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INDIA
RASHTRIYA MADHYAMIK SHIKSHA ABHIYAN
(RMSA)

Sixth Joint Review Mission
(24th August to 8th September, 2015)

Aide Memoire

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Acronyms:

AWP&B	Annual Work Plan and Budget
ASER	Annual Survey of Education Report
ATR	Action Taken Report
BE	Budget Estimates
BRC	Block Resource Centre
CAL	Computer Aided Learning
CBSE	Central Board of Secondary Education
CCE	Comprehensive and Continuous Evaluation
COBSE	Committee of Boards of Secondary Education
CTE	College of Teacher Education
CTET	Common Teacher Eligibility Test
CTS	Child Tracking Survey
CRC	Cluster Resource Centre
CWSN	Children with Special Needs
DCF	Data Capture Format
DFID	Department for International Development
DIET	District Institute of Education and Training
DISE	District Information System for Education
DP	Development Partner
DoSEL	Department of School Education & Literacy
DRG	District Resource Group
Ed.CIL	Educational Consultants India Limited
EMIS	Educational Management and Information System
EU	European Union
EVS	Environmental Science
FM&P	Financial Management and Procurement
GER	Gross Enrolment Ratio
GoI	Government of India
GIS	Geographic Information System
GPS	Global Positioning System
HR	Human Resource(s)
IASE	Institute for Advanced Studies in Education
ICT	Information Communication Technology
IDA	International Development Association
IEDSS	Integrated Education of the Disabled at Secondary Stage
IGNOU	Indira Gandhi National Open University
IPAI	Institute of Public Auditors of India
IRT	Item Response Theory
IT	Information Technology
ITPDP	In-service Teacher Professional Development Programme
IT/ITeS	Information Technology/Information Technology-enabled Services
IUFR	Interim Unaudited Financial Report
JRM	Joint Review Mission
KGBV	Kasturba Gandhi Balika Vidyalaya

KRP	Key Resource Person
MCS	Model Cluster School
MHRD	Ministry of Human Resource Development
MI	Monitoring Institution
MIS	Management Information System
MS	Mahila Samakhya
NAS	National Achievement Survey
NCERT	National Council of Educational Research & Training
NCF	National Curriculum Framework
NCFTE	National Curriculum Framework for Teacher Education
NCTE	National Council for Teacher Education
NE	North East
NER	Net Enrolment Ratio
NGO	Non-Governmental Organisation
NIAR	National Institute of Administrative Research
NIC	National Informatics Centre
NLAS	National Learning Achievement Survey
NROER	National Repository of Open Educational Resources
NPE	National Policy of Education
NPEGEL	National Program for Education of Girls' at Elementary Level
NSQF	National Skills Qualification Framework
NUEPA	National University of Educational Planning & Administration
OBC	Other Backward Caste
OECD	Organisation for Economic Co-operation and Development
OOSC	Out of School Children
PAB	Project Approval Board
PGT	Post Graduate Teacher
PISA	Programme for International Student Assessment
PMIS	Project Management Information System
PRI	Panchayati Raj Institutions
PSSCIVE	Pandit Sunderlal Sharma Central Institute of Vocational Education
PTA	Parent Teacher Association
PTR	Pupil Teacher Ratio
QMT	Quality Monitoring Tool
RCI	Rehabilitation Council of India
REMS	Research, Evaluation, Monitoring and Supervision
RIE	Regional Institute of Education
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
RMG	Repair and Maintenance Grant
RP	Resource Person
RTE	Right to Education
SC	Scheduled Caste
SCERT	State Council for Educational Research and Training
SDP	School Development Plan
SEMIS	Secondary Education Management Information System
SES	Selected Educational Statistics
SFD	Special Focus Districts
SFG	Special Focus Groups
SIEMAT	State Institute for Educational Management and Training
SLAS	State Level Achievement Survey
SMC	School Management Committee
SMDC	School Management and Development Committee

SPO	State Project Office
SPD	State Project Director
SRP	State Resource Person
SSA	Sarva Shiksha Abhiyan
SSHE	School Sanitation and Hygiene Education
ST	Scheduled Tribe
TCF	Technical Cooperation Fund
TE	Teacher Education
TET	Teacher Eligibility Test
TGT	Trained Graduate Teacher
TLE	Teacher Learning Equipment
TLM	Teaching Learning Material
TOR	Terms of Reference
TSC	Total Sanitation Campaign
TSG	Technical Support Group
UAM	Universal Active Mathematics
UC	Utilization Certificate
UEE	Universal Elementary Education
UDISE	Unified District Information System for Education
UPS	Upper Primary School
UT	Union Territory
VE	Vocational Education
VEC	Village Education Committee
VER	Village Education Register
WSDP	Whole School Development Plan

1. Introduction

1.1. **Rashtriya Madhyamik Shiksha Abhiyan** (RMSA) is a Programme of the Government of India, implemented in partnership with the State Governments, with the main objective to make secondary education of good quality available, accessible and affordable to all young persons. The scheme seeks to enhance enrolment in classes IX and X by providing a secondary school within a reasonable distance of every habitation, to improve quality of education imparted at secondary level by ensuring all secondary schools conform to prescribed/ standard norms, to remove gender, socio-economic and disability barriers and to achieve universal access to secondary level education by 2017, i.e. by the end of the 12th Five Year Plan.

1.2. RMSA was launched in 2009, funded through national resources (central government and State governments) and now has tied up external funding by Development Partners (DP) - World Bank's International Development Association (IDA), United Kingdom's Department of International Development (DFID) and European Union (EU). As part of the agreement for external aid from the DPs which came into effect in November, 2012, the Joint Review Mission (JRM) is to be conducted every six months in the months of January and July/August each year. The January Mission undertakes States visits, while the July/August mission is a desk review.

