they also admitted of an almost no-linkage scenario between University and the school education system. The state may consider establishment of innovative ways to form research teams with representatives drawn from

universities, IISER, SCERT, CTEs, IASEs, DIETs, BRCs and schools. This will ensure dynamic sharing at various levels. There is an absolute lack of longitudinal studies in the field of school education. Topics relevant for such studies may be suggested by DIETs, and they should work together with departments of education of various universities on such studies which may contribute in providing a base for policy framing in school education. Mentors from various institutes at state level may guide teacher-educators doing researches. Sarkaria, M. S. & Singh, J. (2007) highlight the future course of educational research in Punjab (section 4.1.6.). In summary, organised efforts are required in order to create sustained interest in research oriented activities in DIETs.

9.1.7 Leveraging ICT (DIETs)

The wider sense in which ICT is meant and what are the expectations from TE institutes including DIETs have been mentioned in section 4.1.7.

Punjab is doing very well so far as ICT in schools are concerned. JRM team was told that all junior level schools have computers, yet the DIETs do not have them.

Edusat

In all of the visited DIETs, there was a functioning Edusat facility in a separate room comprising of desktop computer, video camera, microphone, amplifier, UPS and chairs to accommodate 10-15 people. In the Edusat facility of DIET Amritsar, a few resource persons appointed by AIFT were developing lessons on using educational technology.

Although the Edusat facililty is functioning fairly well, its full potential for teacher education is yet to be explored. DIETs, as an institute, and teacher-education in general, are currently not benefiting from Edusat. Prepared content around ETT curricular areas for student-teachers are crucially missing in the Edusat project, nor are the faculty or student-teachers invited to contribute to preparation of content for school education.

Proprietary software continues to be used, not only for Edusat but also for other applications, despite CSSTE recommendations to the contrary (section 4.1.7)

Computer education

Computer education is still not a subject in the present ETT curriculum and none of the DIETs we visited had a computer lab. This is in marked contrast to the fact that every upper primary and secondary school in the district has 5 computers and one government appointed computer teacher. Every nodal/cluster secondary school has a multimedia projector. In the

AWP&B (SCERT, 2012a, p. 85), SCERT has proposed for DIETs a small computer lab, hardware support and an internet facility but an ETT subject-paper on computer education is still missing. Proposals for ICT by DIETs having Edusat have not been approved.

A paper on computer education, including all the wider aspects of ICT could be a part of the ETT curriculum. Student teachers could be involved in creating digital learning resources (activity worksheets around ETT and primary level curricular topics, presentations, articles for children etc.) and sharing them on virtual learning platforms like Moodle. Through a well-established computer lab with an internet connection, good online resources pertaining to child-learning, should be of easy access to both teacher-educators and student-teachers. The example of CTE Patiala is worthwhile to follow in this context where teacher educators and students have an online access to over 80,000 books and journals. ICT must empower DIET faculty and they should be aware of what computer based resources could be used to enrich the learning in their papers and should encourage student-teachers to use the computer labs for assignments and during classroom periods.

Use of public and free software in DIETs as recommended by the Scheme is also strongly suggested. ICT facility in the DIET campus (Edusat and prospective computer labs) could also be used to communicate with various other institutions. Overall, DIETs need ICT-enabled structures that go beyond Edusat rooms and multimedia labs.

9.1.8 Annual Work Plan and Fund Utilization (DIETs)

In 12th plan, there was a paradigm shift in submission of annual work plan to the Ministry of HRD. It was made compulsory that all TTIs make their respective annual work plan to assess their needs and then submit required financial demand from HRD thru State level academic body i.e. SCERT. Team was told that SCERT, Punjab, has submitted its Annual work plan and it's a compiled document to reflect the needs and demands of the district level training institutes as well.

In the year 2012-13, the State plan was not submitted as per guidelines. As a result, Punjab could not get any amount under any heads except committed expenditures. Perspective plan and annual work plan of any State should reflect its vision for teacher education. A closer scrutiny of the State plan for 2013-14 doesn't display any clear vision. It's more like a plan as State submitted it in 2012-13. It doesn't show up linking up program and activities between two or more wings of education department. TEAB observed that State has not made any budgetary provision for TE in State Budget. Team tried to address this issue during

discussions at various levels. State may go for financial provision in Supplementary Plan of the State in coming months.

Activities proposed for DIETs in 2013-14 include the following: preparation of learning materials around newly revised ETT curriculum, involving DIETs in studies to assess training impacts, ensuring the availability of journals, documents, studies etc. in every DIET, creation of a pool of experienced resource-persons and experts to guide in day-to-day academic work, identification of technology-oriented teachers, creating a digital library and resources, website and faculty forums, civil works in each and every DIET, professional development tours and researches (SCERT, 2012a, pp. 66-71).

However, clarity with regard to procedures that may be required to implement them could have been an expression of in-depth vision. Areas in which DIET faculty need professional development still need to be identified. Some of the proposed initiatives like biometric identification and monitoring, and CCTV to uphold discipline are rather excessive.

The team learnt that the state has proposed setting up plan for 12 BITEs in different MCDs (minority concentrated districts). State has yet to decide on blocks and to locate land for the same. It's desirable that these matters should be taken up urgently, as it involves long process. State must target to secure funds from the ministry and finish civil works by the end of 3rd year of the Plan period. Regarding Technology support to DIETs, TEAB observed in AWP-2013-14, that since only 1 DIET and 1 DRC have no Edusat facility, so for hardware supports and purchase of hub/switch for the same, an amount of Rs 11.40 lakh is proposed to be sanctioned.

In the DIET Bathinda, an AWP, with a requisition of 81 lakhs is sent to the SCERT for approvals. Similar was the case with DIET Gurdaspur. In DRC Mansa, since many of the faculty were new and it has shifted to a new premise, not much was made available in this regard, apart from the fact that an AWP is sent to SCERT for review and appraisal. In DIET Gurdaspur, the Annual work plan with the required fund grants is sent to the SCERT for further approvals. For the 5 DRCs, to be upgraded, SCERT is allocating huge area of land, so that as soon as budget is released, they can start civil work.

A copy of AWP sent by DIET, Bathinda was shared with the JRM team. Therein, 20 action researches for effective teaching-learning are proposed. For resource center and documentations, there is no proposal for any activity or publications. With regards to training programs for teacher-educators, only exposure visit is proposed. Under innovations, there is

no plan put forward as such. Overall, the AWP could be endowed with a better vision, coherence and rigour. Clearer ideas, leading upto an impact on pedagogical processes in the classroom are needed.

It was expressed to the JRM team that there has been a continuous neglect of DIETs with regards to availability of funds. The salaries of DIET faculty have been pending for 6 months and are provided in a very irregular manner.

9.1.9 Inter-institution Linkages (DIETs)

Inter-institutional linkages are vital for DIETs to survive and thrive academically. Currently however these linkages are missing.

An academic linkage with SCERT is crucially missing. The faculty at DIET Kapurthala said that they have linkages with SCERT, but not with other DIETs. The DIET Amritsar faculty interact with SCERT only for administrative purposes. It was also mentioned that no interaction of DIET faculty with the SISE has been possible, as the previous principal did not allow to do so. In DIET Bathinda, DIET Gurdaspur, DRC Mansa, no evidence of linkages with any other institutions, including those of higher learning, could be seen. The Bathinda (and Mansa) district have 10-12 (and 4) Government colleges respectively, and few other technical institutions like poly-techniques and ITIs which could have seen exchange of knowledge, best practices or more fused classroom approaches for a good learning environment. Some retired teachers or faculty are called for expert talks, seminars, etc. but these opportunities were also very rare.

The DIETs have been marginalised at even the district level in the matters of in-service trainings. The team was informed that for the Pravesh Project under SSA, the role of DIETs was limited only to disbursement of allowances. The BRPs conduct programs, however the BEO office has nothing directly to do with the DIETs. No activity relating to training and its management is conducted through DIETs. Thus an institution that is declared to be an academic authority at district level is left out of the process. The proposed merging of GISTCs with DIETs is a hopeful initiative. It will result in combining of PSTE and ISTE in a single institution, resulting in optimal use of resources, for example, libraries, laboratories and their associated qualified staff. The merging will place more responsibility on the DIETs but will also make resources available to them. It will improve PSTE programs by making them more relevant to practice, and in the ISTE context, it will enable reflections on practice in the light of the theory. This merging is therefore highly recommended.

Facilities available in educational institutions located near DIETs should be strategically shared. Some specific points for establishing inter-institutional linkages for sharing of resources have been included in the corresponding section for SCERT (Section 4.1.9) and in the recommendations for DIETs (Section 9.2).