1.3. This is the Sixth Joint Review Mission (JRM) and was held from August 24 to September 8, 2015. The Terms of Reference (ToR) for the Mission and details of the Mission composition are attached at Annex 1. The Mission put special focus on their work on the following aspects of the Programme:

- Understanding what is known about student learning outcomes from the national assessment survey (NAS) and State level assessment surveys (SLAS) in order to recommend strategies to strengthen the measurement of learning outcomes and dissemination of information about how to improve learning outcomes.

- Understanding the progress on enrolment (Gross Enrolment Ratio [GER] and Net Enrolment Ratio [NER]), retention including reduction in drop-out rate, transition, and completion with focus on gender, social groups and students with special needs (Integrated Education of the Disabled at Secondary Stage [IEDSS]) inclusion.

- Understanding the range of mechanisms used to collect data from schools, e.g. from UDISE, Monitoring Institutions, Quality Monitoring Tools, and State level processes, and the way these datasets are used. To what extent are the datasets complementing/duplicating each other - and how can the data be best consolidated and utilized.

1.4. The Mission would like to acknowledge the work done by teams in the Ministry of Human Resource Development (MHRD), Technical Support Group (TSG) and the detailed information made available to the Mission, and the participation by the following States: Assam, Chhattisgarh, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Mizoram, Rajasthan, and Tamil Nadu. In addition, National Council of Education Research and Training (NCERT), National Council of Teacher Education (NCTE), National University of Education Planning and Administration (NUEPA) and the DFID-funded Technical Cooperation Agency provided valuable inputs. The Mission has greatly benefited from the discussions and would like to put on record its gratitude to all the above mentioned.

2. Overview and Key Issues

2.1. Given the reduced level of investments, because of the mission mode approach, there has been good overall progress. The relevant details have been set out in the later sections of this Aide-Memoire. There have nevertheless remained areas of concern that attract special attention. These have been dealt with in the paragraphs below.

2.2. The mission mode approach to improvement of school education was started at the elementary stage. It was ignited by the spark of the State Policy enshrined in the Constitution of India, and subsequently driven by the statutory prescriptions on the subject. Its success was so striking that even without a Constitutional mandate or a statutory prescription it was extended to **Madhyamik Shiksha** and (then) to **Uchchatar Shiksha**. For some reason, the **Uchchatar Madhyamik Shiksha** was left out of this chain. Recognizing the significance of this common structural feature for uniformly galvanising all stages of school education, we had flagged this as a key issue in the Fifth JRM. In doing so, we had stressed the point that, besides being a launching pad for all streams of (liberal/technical/vocational) higher education, the +2 stage is also an important terminal point for entry into the labour market. It is our understanding of the current situation that, happily, the tidings are in favour of adding this link to the '**Abhiyan**' chain.

2.3. Induction of the Senior Secondary Stage of school education into the **Abhiyan**-fold will benefit all the three integrated segments – the **madhyamik**, the **uchchatar madhyamik** and **uchchatar shiksha**. Proper attention to integration of organizational arrangements can promote beneficial inter-segmental linkages both administrative and academic. The grievance against the higher education segments has been that they are bothered only about downstream concerns and not upstream conditions. Whenever the new integration takes place, the upstream segments will benefit in curricular enrichment and up-gradation of professional competence of teachers; and, the downstream segment will benefit by better augmentation of their enrolment. Overall, it will promote rationalization of functional integration leading to maximization (if not optimization) of utilization of resources.

2.4. Even as we refer to the possibility (if not probability) of inter-segmental integration, we must recognized the need for ensuring sequential synchronization which has been seen by its absence to have diminished the impact of structural changes.

2.5. In this connection, we would recommend a review of the programme objectives in all the segments for developing a smooth continuum. Based on the information available relating to the secondary stage of education, we have taken the liberty to informally propose separately a revised set of objectives for the RMSA. The Government may like to consider giving it a formal shape along with similar attention to all stages of education.

2.6. Talking of '**review**', we are of the opinion that the entire JRM structure and systems also need to be reviewed. Accordingly, we have added a note to this Mission's aide memoire giving suggestions for various changes. Many of these may have equal relevance for other '**Abhiyaan**' also. The Government may like to deal with them in such a perspective.

2.7. There have been many suggestions/recommendations emerging from earlier JRMs. The Government had taken action thereon and apprised the succeeding Missions of the same. There have been instances to feel (or, even, to observe) that the action taken was not focussed or adequate. In retrospect, and on introspection, we realize, this was mostly due to defective drafting of the suggestions/recommendations.

2.8. We have taken two steps to address this inadequacy: Firstly, to record our recommendations with sharper focus and in an actionable form. Secondly, we have analyzed all the earlier

recommendations to glean from them common threads of continuing concerns. These have been presented in a tabular format to facilitate further attention.

2.9. In the context of assessing overall progress, one general point confronting us was about how to look at enrolment figures. G.E.R. (which recognized overage enrolment) was reckoned with because the Abhiyan specifically referred to it. But, the feeling was that N.E.R. (which recognized the 14-16 age-group enrolment in the secondary stage) would be a better indicator. There was an opinion that 'Adjusted N.E.R.' (A.N.E.R.) had come to be accepted internationally as a more accurate measure of enrolment; it reckons with under-age enrolment also. The Mission Team felt that this change could be brought in once UDISE, the recognized official data source, adopted it. It will be better if the Government takes a stand on this with reference to the RMSA objective.

2.10. On the issue of enrolment, another point of concern will be about the enrolment at the class-1 level. Because of a demographic transition, the class-1 enrolment has been seen to be significantly dropping. The implications of this, not only for S.S.A., but, subsequently, for the RMSA also will need to be analyzed.

2.11. Examination of the enrolment position has thrown up another alert. References to '**double enrolment**' had been there all along. They were seen more as errors in data maintenance than as cases of mischief. Large scale migration of students from govt. to private schools seems to have given rise to this problem: Government schools allegedly do not adjust the enrolment figures after the migration for fear of losing the sanctioned posts! Implementation of the Child Tracking System in Madhya Pradesh has reportedly exposed this practice and prevented occurrence of double enrolment. According to the Madhya Pradesh project functionaries, enrolment consequently declined by 14 lakhs. It may be that the reasons behind the data weaknesses in Madhya Pradesh apply to other States; and an understanding of these reasons may enable appropriate advisories to be issued to all State governments.

2.12. It is our impression that '**quality**' issues suffer the maximum transmission losses in implementation. Knowledge about and, understanding and application of instructions/guidelines related to quality is a very weak link in the RMSA chain. 'Quality' may, therefore, have to be retained as a standing theme for many JRMs to come.

2.13. A good deal of good work has been done in earlier JRMs and by others on quality issues. Final delivery of these materials at the field level and their impact on institutional/class-room performance has been weak. What is required is to streamline and strengthen the delivery process. It will be good to have a check-list of the factors relevant to this context and continue to focus attention on strengthening them.

2.14. Field-level inspectors, institution level academic supervisors, class teachers have all to be equally sensitized and educated. It will be useful to draw up 'Inspection Manuals' and train Inspectors and Supervisors in how to conduct inspections and what to look for. It may also be necessary to prescribe formats of inspection reports so as to compel them to record descriptive inspection notes. The Teacher concerned can then use the inspection note as a reference document and, so that it can be used also to assess the quality and utility of such inspections. The JRM has recommended a review of monitoring in secondary education, and these issues may be considered as part of that review.

2.15. **Continuing up-gradation of professional competence of teachers** (commonly styled as 'Teacher Training') has to be emphasized here as an important quality-input. Unfortunately, 'Training' tends to get viewed more as an administrative/management responsibility. Because of its fundamental significance, we wish to reiterate the previous JRMs' reference to 'Teacher Training' as a core quality factor and make some related

recommendations. These have been dealt with in detail in the body of the report. Even so, they are important enough to be singled out for repetition here.

2.16. **Continuing up-gradation of professional competence of teachers** should be based on a careful assessment of their 'training needs'. There should, therefore, be some training for assessment of training needs. Needs assessment should particularly take into account the following indicators:

a) Results based analysis of Board examinations.

b) Analysis of NAS/SLAS data.

c) Examination of 'best practices' and 'innovative approaches' identified for propagation.

d) Concerns emerging from observations (on class room performance) of academic supervisers (e.g., DIET Faculty, etc.)

2.17. Emphasis on short-term refresher courses and special orientation courses for subject-teachers requires special attention. The course-content should be carefully prepared with reference to the needs assessed on the basis of 'maximum needs of the maximum number of teachers'. It should not mechanically attempt to cover the entire syllabus. Master Trainers and Key Resource Persons should be sensitized about these assessments (of needs) so that they can keep them in mind while conducting the training classes.

2.18. Content-updating by school teachers cannot be taken for granted. Training courses for them especially at the secondary level and, more so, at the senior secondary level, need to focus not only on pedagogy but also on content-enrichments. There will have to be large-scale involvement of college teachers for this purpose.

2.19. The inter-segmental integration and involvement referred to earlier in this section will have significant relevance in this context. It has to be recognized that inspections and supervision reports can only serve as material supporting institution-level initiatives. Mutual exchanges between teachers of same subjects can be more frequent, less formal and more particularly addressed to local circumstances; and the increasing presence of composite schools is an opportunity which has not been seized in this regard. The efficacy of this process will be enhanced by the leadership exhibited by the institutional head.

2.20. It will be useful to make an organized attempt to identify 'best practices' and 'innovative approaches'. A compendium of such practices/approaches should be developed in each State after validation of their utility/impact at their places of origin. Preparation (and, circulation) of such compendiums should be ensured for promoting/facilitating wider adoption of such practices/approaches. The JRM or its Standing Sub-Committee (proposed) can help in preparing a model for organizing this process.

2.21. The previous JRM had referred to implications of the new approaches to curriculum transaction at the elementary stage (eg. ABL, ALM, etc.) for training needs of secondary teachers. Some years ago, NCERT had offered to sponsor some longitudinal research studies to assess the impact of these changes. It may be worthwhile to pursue that proposition.

2.22. It is heartening that UDISE has been formally recognized as the official data source. States should be persuaded to make use of UDISE and not waste resources on developing parallel data-processes. States, perhaps, feel that UDISE concentrates solely on central requirements to the neglect of States' needs. In this connection, it is relevant to recognize that UDISE provides unlimited space for addition of supplementary variables in each record. Possibly, States are not very clear about this facility. Some of the smaller States are reported to have server-problems. Here, again, it is relevant to recognized that UDISE has offered to allow

such States access to its own server. May be, availability of such a facility also needs to be widely advertised.

2.23. Some States like **Karnataka and Tamil Nadu** have been resorting to real-time updating of UDISE data for their own administrative requirements. NUEPA has clarified that, subject to quality considerations and validation requirements, there will be no problem with such initiatives. While States can even update data on UDISE data-base, UDISE will have to stick to the 30th September date as the reference point for release of official data at the national level.

2.24. Two observations contained in the previous JRM deserve to be reiterated:

a) Raw data should be more conveniently available for direct, easy mining by all.

b) The Government may require NUEPA to analyze the data with reference to identified parameters and provide region-wise or State-wise or stage-wise or school-wise or topic-wise projections.