9.1.10 Cadre and Personnel Management (DIETs)

The CSSTE cautions that DIET faculty often tend to assume administrative roles, and in addition, their frequent transfers to administrative positions create instability. Free transferability between the DIETs and other positions in the State Education Department must at all cost be avoided. It has to be ensured that DIET personnels are not normally subjected to lateral transfers to posts elsewhere and that positions in the DIETs are not readily accessible by transfer from the State Education Department or elsewhere (MHRD, 2012d, p.42 & 98). In addition to promotion opportunities within the DIET system, those from the post of Principal upwards either into other academic posts under the State Government/SCERTs/University system, must be made available. The DIET faculty are not to become mere trainers, but must periodically function, for adequate durations, as practitioners and teachers in elementary schools. They should be allowed to take study leave every 3 years or so, and work on a relevant project. (MHRD, 2012d, p.99)

None of these recommendations are practised in the Punjab DIETs. The DIET faculty in Punjab are drawn from among secondary school teachers. However, judging from the faculty profiles of the two of the DIETs, most are sufficiently qualified and many of them even have a Ph.D. It appears that most of them have experience at the secondary and the senior secondary level and none at elementary level. It may be difficult to teach student-teachers for elementary level, if the faculty themselves have not done so. The DIET principals are drawn from the Punjab Education Cadre many among them having served earlier as District Education Officers (DEOs) and at times, disengaged with academics. A few inspired principals, a few with a PhD too, seemed to be interested in working on issues related to learning of student teachers as well as children in schools.

Overall the team has observed that management of teacher education personnels in Punjab has had a very minimal rationale. There has been a lot of to and fro movement from schools, and for purposes of deputation to non-teaching, clerical and administrative work in other areas. Concerned about their professional seniority, pay-bands, salary disbursals and dignity, the faculty have been demanding a separate cadre for themselves. Many among them complained of political interference in appointments, postings, promotions and transfers. The performance appraisal systems are inadequate and the annual confidential reports are used as

instruments for discipline and instilling fear/favour. The new guidelines for DIETs have not been framed and the existing Pink book regulations are also out-dated. The departmental promotions have become hugely politicised and decisions are often taken ignoring merit and seniority. Rationalisation of open and redundant positions has also been done and it is severing the cause. There is no Program Advisory Committee or Academic Resource Group to organise, plan and implement programs and it is affecting the work plan and service conditions.

The need for a cadre is urgent. Without a cadre, often it happens that after significant investments are made in the professional development of a teacher educator, he/she is transferred to an administrative post, where such a development is of scarce use. If transferred back to a teaching post, the teacher educator is found to have grown out of touch and fresh investments need to be made. A cadre helps in sustained nurturing and monitoring of a group of educators, but at the same time must not be made out to be something to further narrow self-interest. With encadrement, which is likely to result in expedient salaries, more attention and a professional identity, balancing conditions need to be put forth with respect to accountability, performance and direct impact on child-learning in schools. It should also be ensured that people appointed for administrative tasks, even after the separation of the cadre, are sensitive to academic needs and academic people continue to feel up to undertaking necessary administrative tasks in the interest of the institution. A choice to opt for each, with some orientation, should be there.

9.1.11 Partnerships and Collaborations (DIETs)

During the visit to DIET Patiala, the team found that a summer camp for teaching children with special needs (physically and mentally challenged) was in process. The team observed the proceedings and discussed with the voluntary teachers who were conducting the camp. The team conducting the summer camp had 15 volunteers, called IERT (Inclusive Education Resource Teacher), selected by the Block officer. These were qualified people, having diploma from National Institute for the Visually Handicapped or a B.Ed. in Special Education. Their duties include conducting a survey for 10 days, summer camps for 10 more, and for reporting and admitting the children in mainstream school for another 10 days. In the summer camp these team members were guiding the children to draw and paint, among other activities.

DIET Bathinda and DRC Mansa have been selected by the DGSE Punjab, to run two SSA based partnerships with an NGO – U Learn Today for in-service trainings and with American India Foundation Trust for leveraging ICT skills in content areas. The collaborative effort of Punjab

Edusat Society, SSA Punjab and DIET Bathinda was mentioned in running capacity building programs for teachers in the In-service Programs.

While the JRM team got enough evidence of institutions working with multinationals in teacher-training (Sections 4.1.7 and 4.1.11), at a district level, we could not get any information regarding involvement of a civil society or local NGOs supporting education in any areas.

A district resource group for teacher education may be formed by identifying and collaborating with partners from higher education institutions, NGOs and civil society. Faculty members from department of education of various universities and Colleges of Teacher Education may be invited as guest lecturers. A mechanism needs to be evolved so that DIETs seek academic support from IASE.

A similar resource group for school education could also be formed with a view to improve classroom practices in the district. It could comprise of resourceful teachers, resource-persons from NGOs, members of SMCs as well as professionals from various fields. Innovative lessons may be organised by this group, e. g. a doctor from a public health centre could be invited to classroom to answer spontaneous questions by students, a small scale industrialist may be invited to talk about processes at his work place, a bus driver can be interviewed by the children while understanding how their village is connected to other places.

9.1.12 Process and Performance Indicators (DIETs)

The AWP&B admits that most of the process and performance indicators of DIETs are below expectation. The positive achievements as cited are that approximately 48,000 qualified teachers are added to the system through DIETs, 65-70% of DIET students have cleared TET and 84 action research projects have been undertaken by faculty across all DIETs (SCERT, 2012a, p.73). Some other claimed achievements like regular meetings and access to SSA database, were not borne out by the team's observations.

During visits to DIET Bathinda, DRC Mansa and BRC Tarn Taran (section 11), team inquired about a database on school teachers, but could find no one aware about it. DIETs have no record of teachers in the district and the block level functionaries at the BRCs could not tell us the number of schools and teachers in the area. They are totally dependent on SSA data, which is not even routed through them. It is recommended that DIETs prepare their academic development plan for the district based on the data available at the state level.

There was no evidence of need analysis done on teachers' need or on teacher trainees. Team was told that interactions are based more with various representative groups like MRPs etc. from blocks. But there is no systemic data of the same in any institute for that matter. Overall, there is also an absence of a practice to keep records of institutional activities.

Linkage at all levels is a huge issue in Punjab. DIETs have no organic connection with either SSA segments at district level, or with any other functionaries working in the field of school education. It's advised that they must hold a formatted meeting with all district level officers to share plans and programs, review them, and communicate with each other.

Mechanism for monitoring the quality of performance of DIETs and evaluating their performance in an objective manner does not exist at present. Such a mechanism needs to be evolved on an urgent basis. Criteria for self appraisal and indicators of satisfactory performance may be evolved by participatory method involving representatives of all the DIETs. Such collective efforts will help the DIETs to set short term and long term objectives and will also provide a common basis for comparative review of DIETs in the state. Thorough training on how to maintain records of various types (statistical records, records related to quality of education in schools, longitudinal records) and how to analyse them for various administrative and academic purposes is absolutely necessary.

9.2 Recommendations for DIETs

- **Filling up vacant faculty posts, ensuring a stable, full-time principal, swift fund release and timely payments**: A way to fill up 48% vacant posts in DIETs and 73% vacant posts in DRCs needs to found out urgently, particularly for the science and maths faculty posts. The post of principals need to be filled thoughtfully, that enables setting of goals and ensuring a basic direction towards which the institution may develop. There should be no delay in payments to faculty and non-academic staff. Release of approved funds and contigency grants should be swift and sensitive.

- **Civil work required in almost all DIETs**: Almost all the DIET buildings require civil work, which in some instances is urgent, e.g. for libraries to be functional, safety of campus, etc.

- **Monthly meetings with SCERT and weekly faculty forum within DIETs**: Monthly or bi-monthly academic meetings between SCERT and DIET faculty are essential, if necessary through Edusat. Monthly meetings within the DIETs involving principals, faculty and

representations from among the student-teachers would help create a good ambience. Weekly seminars would enable better academic exchanges amongst DIET faculty and students.

- **Understanding ground realities of the school system**: We recommend that teacher educators must teach at schools in the neighbourhood area for certain hours every month which will ensure their connection to contemporary issues at the grass root level. As a result of this, an indispensable awareness of the real situations at school level will get reflected in teacher education. This could be achieved by visiting schools for practice teaching, monitoring the impact of new initiatives and conducting pedagogic research. Frameworks for school-visits of DIET faculty-student teams could be made, allowing for these varied purposes. These visits could be followed by reflective discussions with student-teachers leading to ideas for planned interventions.

- **Awareness of NCF, NCFTE and other policy documents**: It is a professional challenge for DIET faculty to critically go through these documents, to implement the pedagogic shifts implied in their vision - in original, local ways - and to instill a practice of reference among the student-teachers.

- **Greater participation in content development**: Faculty members from *all* the DIETs must participate in preparing learning materials around the newly revised ETT syllabus. The faculty members may abstract or translate into Punjabi, instances of useful researches done elsewhere and also various policy documents.

- **Integration of labwork in the curriculum and classroom practice**: Labwork should be better integrated into the new ETT science coursework. Besides the prescribed Compulsory experiments/activities, it should leave room for student-teachers to design related experiments based on their surroundings. Well-functioning equipments, chemicals and other consumables must be ensured. Before the semester, faculty members should try out the experiments themselves to get a deeper and thorough understanding.

- **Appointment of a librarian and support-staff, well-considered purchase of books and subscriptions, and ensuring a culture of usage***:* A well-trained librarian and support staff make a library usable. Careful selection of books in light of the new ETT syllabus, relevant journal subscriptions and more space, are some other needs. DIET faculty must know which books are present in the library and encourage student-teachers to refer to them during classroom work.