2.25. **The Results Framework Document initiative is commendable**. RFD has indeed proved to be a good monitoring tool. But, the RFD format requires modification. It can become more helpful if its format can be aligned with that of the one adopted by the Performance Monitoring Division of the Cabinet Secretariat. Addition of 'parameters', 'success indicators' and, 'targets' for each success indicator will become more meaningful for monitoring and evaluation of performance.

2.26. **Introduction of the Teacher Eligibility Test (TET)** does not seem to have progressed at all. Even in respect of the elementary stage, for which NCTE has been notified as the academic authority, TET has not yet been formalized by them. Whether they can have the mandate to prescribe TET for the secondary stage has not yet been settled. Government must soon clarify the position. In this context, it can also be considered whether a TET is at all necessary now that NCTE has considerably strengthened the norms and standards relating to B.Ed. and M.Ed. in its **revised 2014 Regulations**.

3. Review of Action Taken Reports

3.1. The JRM reviewed the 'Recommendations' from the previous five JRMs and the respective Action Taken Reports (ATRs). This exercise was undertaken in order to determine issues of continuing concern, to assess the extent to which progress has been made against them and to identify future actions.

3.2. Three points to begin, however. First, it should be noted that, upon further examination, a number of recommendations proved rather too generic to provide clear enough guidance on what specific actions might be taken by GOI and States in order to respond to the concern raised by the JRM. Not surprisingly, therefore, with respect to these recommendations, the subsequent Action Taken Report was unable to indicate clear progress. While the recommendations of the JRM are just that – recommendations – it is nevertheless incumbent on the JRM to provide sufficiently clear guidance as to the recommended actions should they be agreed to be taken up.

3.3. Second, the JRM notes that Action Taken Reports are not prepared by States following field-based JRMs. A primary purpose of the field-based JRMs is to identify good practice or emerging trends at the State level which can inform the national programme implementation. But equally, the State reports are meant to provide guidance to States; as such, States should be expected to report on what actions they have taken. A similar point applies to those recommendations that are directed towards the State governments which emerge from the Delhi-based JRMs, where follow-up actions by particular States are not identified in the ATR.

3.4. Third, the ATR from the 5th JRM has been reviewed in detail and the JRM's observations on each of the reported actions have been recorded (see Annexure to this Chapter). The JRM is pleased to note that with respect to about half of the recommendations, sufficient action has been taken to consider that the matter is closed. Where the JRM feels that additional action remains to be taken this is noted. The JRM intends to adopt this approach of documenting its review of the ATR as standard practice in future.

3.5. Bearing these caveats in mind, the following paragraphs identify some continuing themes.

3.6. **A focus on Quality**: It is not surprising that discussions of the quality of secondary education have been at the core of the work of successive JRMs (and we recommend that this should continue). After all, one of the stated objectives of the Abhiyan is to improve the quality of secondary education; and one of the major lessons from the implementation of the SSA is that its early implementation did not have a sufficient lens on the quality of elementary education. MHRD has emphasized throughout its implementation that RMSA should begin with addressing issues of poor quality.

3.7. Beyond these clear principles, however, much work is needed to develop a clear understanding of what quality means and, especially, how to improve it. In the absence of a national achievement survey in Class X and given the lack of uniformity of standards across State Board Examinations, the RMSA objective on quality is expressed in terms of inputs ('conformity with prescribed norms'), while, on the other hand, the 'quality interventions' reported to the JRM have been conceived in terms of teacher training, excursions and the like. And successive JRMs have noted the apparent lack of impact of the numerous training programmes on the actual practice of teachers in the classroom.

3.8. Fortunately, with the completion of NAS for Class X and the emergence of State level assessments (to the extent that they are of sufficient technical quality) the situation can change dramatically. (The ongoing Time on Task study will also add valuable evidence.) Proper analysis of the Class X NAS will enable States to understand not only what their

students know and can do, but also the extent to which some students have not been able to reach the expected standards. This can be followed up by SLAS to interrogate the 'where' and the 'why' of learning performance. This should enable States to develop quite different strategies for quality improvement from those proposed to date, which start from what students can and cannot do (rather than from assumed needs of schools and teachers).

3.9. A prerequisite will be for States to take advantage of the Class X data for their State, and there is also the opportunity to compare the NAS from Class VIII. Preparation of State-specific NAS reports would be immensely beneficial in this regard, to enable States to engage stakeholders in an evidence-based dialogue on how to improve the quality of education.

3.10. **Flexibility within the RMSA Programme**: The Programme as it is designed and implemented now necessarily has to apply the fixed norms. But some flexibility in implementation will make for better operational impact. Such flexibility, across wider parts of the Programme, would also encourage an outcome-orientation – with States determining how to achieve certain goals.

3.11. It is very likely that holistic and coherent strategies for improving student learning will require interventions other than those currently listed amongst the prescribed norms of the RMSA Programme related to 'quality interventions'. For example, evidence from India and other countries suggests that teacher training by itself will not generally change classroom practice (even assuming the training is well-designed in the first place): ongoing support at the school level and clear accountability are also required.

3.12. But flexibility should not be taken to mean that 'anything goes'. Proposed interventions which are outside the norms of the Programme should only be funded if they are based on articulation of the problem to be tackled, clear evidence that the proposed intervention is likely to be successful (for example, that it uses identified good practice), a careful and reasonable assessment of cost, and specific targets to be achieved against the existing baselines. The JRM would expect the MHRD to exercise its judgment as to whether States' proposals meet this standard.

3.13. The JRM notes that the general policy direction of the Government is that Centrally Sponsored Schemes should have 10 percent of 'flexi-funds'. To date, this has not been formalized within the RMSA Programme and the JRM believes now would be an appropriate time to pursue this. In this respect, greater use could be made of the Innovation Guidelines which already exist within the RMSA Programme but of which there appears to have been no take-up to date. These Guidelines provide the procedure for application and evaluation of proposals from States, with a focus on supporting innovative practice which is based on evidence of likely success and with monitoring arrangements. MHRD would need to consider how to allocate these 'flexi-funds' – options could include: (i) allowing States to define reasonable costs with clear evidence; or (ii) MHRD could indicate an amount of money per pupil, within which the States could design interventions.

3.14. **Linkages between different Centrally Sponsored Schemes and between elementary and secondary institutions and implementation structures**: Previous JRMs have noted that progress has been made in this area – for example, the PABs now consider SSA, RMSA and Teacher Education together (though sanctions and funding remain separate), and SSA agencies have in most States taken over the collection of UDISE data from both elementary and secondary (and upper secondary) schools. Some States have established a single Society for both programmes while others have appointed the same person as SPD for both programmes; though the actual impact of these changes has not been systematically measured. The SSA Society receives the data from secondary schools, enters it and uploads it into the UDISE database. The data is handed over to the RMSA Society, but due to lack

of resources the secondary education data is not being analyzed at the lower levels and resulting in a disempowering of the RMSA teams and a reduction in access to the data they need for their work. The JRM commends the practice of experienced SSA MIS units taking responsibility for collecting data from secondary schools; but they should see their function also to support data use across the school sector and in particular within the RMSA Society.

3.15. Successive JRMs have noted many areas in which further collaboration would seem to have potential for stronger implementation, such as in teacher training, conducting student assessment surveys, children with special needs and joint working across different Classes in composite schools. The repeated evidence made available to successive JRMs is that these opportunities are not being taken up.

3.16. **Identification, dissemination and adoption of good practice**: Previous JRMs have placed an emphasis on trying to identify good practice, both in their visits to States as well as in the presentations requested from GOI and State governments. And, not surprisingly, governments are keen to commend their respective practices to the JRMs. The Fifth JRM also noted that MHRD has started to develop a repository of good practice which has been placed in the Ministry's website and most States report that they are gathering good practice in different areas (for example, it is very common for States to have a database of lesson plans to guide teachers).

3.17. However, the JRM believes that much more needs to be done in this area. To begin with, GOI and State governments should be much more transparent about the processes they have used to identify good practice, the criteria used to validate that practice, the evidence of the impact of the practice and an understanding of *how* the practice achieved the demonstrated impact. It may be that MHRD would wish to provide some national guidance in this area. Beyond that, it is imperative that these good practices are disseminated in such a way that States and sub-state actors (especially schools) are able to understand and use (with any necessary adaptations). The JRM believes that funding under the RMSA Programme should specifically encourage the use of such identified and validated good practice.

3.18. **Improving the quality of data collection and increasing the use of data** (see also Chapter 6 below): The RMSA Programme implementers (GOI and State governments) now have an abundance of data available to them, and the AWP&B process is marked by extensive use of data for decision-making. And the quality of that data – primarily the UDISE dataset – has improved considerably over the years and the JRM has commended these achievements. Further, the availability of the Class X NAS student achievement data will fill an important gap in our understanding of the operation of secondary education in this country. Much progress has therefore been made in this area.

3.19. There remain, however, three broad areas of concern:

a. The focus should now be on improving the quality and timeliness of existing data collection methods rather than developing new ones. This applies to both national and State-level systems. For example, successive JRMs have noted the need for a detailed technical review of the schools covered by UDISE over the years (especially the transition from SEMIS to UDISE) to see the extent to which increases in enrolments are a function of additional schools and students and not simply greater coverage of existing schools. In addition, the guidance for the UDISE data capture format should be enhanced to document the operational standards of their facilities (what does a functioning toilet actually mean, for example). Similarly, State level assessments should be conducted only when they are carried out with technically sound assessment tools and with sufficient contextual data of students, schools and teachers so that conclusions can be drawn about why students are performing the way they are

within and across subjects, what might be done to improve their performance and future assessments can accurately measure student progress.

b. Data analysis remains rudimentary. Even the most data-rich States, for example, Karnataka which interacted with this JRM, agreed that they have not yet exploited the available data to develop effective strategies. In general, the presentations made to this JRM (as with previous JRMs) did not reveal any detailed analysis of data, especially to explain *why* observed data was as it was, or give a strategic response to the findings which linked closely and in detail to those findings. Instead, the actions proposed by States were sufficiently generic that they could have been written without gathering any additional data. Given the scale of the needs, it seems to the JRM that it is unreasonable to expect NUEPA to be able to carry out all the necessary training. The RMSA Programme therefore should provide funds for States to engage other suitable institutions (for example, universities, IIMs, companies etc.) who can provide training on data analysis and use; it may also be that NUEPA could be provided funds to outsource the necessary training. Finally, there is an urgent need for the data from UDISE and from the NAS to be made available online for all those who are able to carry out analyses.

c. Archiving and accessing data. The datasets being generated currently (especially UDISE and NAS) already contain valuable information, but that value will increase with each year as more trend analyses will become possible. But prerequisites for this additional value are secure maintenance of the datasets, clear and robust protocols for data verification and making the data available in the public domain. NCERT needs to establish a secure and publically available database and website for NAS data. In this respect it could learn from the strong progress made by NUEPA. While NUEPA should be encouraged to further develop its database and web interface strengthening the system interface and compatibility with other EMIS systems at State and national level. NCERT and NUEPA need to take action to create sustainable and accessible data systems.

3.20. **Low fund availability and utilization**: Each JRM has documented the inadequacy of funding for the ambitions of the Abhiyan and the slow rate of utilization of available funds; this Aide-Memoire makes the same points in later sections and highlights in particular the rates of completion of different activities under the Programme.