- **Establishment of computer labs and better integration of technology into academics through computer education paper***:* A computer lab with an access to online academic resources even for student-teachers, is a must for DIETs. Also important, is the inclusion of a computer education paper in the ETT curriculum. It is important to use public softwares in the use of which DIET faculty and students alike should be trained. All the DIET faculty must volunteer to learn and use technology meaningfully in teaching the ETT course.

- **Bringing Edusat into teacher education, inviting contributions from DIET faculty and students***:* It is important that Edusat also includes content for primary level, teacher education and even professional development of DIET faculty. DIET faculty and students could be involved in teams in preparing these content. A well-trained computer faculty to enable Edusat and to manage the computer lab is also important to ensure.

- **DIETs to develop expertise in areas around in-service training, a good DEO-DIET linkage and better sharing of data**: The DIET faculty could identify elements from ETT syllabus useful for even in-service teachers, develop a list of researches relevant for even a practising teacher in villages, possible themes for in-service workshops, formats to gauge training needs, to monitor the impact on learning, possible modes of interaction for workshops, connecting topics in school syllabus with real life and to prepare a guideline for school teachers, etc. The elements that need to be woven together are: ideas from current research, clarity with regards to pedagogic shifts implied in the new academic vision, local needs of teachers and ways to use the local culture and physical environment as an academic resource. A meaningful linkage between DEOs and DIETs, including expedient access to data for all, can open up new possibilities.

- **Ensuring better linkages through requests for professional development, faculty-student team visits from other colleges, workshops by DIETS, organistion of academic fests**: DIET faculty could approach CTEs, IASE, IIT Ropar, IISER Mohali, GNDU, Punjab University etc. for capacity building programs and faculty-student team visits both ways. Faculty of local polytechniques, ITIs and colleges could be invited for guest lectures. In a scenario where DIETs have built up sufficient capacity to play a leadership role in the district, DIET faculty may also conduct workshops on district-specific academic issues for BRCs, VECs, SMCs and other sub-district level education personnel, a crucial mandate of DIETs, but often neglected. Each DIET can also organise vibrant academic fests every year, inviting other DIETs, TEIs and schools. This could be an avenue for each DIET to showcase its district profile, achievements, challenges, examples of good practice, innovative TLMs, institutional goal, challenges and solutions..

• **Original concerns of the district to find a place in professional development initiatives***:* Original concerns of the districts (characterised by local environment, culture, skills, academic history, achievement, typical problems, etc., in relation to what students could learn from them), discerned and then expressed to SCERT by DIETS, could find place in professional development programs.

• **Feedback from student-teachers, help to them in preparation for TET, placement cell, scholarships and expansion of hostel facilities**: It is worthwhile to obtain continuous (even monthly) feedback from student-teachers during the ETT course. Feedback could include their frank responses, assured of confidentiality, on quality of teaching, problem areas, suggestions for improvement (academic and administrative). They must be given all possible help in preparation for TET. A placement cell could be instituted, making them aware of possible career paths they may take, in addition to scholarships and book grants. Hostel facility could be expanded and improved for the campus to come to have a sustained, inspiring atmosphere of budding teachers. Finally, their inputs must also be solicited at all levels of decision-making.

10. GISTC

10.1 Observations on GISTC

The GISTCs are unique to Punjab. They were created specifically to conduct the in-service training programs of teachers. There are 12 GISTCs in Punjab located at the district headquarters, under the control of the DGSE (SCERT, 2012a, p. 44). The team was informed that of the 12 GISTCs, only about 3-4 are functional. The team's observations are based on a visit to one GISTC located in the campus of DIET, Gurdaspur (part of the old normal school of colonial times, established 1913), and also interaction meetings with 2 GISTCs (Sangrur and Amritsar).

Currently (since about 2003), the GISTC program has been taken over by the SSA, RMSA and it caters to the teacher-training requirements of SSA at the level of Classes 1-8 and RMSA at the secondary level (9-10). The GISTC faculty perform the role of resource persons or master-trainers for various kinds of training camps, conducted at the block or district level. The trainings are usually held for 5-6 days in different batches throughout the year. The preparation of manuals and materials is a centralized process and is usually done by partners of SSA and RMSA. The SSA provides the syllabus, modules, workshop modes, lecture, activities.

The training targets are set by the DGSE Punjab. About 2500 teachers are to be trained every year in each district over 12 days. The training of Primary and Upper primary teachers is done through a program called Prayas, a pilot program of SSA Punjab, DGSE and in collaboration with U Learn Today (an NGO). It is an ambitious program, spread over approximately 6 months, it is aimed at implementing a continuous enrichment framework for planning, ongoing assessment, and capacity building for teachers and school heads in the district. The District Resource Persons (DRPs) employed by SSA are expected to identify training needs of teachers through a process of school visits and post-training follow up to schools. The DRPs suggest list of possible teachers who could become resource persons for the SSA trainings. This year in GISTC Gurdaspur, the trainings were done for 1623 teachers coming from 93 secondary and senior secondary schools of the district.

During the JRM visit to DIET Patiala, the GISTC Sangrur faculty were present for interaction. They reported that their target for the 2012-13 training has been completed. They also shared that number of teachers participating in training for English was as high as 556 while number of those participating for Mathematics was only 12. The center does not conduct any need analysis nor does it have the autonomy to decide about the area of emphasis of the training. The faculty is mostly doing inspection work. The DGSE appoints a 6 member team at the divisional level to check the quality of education in class 1-12. The members are on deputation year-wise and observe classrooms for 1-2 hours. A group of GISTC Sangrur faculty with experience of school inspection team were eager to share their observations and concerns to the JRM team. Lack of basic knowledge of mathematics and english in students was felt to be a matter of concern, and teaching methods were blamed for it.

10.1.1 Issues and Challenges of GISTC

- In the state budget, there is no allocation of separate funds for in-service training. Thus there is no institutional vision. The GISTC has no academic or training calendar of its own. Neither could one discern any experience, intent, readiness or funds to make such a calendar. The GISTCs would be basically defunct institutions, in the absence of training requisitions of SSA and RMSA.

- The rank of the Principal is the same as that of the DEO and usually it serves as a DEO in waiting or a kind of a retirement position. The principals have a short tenure with an average term of serving for 1 to 1.5 years. The short tenure of the principal and frequent changes, do not permit any meaningful academic leadership or long-term plan.

- The faculty members have been recruited from different schools. These are important and critical maths and science positions in the senior secondary/secondary schools, which are now left vacant. The faculty do not even teach in the adjacent DIETs, which manage without any maths and science faculty for pre-service teacher education.

- In the GISTCs there are science faculty but no science labs, while DIETs have science labs lying in a state of neglect, due to a lack of wage. The same is true for libraries. The GISTC Gurdaspur library has only 270 books with a full time librarian. In contrast, the adjacent DIET has close to 2500 books without any librarian for years. The disconnect between facilities, personnel and programs in heartrending.

- The faculty at GISTC expressed disappointment with the system and the state of education in schools. A few among them expressed that the system has reduced them to being machines and does not treat them as intellectuals doing good, noble work. They were very critical of the non-academic workload of teachers and found it to be affecting the quality of education in schools.

- The CCE has added to the existing stress of the teachers with paperwork and is going to significantly affect the time teachers spend in schools and classrooms.

10.2 Recommendations of GISTC

- Against this background the recent initiative of the Punjab government to merge GISTCs with DIETs (section 9.1.9) is highly desirable. This merging can enable the DIETs to conduct the ISTE programs with the help of experienced GISTC faculty. Such a move will strengthen the DIETs in terms of faculty, funding and infrastructure and also bring about a much-needed connection between pre-service, school and in-service education.

- Recalling the guidelines of the CSSTE (MHRD, 2012d, p. 32-33), the ISTE programs in the DIETs could implement a system of split-design trainings which include school follow-up and mentoring.

- As the GISTC faculty have had an experience of working for the SSA and RMSA, the GISTCs when merged into DIETs should enable development of laboratories and resource materials, and conducting ISTE workshops and follow-up programs as envisaged in the CSSTE.

11. BRC

11.1 Observations on BRC

JRM team visited the BRC of Block Chola Sahib, Sarhali Kalan, Tarn Taran. It has 60 clusters and 94 Primary and Upper Primary schools. BRCs do not carry out any pre-service programs. Mainly their activities centre around the in-service trainings, camps for children with special needs (CWSN) among other things.

The team interacted with the BEO in-charge and with the DC (Pravesh Project, SSA).

11.1.1 In-service Trainings

The team interacted with BRC functionaries about the process and preparation regarding in-service trainings. The premise of the BRC is that trainings function in a top-down mode. The BRPs are in fact good school teachers who have been drawn out from the schools for the purpose of monitoring and conducting ISTE programs. The JRM team feels that this approach should be re-examined and a more bottom-up school based model of teacher professional development should be considered with the support of strong institutional structure, including school complexes (Section 1.3.9) and TEIs at the block, district and state levels. This is a longer term vision. The observations and recommendations below are therefore made assuming the existing framework of the BRCs and their expected functioning.