3.21. In the JRM's view, one of the major causes of low utilization is lack of staffing in State implementation units. The latest figures reported to this JRM show that only 7 States have filled more than 60 percent of the posts at both the SPO and the DPO levels against the total sanction at the respective State level. (The JRM has not determined whether the States' sanctions are sufficient to provide for effective implementation of the respective State programmes; even putting aside the fact that there are no cluster- or block-level teams supporting RMSA implementation.) It seems like little progress is being made in this regard: for example, though data is not directly comparable, data reported to the 2nd JRM showed 6 States had at that point more than 75 percent of vacancies filled at State and district levels). In this respect, also, the JRM is concerned that spending against the MMER allocations remains in the 65-75 percent range.

3.22. If staffing is increased sufficiently this would enable progress under the Programme to accelerate as required to reach the programme goals. As pointed out elsewhere in this Aide Memoire, staffing in particular is needed to improve planning, ensure adherence to the provisions of the Financial Management and Procurement Manual and give adequate support and capacity building for schools and teachers.

3.23. **Teacher shortages and their inequitable distribution across schools**: The need for adequate teachers (by subject) has been recognized from the start of the RMSA Programme and extensive approvals of salaries for newly recruited teachers have been made through successive PABs. However, the record of appointment against these approvals is disappointing (64 percent positions have been filled), with States' processes taking a long time. Moreover, previous JRMs have shown how the distribution of teachers across schools is not equitable; and this JRM re-emphasises the importance of focusing on the proportion of schools with at least one teacher in each core subject as the relevant indicator (rather than PTR), a key recommendation of the 5th JRM. There has been virtually no progress against this indicator, with 23.5 percent of State/UT government schools meeting this requirement against a baseline of 22.5 percent (and these figures, it is worth adding, only take into account that a school has one teacher; they do not take into account school size where more than one teacher in a given subject may be needed).

3.24. **Finally, we mention here some additional thoughts on vocational education**. While this has only been taken up in the last JRM in a detailed way, at that time a number of recommendations were made (and still remain pertinent). It is also a major priority of the Government and therefore is likely to be a significant element of the Programme going forward.

3.25. With 30 percent of India's 1.2 billion population below the age of 16, the JRM recognises the critical task of ensuring students graduate with the skills that equip them for productive lives and democratic citizenship. The introduction of vocational education subjects as options for study in secondary education is an important component in this challenge. Successive surveys in India (irrespective of industry) indicate that employers desire school graduates who have: basic numeracy, literacy and ICT skills along with problem solving, communication and team working ability. The JRM would like to emphasise the importance of focusing on these desired outcomes in a holistic manner – with both academic and vocational options contributing to the inculcation of these abilities in secondary graduates.

3.26. While the introduction of new vocational subjects is an exciting proposition, successive JRMs have noted the significant resourcing and staffing challenges associated with delivering the existing academic programme. It has also emphasised that the fundamental task of ensuring the majority of secondary students graduate with acceptable levels of numeracy and literacy has still to be achieved. Full appreciation of the existing challenged status of secondary education will be critical for successful expansion – be that in provision or delivery content.

3.27. In this regard, the JRM is pleased to note that the initial introduction of vocational education subjects was piloted in a small number of States and schools, and a review of the experience in 40 schools in Haryana was undertaken. Building on that experience, approval has been given for vocational subjects in 3,654 schools across 31 States/UTs. This seems to the JRM to be a very productive approach. This gives an opportunity to evaluate the broader scale introduction of vocational education across this larger number of States; and the JRM feels that these schools should be allowed to continue for two years to learn more about how to expand vocational education at a more rapid rate in the future. Therefore, a robust evaluation should be planned and put in place now so that after two years, the results can be analysed and the expansion of vocational education planned effectively.

Recommendations

Rec. 1. MHRD commission a longitudinal evaluation which tracks the impact of the introduction of vocational courses on the operation and learning performance of students in a representative sample of participating schools.

Rec. 2. MHRD may allocate 10 percent of programme funds as 'flexi-funds' with clear guidelines and procedures for their use, with encouragement for States to use proven good practice in their proposals for using these funds.

Annexure to Chapter 3

S.No	Recommendation	Current Status/Action Taken Report	Comments of JRM
1	Redouble efforts to ensure interrogation of available data including: sense checking of year on year trends and variances in performance within average figures and use of analysis to inform action. **(Recommendation 1)**	The annual plan appraisal is carried out on the basis of the UDISE data and any issue/variance is shared with the States. A package called U-analyse has been developed for generating various reports from the data related to trends and present status which is under testing. Some of the issues are also included in the State briefs uploaded on the State pages on RMSA website.	The JRM welcomes the development of U-analyse. This should enable the States and the GOI to project future progress towards the overall Abhiyan targets, and discuss these projections at the PAB. This recommendation is considered completed.
2	Consider the inclusion of safe transport schemes as an eligible RMSA expenditure. **(Recommendation 2)**	In the present framework of RMSA, providing transport to girl students is the responsibility of the States. Most of the States/ UTs are already providing transport facility by way of bicycles, bus passes, transport allowance etc to girl students.	The JRM clarified the recommendation from the previous JRM. The recommendation relates only to those situations in which a habitation is more than 5km away from a secondary school. The JRM believes that in these circumstances that States should be encouraged to seek alternative solutions to building new schools. These solutions, which might include transportation costs, should be supported by the Programme. The JRM requests that the GOI considers this recommendation.
3	Review the 20 percent special needs funding rule – promote a more needs based approach to remedial teaching in collaboration with the SSA programme. **(Recommendation 3)**	At present, the norm of 20 percent is being continued but it is being insisted that the remedial teaching should be based on State level assessment survey. Review of 20 percent norm at national level, will be undertaken after the National Assessment Survey is completed and findings are available.	The JRM welcomes the proposed review of the 20 percent norm. The provisional results from the Class X NAS presented to this JRM (as well as the Class VIII results already published) reveal that more than 20 percent of students are not meeting the expected levels of performance. The JRM will return to this issue at the next JRM.
4	The percentage of schools with the full complement of subject teachers should be a key performance indicator of the	For approval of teachers under RMSA, school is the unit of planning. However, for computing of this indicator, further possibilities will be explored in collaboration with NUEPA.	The percentage of schools with teachers in each core subject is already calculated by NUEPA (and is included in Results Framework Document). The JRM continues to believe that this indicator is more