Although trainings have been taking place in the BRC, no documentation of these could be found. The team was simply provided with an attendance register of the participants. The team felt that BRCs should not take these important training programs so casually. There was no module available for the recent trainings they had conducted, nor any post-publication of any training programs. There has been no orientation of functionaries to work on keeping institutional archives. Report writings and post publications greatly enhance the value of any training program. It is not justifiable for BRC personnel to say that they believe in work, not in paper work.

Team found that there is no proper training management system either in blocks or at district level. There is a database of teachers kept at block level. There is no set mechanism for pre-planning of any training program. There is an absence of sustained communication with functionaries to keep them prepared throughout the year. Activities are communicated to BRPs from the state SSA, and BRPs, in turn, communicate with teachers on phone. Based on a detailed database of teachers, it could have been possible to do a rationalized “batching and matching” to offer contents on “who needs what” basis. The BEO could not report on the

number of teachers and even their team could not produce any documents regarding block statistics. The team could not find any "calendar of activities" planned out for the annual year.

The functionaries were found to have a low level of awareness about new trends in pedagogy and even the contents of the trainings that they themselves conduct. On the positive side, it was nice to hear details on NCF documents, as many BRPs were associated in the process of developing PCF 2013. They were generally aware of curriculum revision and new textbooks. They said that the new textbooks are pictorial and colorful to attract attention of children. According to teachers, difficulty level in textbooks is high.

The team was informed that in 2012-13, each teacher in the block has received at least 10 days of trainings and that in the current year, there is a proposal for 7 days trainings for teachers under SSA's Pravesh project. Trainings are not conducted during vacations. There was no information on trainings done under CSS. No specific studies have been conducted in this district identifying difficulties in learning of children or tracing the needs and academic requirements of the teachers.

Programs are primarily designed by SSA at the state level through consultative processes, yet the districts as such have no records. The BRPs told us that the DEO submits a District Plan to the SSA office in February. All coordinators and teachers do contribute in making this plan. Activities are planned according to instructional needs of the districts. While it is well understood that programs designed at state level do involve a certain degree of consultation from stakeholders, but, based on specific needs, no additional activities were incorporated at the block level. It is expected that BEOs and BRCs are prepared to provide leadership in their respective work areas. DIETs and BEOs are not in the loop of trainings, despite the fact that BRPs are stationed at blocks and theoretically work under the BEO.

We were told that records of learning level amongst children are available and maintained by the DEO office. They send their monitoring reports to DEO and SSA office. No copy of it, however, was found available at BEO's office.

The team asked questions focusing on school engagements at block level. It's a healthy sign that teacher absenteeism is not a problem here, which is a major challenge in most of North India. On attendance of children in schools, it was said to be around 85-90%. However, in the month of April, due to harvest season, attendance drops drastically.

11.1.2 Infrastructural Facilities

The BRC is located by a roadside. It is a composite complex, with a primary school and a new building of a junior high school, under construction. There was enough space for all kinds of activities. Rooms were sufficiently large in size, but their maintenance needs proper attention.

The team members did not get to see any library in the block. There were textbooks lying in BEO's room to be distributed when schools reopen. No sample of TLMs, old or new, was seen around. Wheel chairs for CWSN were stored in one of the rooms, but there seems no provision or grant for transporting wheel chairs to a child's native village. The wheel chairs are nicely designed but without any brake-system. It left us to wonder how a child would control his/her movements.

The team asked about what kind of challenges a BEO faces at his work-place. His only demand is for an invertor because the power supply is erratic and faulty. The BEO said that it affects works in major way. Power back-up system seems a big hassle. Computer machines stops functioning after a while and internet services are also not available all the time.

11.1.3 Linkages

Team found that there is no regular tie up with DIET faculty in the activities of the block. One person remarked that they practically get no guidance from DIET faculty because their (DIET faculty's) own learning of contents and preparation for training is limited. This reinforces a need for capacity building of teacher educators at DIET.

11.1.4 Personnel Management

Tarn Taran has 60 clusters, and 60 posts of coordinators are filled. However, there is no psychologist available to do the IQ tests for MR children.

The IED Coordinators and others as well are mostly stuck in handling administration works for the Block or District. The team was informed that Chola Sahib Block has 9 coordinators for the following units under SSA: Special education, Gender education, Training, STR, MIS, Text book, Civil work, Padho Punjab, Community mobilization. It is highly desirable to maintain a meaningful linkage amongst all block level functionaries.

The team tried its best to find out the number of teachers in schools. We met 3 DCs, 1 BEO, and several BRPs, and yet, none among them was sure about the number of teachers in that block.

11.1.5 Concerns of the BRCs: CWSN, KGBV

A 12 day summer camp was being carried out for children with special needs (CWSN). The team met a District coordinator for Special Education. There were 3 volunteers to support the children in the camp, wherein 10 children were engaged in various craft activities. We were informed that SSA facilitated wheel chairs for CWSN children, only later to be distributed. It was a feeling amongst functionaries that these special camps are not very popular due to lack of transportation facilities for the parents. The team found that functionaries working in the camp were highly sensitized and they were providing a comfortable ambience to all children. It was a pleasant surprise that everyone in the camp was aware of their work and responsibility towards CWSN. While discussing integration of CWSN in the mainstream, as to what kind of response and challenges one faces, a functionary confessed that the drop-out rate of special children in schools is high because of a lack of sensitivity on the part of school teachers. Team highly appreciated all involved in this summer camp and the senior functionaries, who were keen, enthusiastic and sensitive.

KGBV in the Block has low nomination of only 50 against 100 sanctioned seats. It does not have its own building till now. The BEO could not share any more details about it. There is a hostel for poor and orphaned boys at Patti, a tehsil. It has an occupancy of 40 against sanctioned capacity of 100.

11.2 Recommendations for BRCs

- **Efficient ways to keep records and ensuring access for all**: BEO and other block level offices pertaining to education should be systematic and well-automated with a proper system of record keeping. Records of needs voiced by teachers, content transacted in workshops, modules produced, teachers who attended training, their feedbacks and findings of monitoring should be necessarily kept. Anyone should be able to have access to all kinds of statistical details of the Block.

- **Need of a training management system**: A proper training management system is needed, well-coordinated at the blocks and the district levels. BRCs should have continuous on-going meetings among the personnel, even between the training camps. Every block must have a yearly calendar of training activities for which the personnels should prepare in advance. There should be a comprehensive database of teachers at the block level.

- **Supplementing state-level plans with directly perceived needs of block**: BEO office and BRCs could make it a point to supplement state-level SSA plans with some new programs and activities, from their closer estimation.

- **Gradual building of trust in DIET faculty and specific areas in which they could contribute**: BRCs and the BEOs should have more trust and confidence in the academic capabilities of DIET faculty. DIET faculty can address the low awareness of new trends in pedagogy and pedagogic shifts expected in the aftermath of NCF and NCFTE. With some efforts on the professional development of DIET faculty, they could weave in relevant perspectives from current research, clear understanding of these pedagogic shifts and ways to use the local culture and physical environment as an academic resource.

- **Gauging training needs**: Questionnaire formats to identify training needs could include responses from teachers as to which chapters are challenging, interesting to children, which ones are locally relevant, possible misconceptions and learning difficulties, children's questions they could not answer, reflection on their teaching styles and what makes them good or bad, what orientation do *they* think will improve their teaching, their vision of ideal syllabus etc. Assessing child-learning and identifying learning difficulties of children (through CCE, final exams, specially designed diagnostic tests) is a way to guage training needs of teachers themselves. BRCs could systematically look into these and infer the areas of training in which their teachers might benefit.

- **Infrastructure**: An inverter could be ensured in the BRC.

- **Needs of special children**: School teachers within each block should be sensitized to specific needs of the special children (CWSN). Wheelchairs should be ensured with functional brake systems.

12. Schools

The team visited six schools in all. One of the JRM sub-teams visited two schools in Amritsar district during the period of the visit and later two of the local JRM members visited four schools in Ajitgarh district near Mohali. Only one of these schools, an elementary school at Pakharpura, in Amritsar district, was introduced to the team as a “model school” (and it lives upto this reputation). Further the team members were pleasantly impressed by the fact that in all of the schools visited the teachers and principals were interactive, enthusiastic and conscious of their responsibility towards the students and society. Overall the schools had an

academic ambience that attracts one towards the institution with an element of hope and expectation. The students appeared bright, cheerful and reasonably well-disciplined, though a little weak physically, but definitely not dull.

During discussions however several challenges came to the fore, which are listed in Section 12.2. Besides these discussions with teachers and principals the theam's impression about the school system was shaped by interactions with GISTC faculty (Section 10) and with a few prominent citizens with experience of working with government schools and teachers. The team found a remarkable consistency between all of these views and such confirmation is mentioned in this section where relevant.

12.1 Facilities in Schools

The details of schools visited are in Table 11. Totally there were two primary, one elementary, one middle, one secondary and senior secondary, and one only senior secondary school.

Name of Schools	**Classes taught**	**No. of students**	**No. of teachers**
Government elementary school at Pakharpura	I to VIII		1 principal, 6 teachers
Government sr. sec. school, at Hoshiarpur, District Ajit Garh	VI to XII, with XI and XII as arts stream.	253 + class XI (expected to reach 270 as admission in progress)	1 principal, 1 headmistress; 14 regular + 1 computer; Vacancies: 1 (Punjabi)
Middle School, Majra, District Ajit Garh	VI to VIII	121	1 headmistress, 6 regular + 1 computer teacher (comes for 2 days each week);
Government primary school, Majra, District Ajit Garh	I to V	147	1 head teacher; **4** regular **+ 1** voluntary teacher Vacancy: Principal
Government primary school, Pallanpur, District Ajitgarh	I to V	38 (classes 1 – 5 have 4, 9, 8, 11 and 6 students respectively).	2 regular teachers
Governement secondary and senior secodnary	VI to VIII; XI and XII	40; 300 (also coming	2 teachers

school at Ekkalgadda		from nearby districts)	

Table 11: A list of schools with relevant details.

All the schools appeared quite tidy with good surroundings. However one of the schools in Hoshiarpur has a tendency for water-logging. The school building in Majra was constructed in 2002 from a Panchayati Raj grant. SSA added two rooms, being used for CRC whose office is on premises. The school building in Pakharpura has 2-3 blocks. The buildings are clean , well-painted and well maintained. Ekalgadda has some problems of maintenance.

The classroom size is adequate, students sit on mats on the floor. The schools also have adequate toilets separate for boys and girls, and a playground. The Pakharpura school has a good playground which is used efficiently to cater to playing of various games, and as open auditorium as well. The Hoshiarpur school playground is across the road exactly opposite the school campus. The Majra middle school does not have a playground. The Majra primary school has a big open space but requires leveling to make it fit for children to play. The Pallanpur school has a small playground where students can run and play around. The Ekkalgadda school also has an open ground.

At the Pakharpura school, we met the principal and some of the teachers. Although the school was not in session, about 10-15 students were present to show us around. Some of these students were at the school preparing for the scholarship exams. The students appeared happy to be in the school. They had a feeling of ownership of the school. One of the students was confidently and freely taking photographs of our interaction.

The Pakharpura school has been built as a model school through the personal initiative and dedication of the principal. The principal had been motivated by his gurus to take up the teaching profession. He has been a recipient of the best teacher award. At a time, when the school did not receive its grants well in time, the principal helped build the school buildings by donating 80% of his own salary. An article about the school and the principal has appeared in the newspaper – *Hindustan Times, Jan 4, 2013 p.7, Jalandhar issue*.

The library and laboratories of Pakharpura school are described here as an example of what is possible in a government school with the exceptional commitment on the part of one individual. Our experience in the schools showed that there are other teachers and principals

in the government school system who are willing to put in the effort and results are seen to some extent. The system needs to recognise and support these initiatives.

The library at Pakharpua school was neat and well maintained with books placed in cupboards, magazines hanging on strings, photos of eminent writers, thinkers on the wall, maps, etc. We were told that the library cupboard is never locked. The principal provides freedom to students for using the library. The principal himself has been maintaining the library register. In the library room, there is a storage place of each students records. Hoshiarpur school has a good reading room and a library with around 2500 books. The students are encouraged to get the books issued from the library and read. The library of middle school in Majra has books but no reading room as such. In almost every room a corner or full space along the wall is utilized for keeping books and magazines. The library of primary school in Majra, has books kept in an almirah.

Regarding the computer facility, again the Pakharpura school is well equipped. The school has set up a website, and has an email id. The students could be seen operating the computers. The computer lab has 10-12 desktop computers, printers, scanner and video camera. The lab also displays various TLMs related to learning and using of computer. On the wall, an old keyboard and CPU are on display to demonstrate the RAM, hard disk, motherboard etc. The schools in Hoshiarpur and Majra had 8 computers in working order and with adequate UPS. The primary school in Majra had 1 computer in working order, but there was no computer in Pallanpur school.

Except for Pakharpura school, the other schools lack a good and functioning science lab. The Pakharpura school has a science lab, although in a small room. The lab has a good resource of TLMs, as working models, posters, charts, etc. The school was involved in a science project which was awarded with the Inspire award. In Hoshiarpur and Majra middle school, the space for lab is enough. Some demo models and chemistry experiments were kept which are useful if regularly used. Science Kits, supposedly provided by the department under RMSA could not be shown to the team, though the Principal said they were earlier received and the components were stored subject-wise and not as a whole kit. There exist some mathematics kits and charts supplied by the department which are in use. The science kits were not to be seen in any of the schools. In Majra primary school, there is a science corner in one of the class rooms.

12.2 Issues related to schools

12.2.1. Feedback on PSTE

Teachers felt that their pre-service training does not prepare them for challenges in the classroom.

12.2.2. Feedback on ISTE

The teachers mentioned that the in-service training is useful; especially the training modules of English (Cornucopia) and activity based maths learning are much appreciated. However, the teachers stated that the resource persons should be of better quality. The team members understand that the quality of in service training needs to be organized more professionally. The teachers attend the training programs with an expectations that the resource persons would be able to give them new insights into the subjects they teach. It is a general observation that, barring few, the resource persons fall short of this expectation.

Regarding ICT training, in Hoshiarpur and Majra middle school, all teachers have received training in MS word, Power point as well as other softwares, but the teachers have hardly ever used it. In Majra primary school, the teachers have never been trained in ICT. A principal of Hoshiarpur school found training of Principals very useful and time saving in retrospect. In Ekkalgadda school, there has been no in-service training programs for senior lecturers for last 20 years. School teachers are required to go to the in-service training center in Amritsar. The teachers mentioned that the the resource persons of in-service training program should be well-qualified. Some teachers (in Pallanpur district) have been boycotting training for last 3 years in protest against their lack of promotion avenues etc. This calls for immediate resolution at whatever level required.

Further the teachers expressed that the training should equip the teacher to deal with problems arising out of wide disparity in student achievement. Most classrooms consists of students whose capabilities have been evaluated as 5% to 85%, and especially demanded ways to achieve class targets in this scenario.

12.2.3. Teachers' autonomy

Teachers feel that their autonomy in classroom decision making has been usurped by the state through its centralised planning. For all the classes from VI to X the entire syllabus for each subject of study is divided into monthly blocks that contain topics to be covered every month at the state level. The same is followed uniformly by all the schools in the state as a norm. This restriction is detrimental to effective teaching of specific topics.

Another example is the special Edusat lectures which are compulsory for students to attend, irrespective of whether the topic is relevant, or repeated or the presentation is upto the mark. In such eventuality the teachers have no freedom to do more productive work. These practices run at cross purposes with the vision that National Curriculum Framework for Teacher Education 2009 puts forward by saying *'Teachers need to be creators of knowledge and thinking professionals. They need to be empowered to recognize and value what children learn from their home, social and cultural environment and to create opportunities for children to discover, learn and develop. … Education is not a mechanical activity of information transmission and teachers are not information dispensers. Teachers need to be looked at as crucial mediating agents through whom curriculum is transacted and knowledge is co-constructed along with learners*.' (NCFTE, 2009, p. 4)

Far from enjoying autonomy, the teachers feel that they receive no respect in the system and are often humiliated by superiors.

12.2.4. Non-academic workload

The Mid-day Meal was mentioned in this context. A lot of effort has to be put in by the teachers to keep this program going. It includes purchase of ration, obtaining cooking gas, supplementing with fuel wood, maintaining records and even pooling their own money when the grants are not coming which could be as long as 4 months.

12.2.5. Flight to private schools

Over the years there has been a flight of better-off students, and in recent years also the comparatively less well-off students, away from government schools in to private schools However the latter tend to go sometimes unrecognised private school with low quality of facilities and teaching, and less discipline. The exit of SC students from all unrecognised schools is mentioned in Section 3.2.5. Examples were cited of students who were shifted from this school to the neighboring private schools, and brought back when families found that the child was not getting better as far as reading and writing were concerned.

12.2.6. Social divide

The flight to private schools has resulted in a sharp class divide between the students and teachers. Teachers come from a middle class background while most of the students are from economically poor and socially backward castes. This leads to a serious gap in communication, which neither PSTE nor ISTE have addressed.

Most parents are illiterate/semi-literate or are too preoccupied in earning, or both, hence cannot provide academic support for doing homework or even a little extra study. Some students have an alcoholic father, which adds to the problems of studying at home. Less than 25% of the students did their holiday homework during the summer vacation. The 'diagnostic and remedial coaching' under *Parho Punjab* scheme has been withdrawn. Surprisingly, the children of migrant community from Bihar or Nepal or Uttar Pradesh are perceived to be very bright. They even surmount the language barrier easily. The main problem of these children is absenteeism imposed by their families.

12.2.7. Learning Issues

Teachers find that students' linguistic deficiency leads to severe disadvantage in learning of social sciences as well as science subjects. The deficiency in language learning is attributed to lax syllabi which have done away with grammar, dictation etc. which were considered pillars of language learning. The team members feel that language learning should be addressed in a broader context and should be part of PSTE as well as ISTE.