	RMSA programme; this indicator should replace PTR. **(Recommendation 4)**		useful than the PTR as a measure of availability of teachers and therefore the basis for recruiting teachers and approving funding. The JRM welcomes the GOI views on this recommendation.
5	Request NCERT to develop a web based portal so that there is wide availability of NAS data and supporting information on how it can be used to inform remediation strategies. **(Recommendation 5)**	A meeting was held at TCA office on 25th May 2015 for development of NAS Website and developing an entire set of web pages for NAS was also discussed. NCERT has also initiated action towards data sharing by taking up a PAC approved activity under NAS (Class-X) (Fourth Cycle) of 'Development of a Protocol for Data Mining of National Achievement Survey (NAS) Cycle 3 Data and Tryout of the same'. Draft guidelines have been prepared and circulated among faculty of the Division before finalisation by the experts.	The JRM welcomes this progress. This action is considered completed, when the guidelines have been finalized and published.
6	NCERT should work more intensively with SCERTs (and other State level bodies as necessary) to understand the significance and the use of NAS data and to conduct robust State level assessments. **(Recommendation 6)**	The NCERT has conducted all the NAS cycles under SSA involving SCERTs and DIET faculty (both Teacher Educators and Teacher Trainees). All the Boards of School Education conducting Class -X public examinations have been involved in the conduct of NAS (Class-X) under RMSA. The NCERT had conducted about 75 capacity building programmes (of one month duration in two phases) for KRPs in States in the conduct of National Achievement Surveys during 2009-2012. Many of them are regularly associated as State Coordinators in different cycles of Achievement Survey at different grades. Besides, on the initiation of MHRD, academic support has been provided by NCERT in the conduct of two workshops	The Aide-Memoire of this JRM documents the need for continuing efforts in this direction. The JRM expects to return to this issue at subsequent JRMs.

		relating to the State Level Learning Achievement Survey (SLAS) during 2013-14. The NCERT also provides resource support to States in the conduct of NAS by sending resource persons from NCERT on the request of States subject to availability of faculty and suitability of time. Guides are also being developed to help in conducting NAS and SLAS smoothly.	
7	A thorough review of the use of ICT at the secondary stage, both for administrative and learning purposes should be carried out, with a view to identifying cost-effective and sustainable solutions. **(Recommendation 7)**	The scheme itself has a provision for 3rd party evaluation. As per the 3rd party evaluation reports received from the States, CIET has prepared an Interim report. Some revision has been carried out in the provisions under ICT with a focus to enhance the access point and to integrate IT based education in regular teaching and to give flexibility to States/ UTs to develop e-content.	The CIET report was shared with the JRM. The report is a summary of 10 State reports, which were, unfortunately, are of very mixed and uneven quality. The CIET report is labelled 'interim' but does not indicate what the next steps are. In the review of the JRM, there remains a need for a more robust evaluation of the use of ICT in secondary education; especially as it relates to improving the quality of education and student learning outcomes. As part of its continuing focus on quality, the JRM expects to take up these issues in future JRMs.
8	A Study is needed to understand why significant numbers of children are enrolling in class IX but not taking the examination in the following year, and whether this is an artifact of the data (That children are taken the exam at private schools in UDISE) or some other reasons	At national level, a study on "Drop out factors at Secondary Level" is under progress.	The JRM was informed that the study has not yet started. During discussions at the JRM, it was agreed that the scope of the proposed study should be expanded to investigate the extent of the phenomenon and to understand the multiple reasons why children are not taking the Class X examinations. The relative importance of these different reasons should be assessed. The JRM looks forward to reviewing the report at a

	(Recommendation 8)		subsequent JRM.
9	Monitor the amount of resources allocated for and spent on activities supporting quality improvement, beyond civil works and teacher and staff salaries. MHRD may consider whether to prescribe a minimum percentage of spending on these activities. **(Recommendation 9)**	The focus is gradually shifting from infrastructure to quality. In 2015-16, the percentage of outlay approved for quality oriented activities (such as teacher training, school leadership, focus on Science and Mathematics teaching etc.) is 22 percent which was 17 percent in 2013-14. In addition the infrastructure approved under RMSA also has provisions for enabling environment for quality education like integrated labs, computer room, library etc. Besides, teacher salary is also an integral part of efforts to improve quality. Funding of non-teaching staff has been stopped so as to focus on teaching staff.	This action is considered completed.
10	Consider commissioning a study of those students in Tamil Nadu who have come through the ABL and ALM approaches, to learn of their experiences in secondary education. **(Recommendation 10)**	NCERT completed curriculum study in five States during 2012-2013 and again curriculum study of another five States was completed during 2013-2014. In 2014-15, study of a set of seven States was completed along with building capacity of State curriculum developers. For this year curriculum study in Tamil Nadu has been undertaken by NCERT. The State of Tamil Nadu has given its approval for the workshop. The workshop is proposed to be conducted by RIE Mysore during September 2015.	The JRM clarified the recommendation. The JRM wishes to know whether students who experience ABL for elementary education are able to cope effectively with the teaching approaches in secondary education. This is not therefore primarily a question of the prescribed curriculum, but of the experience of children and their ability to complete secondary education successfully. If a problem is revealed, the JRM was agnostic as to whether this indicated that ABL in elementary needs changing or whether the teaching methodology (and examination) in secondary should be adjusted.
11	States should plan teacher training activities ahead of time so that they can be carried out in the first quarter of the FY; funding from RMSA for training should be able to be	The teacher training is an ongoing exercise which the States generally take up during vacations. Regarding funds for teacher training, these are part of recurring funds. The unspent balances of funds with the States are carried forward and spent in the next financial year by the State Implementation Societies.	The JRM welcomes this information that funding is available in the first quarter of the FY, should States wish to carry out teacher training during that period. This action is considered completed.