12.2.8. Problems with RTE

The school teachers expressed their reservations about the RtE. The maintaining of school discipline came across as a major and worrisome issue. There is a problem of absenteeism amongst the students, and the teachers have no methods to ensure that the students attend classes and come to school. According to the teachers, now, the students come to the school untimely. Earlier the school could remove their name if they did not come, or failed to observe discipline. The fear of failure was at least compelling the students to make a minimum amount of effort. But now due to RTE, they can neither remove, nor fail them. In a few cases, the students who did not turn up for final examination had to be promoted to the next class.

Earlier, SCERT used to conduct a board exam at the level of Class 5$^{th.}$. Now, in the absence of exams, students face difficulty Class 8th onwards. The students who have joined the school in Class XI are inadequately prepared to cope with the XI standard syllabus. According to the school principal and teachers, many of the students cannot read or write and do not know even the basic mathematical operations.

Teachers feel the need for training on how to deal with the various demands put on the system by Right of Children to Free and Compulsory Education Act - 2009. Section 16 of the act stipulates that *'No child shall be held back in any class or expelled until the completion of elementary education.'* There is a general feeling among teachers that in absence of any stress

or fear among the children to pass an examination till Class VIII and also the compulsion on the teachers not to hold back any child even if he/she does not deserve to be promoted has constructed an environment of complacency among students and in some cases among teachers too. When they were counter posed a question, whether they believed that fear and stress can ensure learning and success, the answer is in negative. This section of the act has generated a debate and it '*seems to conflate inclusiveness with neglect for academic standards - often described as the soft bigotry of low expectations -- which does a disservice to less-privileged children rather than leveling the ground for them'* (Chopra, 2009), cited in *PROBE Revisited* (De, et al., 2010, p. 17-19). This problem needs to be addressed by PSTE, ISTE and policy makers.

12.2.9. Problems with CCE

Assessment (CCE) adds significantly to their work-load of teachers. Often this work-load compels them to fill the register without any real data. This situation should be considered seriously by teacher educators and curriculum policy makers.

12.2.10. Passbook (guidebook) culture

In 1992, was created a culture of extensive distribution and usage of guidebooks and sure-shot guess papers, to be referred even up to ten minutes before the examination. Private tuitions also came to be extremely prevalent. A few among teachers expressed their concerns regarding this passbook (guide) culture and the examination-publisher certification issues. They want an overall ban on the passbooks.

12.2.11. Examination malpractices

The copying in Board exams and teachers' participation in this copying process is a major hurdle in improving education in Punjab. The origin of these malpractices lies in linking teachers' performance evaluation with the Board results, compelling the teacher to help the students even using unfair means. The school teachers recommended that teachers should be exempted from the pressure of providing 100% passing results, atleast for 5 years. This will help discourage copying. No reforms can be expected to work unless these malpractices are eliminated.

12.2.12. Effect of terrorism

In the 1980s and early 1990s, terrorism and anti-Sikh riots affected the state. In this period, dubbed 'revolver period', mass-copying was encouraged by terrorists. The team heard how while exams were going on, answers used to be announced on loudspeakers for copying. Teachers' absenteeism from schools was another issue that emerged during these times. It was

suggested that there should be a new and creative approach to revive education in affected areas.

12.3 Recommendations for schools

- **More relevant in-service trainings:** The quality of resource persons at the block level needs to be improved.

- **More autonomy and flexibility to teachers, a greater respect from officials:** The constraint of completing certain chapters monthly, as decided at a state level should be substituted with something which gives them more flexibility. Overall, it is extremely important that teachers are treated with respect.

- **Reduction of non-academic workload:** Non-academic workload could be reduced, especially their unnecessary involvement in mid-day meals.

- **Clear understanding of CCE, inclusiveness and pedagogic vision of NCF:** A clear understanding of CCE and pedagogic shifts implied in the new national academic vision of NCF is also required. Orientation of teachers with regard to children's natural ways of thinking, linguistic diversity and their social background is required in order to promote an inclusive classroom, and moreover, using this diversity as an academic resource.

- **Zero-tolerance towards copying, culture of guidebooks:** At all levels (especially at that of school principal), it is important to take a strong 'no-tolerance' stance with regard to malpractices like setting up of questions that have appeared in particular guidebooks and the shocking complicity of adults in copying. These practices cut at the very heart of education.

- **School complexes:** School level autonomy may be encouraged through school complexes, originally proposed by Kothari Commission (NCERT, 1970a, p.65; NCERT, 1970b, p.480) and further by NPE (MHRD, 1986, p.34) and POA (MHRD, 1992, p.23). The original proposal was to form a cluster including 1 high school, 3-4 upper primary, and about 10-20 lower primary schools in the vicinity. This could provide a framework for school-based teacher professional development, supported further by TEIs at the block, district and state levels. They could also help strengthen existing institutions through sharing of resources and teacher-level collaborations.

13. In Conclusion: An inspiring initiative

The Education Development Forum, Punjab is a forum of teachers and others concerned with primary schools in Punjab. This forum, unlike most Teachers' Unions, is focused on real issues of education, status of teachers and the condition of primary education in Punjab. Setting an interesting and inspiring example, these government school teachers are admitting their own children in the school system in which they teach. In this way they hold a personal stake in the well-functioning of the schools and the quality of learning opportunities provided by them. This initiative explicitly acknowledges the need for the educated population and society at large to commit itself to the public education system.

The forum has organised children's festivals which involve children, teachers and the community in which the school is based. Interestingly the mid-day meal cooks who send their own children to government schools, play an important role in the forum, where they have begun monitoring not only the quality of the food served but also the quality of education and teacher attendance in the schools in which they work. Such peoples' initiatives, integrating all the primary stakeholders i.e., students, teachers, community and government, can go a long way in building a people-centric public education system.

14. Acknowledgements

Our first thanks goes to the MHRD for constituting the JRM on Punjab. We are grateful to the personnel of all the institutes we visited during the JRM and the SCERT faculty who tirelessly accompanied us on our visits and joined in the late-night meetings.

As a team we are grateful for the opportunity of having come together for this imoprtant national task. The perspectives brought in by each of the team members were unique and essential. The JRM was enriching to all of us, professionally and personally. Especially, we would like to record our appreciation of Dr. Maninder Singh Sarkaria who co-ordinated the visit, shared his very original insights on the state, and continuously provided us with all the data that we demanded of him.

We (Meena Kharatmal and Jayashree Ramadas) heartily thank our colleagues at HBCSE – Shri Kumar Arunachal, Shri Riyazuddin Shaikh, Shri Rajkumar Diwakar, three inspired young people, who worked tirelessly to complete the manuscript.

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16. Annexures

16.1 Annexure 1: Document Study for JRM Punjab

- Guidelines for Implementation – Centrally Sponsored Scheme for Teacher Education, (June 2012)
- Annual Work Plan Format – MHRD (2012-13)
- Annual Work Plan Format – Punjab (2012-13)
- Appraisal of the Annual Work Plan (2013)
- Minutes of the TEAB (2012)
- Punjab ETT Syllabus (2006)
- Report on Comprehensive Evaluation of the CSSTE, by NCERT (August 2009)
- JRM Reports

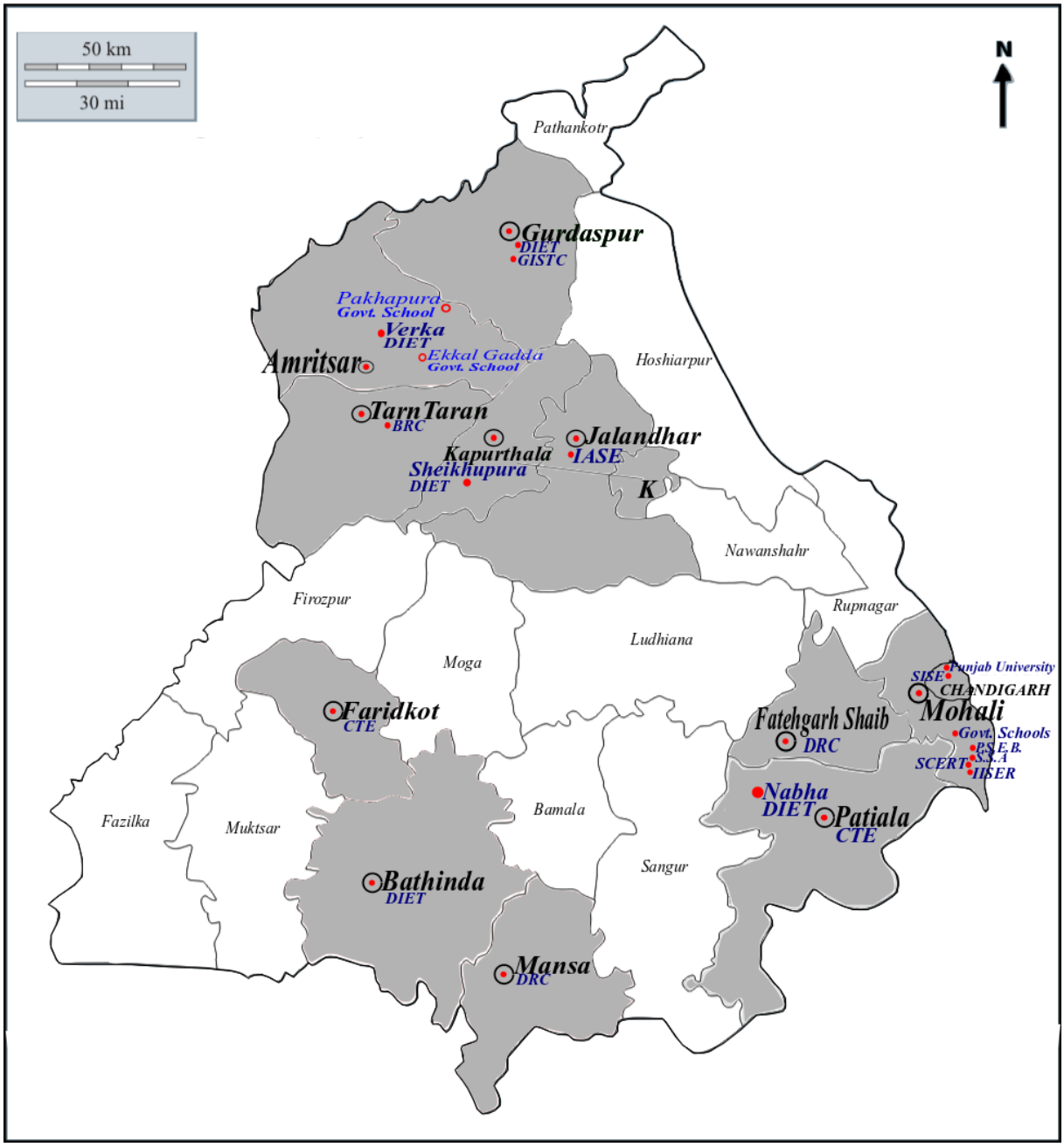
16.2 Annexure 2: Details of Institutions Visited, Activities, Meetings During JRM Punjab

Dates	Institutions visited	Team members
13th June (Thursday) 1530 – 1830 hrs	Arrival in Chandigarh 1. Planning meeting in IISER Mohali	All team members: Jayashree Ramadas, Arvind, Kamal Mahendroo, Kuldip Puri, Keya Dharamvir, Lalita Pradeep, Meena Kharatmal, Varsha Sahasrabuddhe, Falguni Sarangi Co-ordinator: Maninder Sarkaria
14th June (Friday) 1015 – 1215 hrs 1300 – 1500 hrs 1715 – 1830 hrs	Team 1: 2. DIET Nabha, Patiala; 3. CTE, Patiala 4. DRC, Fatehgarh Sahib	Kuldip Puri, Meena Kharatmal, Varsha Sahasrabuddhe, Co-ordinator: Maninder Sarkaria
14th June (Friday)	Team 2: 5. DRC, Mansa 6. DIET, Bathinda	Kamal Mahendroo, Keya Dharamvir, Lalita Pradeep, Falguni Sarangi, Co-ordinator: Baljeet Kaur
15th June (Saturday) 0915 – 1100 hrs 1115 – 1200 hrs 1230 – 1345 hrs 1415 – 1530 hrs 1630 – 1700 hrs 1700 – 1730 hrs 1900 – 0100 hrs	Visit and meetings: 7. SCERT 8. Edusat facility, SCERT 9. Education Department, Punjab University 10. SISE 11. Teachers' Union 12. NGO – American Indian Foundation Trust Evening: Departure to Amritsar	All team members: Jayashree Ramadas, Arvind, Kamal Mahendroo, Kuldip Puri, Keya Dharamvir, Lalita Pradeep, Meena Kharatmal, Varsha Sahasrabuddhe, Falguni Sarangi
16th June (Sunday) (Holiday) 1400 – 1600 hrs	Visits in Amritsar: 13. Golden Temple 14. Jalianwala Bagh Memorial 15. Atari-Wagah, Indo-Pakistan Border 16. Discussion meeting in Amritsar	All team members: Jayashree Ramadas, Kamal Mahendroo, Kuldip Puri, Keya Dharamvir, Lalita Pradeep, Meena Kharatmal, Varsha Sahasrabuddhe, Falguni Sarangi
17th June (Monday)	Team 1:	Kuldip Puri, Kamal Mahendroo,

	17. DIET, Gurdaspur 18. GISTC, Gurdaspur 19. IASE Jalandhar Arrival in Chandigarh	Falguni Sarangi, Co-ordinator: Randhawa
17th June (Monday) 1015 – 1145 hrs 1220 – 1345 hrs 1500 – 1600 hrs 1745 – 1930 hrs	Team 2: 20. DIET, Verka, Amritsar 21. Government Elementary School, Pakharpura, Amritsar 22. Government Middle School, Ekkalgadda, Amritsar 23. DIET, Sheikhupura, Kapurthala Arrival in Chandigarh	Jayashree Ramadas, Arvind, Meena Kharatmal, Co-ordinator: Maninder Sarkaria
17th June (Monday)	Team 3: 24. BRC, Tarn Taran 25. CTE, Faridkot Arrival in Chandigarh	Keya Dharamwir, Lalita Pradeep, Varsha Sahasrabuddhe, Co-ordinator: Verma
18th June (Tuesday) 0930 – 1130 hrs 1200 – 1230 hrs 1230 – 1300 hrs 1520 – 1645 hrs 2000 – 2300 hrs	Discussion Meetings in Chandigarh with: 26. Consolidation meeting 27. Government school teacher 28. A film-maker and a journalist 29. SSA & RMSA Dinner meeting with: 30. Election Commissioner, Haryana 31. An NGO from Chandigarh 32. An NGO from Patiala	All team members: Jayashree Ramadas, Arvind, Kamal Mahendroo, Kuldip Puri, Keya Dharamvir, Lalita Pradeep, Meena Kharatmal, Varsha Sahasrabuddhe, Falguni Sarangi Jayashree Ramadas, Arvind, Kamal Mahendroo, Keya Dharamvir, Lalita Pradeep, Meena Kharatmal, Varsha Sahasrabuddhe, Falguni Sarangi
19th June (Wednesday) 0745 – 0900 hrs 1000 – 1200 hrs 1245 – 1430 hrs	Meetings with: 33. SCERT 34. Principal Secretary, School Education 35. Video conference with DIETs, DRCs, GISTCs from all over Punjab through Edusat, SCERT	All team members: Jayashree Ramadas, Arvind, Kamal Mahendroo, Kuldip Puri, Keya Dharamvir, Lalita Pradeep, Meena Kharatmal, Varsha Sahasrabuddhe, Falguni Sarangi

1600 – 1715 hrs 1730 – 1845 hrs 2030 – 2330 hrs	36. Punjab School Education Board 37. SSA, RMSA Dinner meeting with: 38. Principal Secretary, School Education Board 39. Director, IISER 40. Director and staff, SCERT	Jayashree Ramadas, Kamal Mahendroo, Kuldip Puri, Keya Dharamvir, Meena Kharatmal, Varsha Sahasrabuddhe, Falguni Sarangi All team members: Jayashree Ramadas, Arvind, Kamal Mahendroo, Kuldip Puri, Keya Dharamvir, Lalita Pradeep, Meena Kharatmal, Varsha Sahasrabuddhe, Falguni Sarangi
20th June (Thursday) 0730 – 0900 hrs Departure from Chandigarh	41. Discussion meeting	Jayashree Ramadas, Arvind, Kamal Mahendroo, Lalita Pradeep, Meena Kharatmal, Varsha Sahasrabuddhe
10th July (Wednesday)	Chandigarh 42. Government Schools (Primary, Middle, Senior Secondary)	Keya Dharamvir, Kuldip Puri, Co-ordinator: Maninder Sarkaria

16.3 Annexure 3: A map showing the JRM visits to the State of Punjab.



16.4 Annexure 4: Report writing responsibilities of JRM team members

Team Member	Responsibility
Prof. Arvind	• Role of SCERT, DIETs • Cadre issues • School perspective • Edusat meeting with DIETs • Involving scientists as resource persons, in textbook writing, resource generation labs, etc.
Prof. Keya Dharamvir	• Visit report of SISE, strengthening of labs • Visit report to Government Schools
Ms. Meena Kharatmal	• Collecting and studying relevant documents from the MHRD's Teacher Education website (*http://www.teinda.nic.in*) prior to the JRM visit • Sharing of document study with JRM members • Visit reports of DIET Patiala, DIET Amritsar, DIET Kapurthala, CTE Patiala, Government Elementary School, Pakharpura • Reporting of Edusat facility, SISE, SSA, PSEB • Methodology, State profile, Mapping the visits • Recommendations for D.El.Ed. syllabus for the ETT course • Recommendations on Science labs and ICT in SCERT, DIETs
Shri Kamal Mahendroo	•
Ms. Lalita Pradeep	• Visit reports of BRC Tarn Taran, DRC Mansa • Reporting of annual work plan and budget, fund utilisation • Process and performance indicators • Research and innovation
Prof. Kuldip Puri	• Visit report of IASE Jalandhar • Historical, sociocultural and political context of Punjab
Prof. Jayashree Ramadas (Leader)	• Report generation • Overall editing
Ms. Varsha Sahasrabuddhe	• Visit reports of CTE Faridkot, DRC Fatehgarh Sahib

Shri. Falguni Sarangi	• Visit reports DIET Gurdaspur, DIET Bathinda, GISTC Gurdaspur • Relevant information from Gazetteer • Teacher Elegibility Test (TET) in Punjab • In-service training – various agencies, SSA

16.5 Annexure 5: Summarised faculty profile

Sr. No.	Name	Institute Name	Qualification	Teaching / Working Experience
1.	Sh. Roshan Lal Sood (Director, SCERT, Punjab)	SCERT	MA., M.Ed.	23 Years
2.	Mrs. Pankaj Sharma (Dy. Dir, SCERT)	SCERT	M.A., M.Ed.	23 Years
3.	Sh. Jagtar Singh, Dy. Dir. (SISE)	SCERT	B.A.(Hons), B.Ed., M.A., M.Ed.	23 Years
4.	Smt. Inder Bir Kaur, Dy. Dir. (Educl. Tech. & A.V Cell)	SCERT	M.Sc., H.Sc (F&N), B.Ed.	17 Years as a Lecturer 1 Year in SCERT
5.	Smt. Vijay Kumari DY. Dir. (State Bureau of Edu & Vocation Guid), SCERT	SCERT		31 Years as a Lecturer 1 Year in SCERT
6.	Dr. Maninder Singh Sarkaria, Dy. Dir. (Evaluation)	SCERT	M.Com., M.Ed., Ph.D.	
7.	Satinder Jeet Kaur	SISE Chandigarh	M.Sc., M.phil. (Botany) (Hons.)	5 Years
8.	S. Jagtar Singh	SISE Chandigarh	B.A.(Hons), B.Ed., M.A., M.Ed.	11 Years as a Lecturer 11 Years in SISE
9.	Anand Gupta	SISE Chandigarh	M.Sc., Ph.D.	

			(Chemistry), M.Ed.	
10.	Santosh Rani	SISE Chandigarh	M.Sc.(Chemistry), B.Ed.	18 Years
11.	Rumkeet Kaur	SISE Chandigarh	M.Sc.(Maths), B.Ed.	13 Years
12.	Poonam	SISE Chandigarh	M.Sc.(Chemistry), M.Ed.	14 Years
13.	Geeta Gulati	SISE Chandigarh	M.Sc.(Zoology), M.Ed.	8 Years
14.	Dr. Gulzar Singh Ghuman	SISE Chandigarh	M.A., M.Ed., M.Phil, Ph.D.(Education)	
15.	Dharminder Raina	DIET, Sheikhupura, Kapurthala	M.Sc.(Physics), M.Ed.	5 Years in School 16 Years in DIET
16.	Gurcharan Singh	DIET, Sheikhupura, Kapurthala	M.Sc.(Physics), M.Ed.	15 Years in DIET
17.	Renu	DIET, Sheikhupura, Kapurthala	M.A., B.Ed.	8 Years in School 4 Years in DIET
18.	Jhirmal Singh	DIET, Sheikhupura, Kapurthala	M.Sc.(Maths), M.A. (History), M.Ed.	15 Years in School 16 Years in DIET
19.	Harwinder Singh	DIET, Sheikhupura, Kapurthala	M.A.(English), M.Ed.	11 Years in School 5 Years in DIET
20.	Vijay Kumar Mahna	DIET, Sheikhupura, Kapurthala	M.Sc.(Maths), M.Ed.	21 Years in School 16 Years in DIET
21.	Ajit Singh Bhatia	DIET, Nabha, Patiala	M.Phil., M.Sc., M.A., M.Ed., CIC.	2 Years in DIET
22.	Dr. Surinder Kumar Dhammi	DIET, Nabha, Patiala	M.A., M.Com., M.Ed., M.phil., Ph.D.	18 Years in School 19 Years in DIET
23.	S. Sukhwinder Singh (Principal)	DIET, Verka, Amritsar	MA. (Pol Sci), B.Ed.	32 years

24.	Naresh Kumar	DIET, Verka, Amritsar	M.Sc. (Physics), M.Ed.	6 Years in School, 10 Years in DIET
25.	Kuldip Singh	DIET, Verka, Amritsar	M.Sc. (Zoology), M.A. (English), B.Ed.	19 Years in School, 6 Years in DIET
26.	Sunita	DIET, Verka, Amritsar	M.A. (English), B.Ed., Diploma in Cosmetology	15 Years in School 4 Years in DIET
27.	Gagandeep Singh	DIET, Verka, Amritsar	B.Ed., B.P.Ed., M.P.Ed., NET (UGC) clear	11 Years in School 2 Years in DIET
28.	Sudeep Kaur Randhawa	DIET, Verka, Amritsar	M.Sc (Chemistry), M.Ed.	2 Years in School 20 Years in DIET
29.	Adarsh Sharma	DIET, Verka, Amritsar	M.A. (English), M.A. (Education), B.Ed.	15 Years in School 4 Years in DIET
30.	Daljit Singh	DIET, Verka, Amritsar	M.Sc. (Biology), M.A. (Punjabi), B.Ed., LLB	16 Years in School 17 Years in DIET
31.	Simerjit Kaur	DIET, Verka, Amritsar	M.Sc. (Biology), B.Ed.	19 Years in School 14 Yeas in DIET
32.	Kanwal Pardeep Singh Kahlon	DIET, Verka, Amritsar	M.Sc. (Phycis), M.A. (Education), M.phil.	7 Years in School 12 Years in DIET
33.	Kirandeep	DIET, Verka, Amritsar	M.Sc. (Hons School) (Chemistry), B.Ed., M.phil.	11 Years in School 5 Years in DIET
34.	Dr. Hardip Kaur sidhu	DIET, Verka, Amritsar	Ph.D. (Punjabi), M.A. (Punjabi & English), B.Ed., B.A (Hons Geo.)	10 Years in School 2 Years in DIET
35.	Satnam Singh	Government Elementary School, Pakharpura, Amritsar	M.A., B.Ed.(Social Science)	
36.	Tarvinder Singh	Government Elementary	Computer Engg. Diploma(3 Years),	

		School, Pakharpura, Amritsar	M.A.(Hindi), M.Sc., MCA	
37.	Balwinder Kaur	Government Elementary School, Pakharpura, Amritsar	Diploma(CPED)	
38.	Rajeev Kapoor	Government Elementary School, Ekkalgadda, Amritsar	M.Sc.(Physics), M.Ed.	16 Years in School
39.	Navdeep Kaur Padda	Government Elementary School, Ekkalgadda, Amritsar	M.Sc.(Chemistry) M.Phil.(Chemistry) M.Ed.	19 Years in School
40.	Smt Darshna Kumari Mahia (Principal)	Government Elementary School, Ekkalgadda, Amritsar	M.A., M.Ed.	11 Years in School
41.	Harbinder Kaur	Government Elementary School, Ekkalgadda, Amritsar	M.Sc.(Botany), M.Ed.	10 Years in DIET 16 Years in School
42.	Kanwarjit Singh	Government Elementary School, Ekkalgadda, Amritsar	B.Sc.(Non Med), M.Com., B.Ed., M.Sc. (Maths)	31 Years
43.	Harinder Singh	American India Foundation Trust, Chandigarh	B.A., B.Ed., MCA	8 Years

44.	Santosh Kumar Singh	American India Foundation Trust, Chandigarh	B.A., IT Certification, MBA	8 Years

16.6 Annexure 6: Infrastructural Facilities

Click here for photographs of the infrastructural facilities observed during the visit.

16.7 Annexure 7: Instructional Resources

Click here for photographs of the instructional resources observed during the visit.

16.8 Annexure 8: Individual Visit Reports

No.	TEIs	Districts	Individual Visit Report
1.	SCERT	Chandigarh	Meena Kharatmal
2.	IASE	Jalandhar	Kuldip Puri
3. 4.	CTEs	Patiala Faridkot	Meena Kharatmal Lalita Pradeep
5. 6. 7. 8. 9.	DIETs	Patiala Amritsar Kapurthala Bathinda Gurdaspur	Meena Kharatmal Meena Kharatmal Meena Kharatmal Falguni Sarangi Falguni Sarangi
10.	GISTC	Gurdaspur	Falguni Sarangi
11. 12.	DRCs	Mansa Fatehgarh Sahib	Lalita Pradeep Varsha Sahasrabuddhe
13.	BRC	Tarn Taran	Lalita Pradeep
14. 15.	Schools – Elementary Schools – 2 Primary, 1 Middle, 1 Senior Secondary	Pakharpura Ajitgarh	Meena Kharatmal Keya Dharamvir
16. 17.	SISE	Chandigarh Report	Meena Kharatmal Keya Dharamvir

16.9 Annexure 9: JRM Team

Click here for some photographs of the JRM team members.

Prof. Jayashree Ramadas, Prof. Arvind, Shri Kamal Mahendroo, Prof. Kuldip Puri, Prof. Keya Dharamvir, Ms. Lalita Pradeep, Ms. Meena Kharatmal, Ms. Varsha Sahasrabuddhe, Shri Falguni Sarangi .

September 27, 2013.