	carried forward so that it is available in the first quarter of the year. **(Recommendation 11)**		
12	Improving the process of the selection, preparation, performance and retention of the KRPs and master trainers needs to be given high priority. The CTEs and IASEs should be involved to support their professional development. A close engagement between teacher education institutions and in-service training providers will ensure effective delivery for quality professional development. **(Recommendation 12)**	MHRD through NCERT will be conducting five regional workshops with CTE. Two regional workshops are proposed in the month of September 2015. The workshops will be aimed at orientation, building institutional linkages and capacities for a more organized training set up for secondary teachers in States and UTs in partnership with CTEs. Principals of CTEs, Director SCERTs/ and SPDs/Nodal Officers for training in the State may be invited to these workshops. In the past 2-3 years a group of KRPs has already been developed by NCERT in the States of Himachal Pradesh, Bihar, Arunachal Pradesh, Haryana, Punjab, Goa, Meghalaya, Assam, Rajasthan, and J&K. List of KRPs is placed on the NCERT website. Guidelines for 10 day face-to-face training programmes have been developed for State Resource Group. This year SRG (108 members) has been created and trained in Madhya Pradesh in science and mathematics. In H.P. follow-up training of KRPs trained earlier has been taken up. Correspondence to conduct capacity building programmes for the SRGs of other States is being done by NCERT.	The JRM welcomes this information about the work of NCERT. In addition, however, the recommendation sought to emphasise the importance of understanding how KRPs are actually used, how much time they spend in their role as KRP, whether KRPs continue over a number of years, and whether there is any assessment of the performance of KRPs.
13	States should have systems for quality assurance and the supervisory personnel and school principals should also be trained on the new approaches	School Leadership Development programme launched in 2013-14 is aimed at building capacity of the School Headmasters / Principals on teaching approaches as well as management of school. Till date under the program training of 1334 SRG members and 17774 HMs has been approved	The JRM welcomes this progress, though notes that to date only 50 percent of the approved training has been completed. The JRM expects to return to this issue at

	to teaching, learning and assessment. **(Recommendation 13)**	for all States/UTs	subsequent JRMs.
14	Training should be needs based; this need assessment needs to look at a range of data including disaggregated performance on examinations and learning assessments but also observations of classroom practice. **(Recommendation 14)**	Time on Task Study for secondary schools has been planned by World Bank in collaboration with NCERT to improve classroom teaching in Mathematics, Science and Language in secondary education by examining the link between teaching practice and student performance and sharing of good teaching practices through video samples.	The JRM welcomes this progress and looks forward to reviewing the study report at a subsequent JRM.
15	Distance learning and technology should be utilized to supplement the in-service training for subject teachers. **(Recommendation 15)**	States like Maharashtra, Karnataka, Tamil Nadu, Punjab & Rajasthan are using EDUSAT or Distance Learning mode for training of teachers. Other States/UTs are also using Information Technology for teacher training.	The JRM considers that information about different States should include evidence about the effect/impact of different interventions. The JRM expects to return to this issue at subsequent JRMs.
16	States should be encouraged to use the NROER to develop and make available their State appropriate open educational resources for teachers, teacher educators and key resource persons. **(Recommendation 16)**	Currently NROER is having more than 20,000 digital resources in 29 languages including tribal languages, 1.26 lakh unique visitors. Core teams have been set up in States/UTs which organize State level activities for NROER. States like Kerala, A.P., Maharashtra, Gujarat, Bihar, Manipur, Tripura and Chandigarh are sharing their resources regularly.	The JRM welcomes this progress. This action is considered completed.
17	State should consider conduction a comprehensive review of their teacher management and development policies, systems and practices. Three State level reviews are required to analyse strengths and weaknesses in teacher	NCERT- RIE in partnership with RMSA – TCA has conducted a systems review of Teacher Management and development in the three States of Karnataka, Madhya Pradesh and Assam. RMSA –TCA is developing further support and resources for States in developing and improving their teacher management and development systems, which will be shared with all the States.	The JRM welcomed the discussion of the RMSA – TCA study during the JRM. Its recommendations are included elsewhere in the Aide Memoire. This action is considered completed.

	recruitment, deployment, transfer and professional development. This will form the basis for system strengthening and development of a coherent policy framework in the States **(Recommendation 17)**		
18	Teacher Deployment: At the secondary level, it important to prepare teacher vacancies based on disaggregation by subject requirements in each district,instead of using just the PTR norm. In addition, correlating date on teacher qualifications in specialist subjects, if available, with learning achievement date (NAS) at State level will provide a useful basis for reforms Strategies**.** **(Recommendation 18)**	The analysis as recommended will be undertaken after the findings of NAS are received.	The JRM looks forward to discussing these issues at subsequent JRMs as the NAS data is analysed. This action is considered completed.
19	A review of the Tamilnadu EMIS and other States that have undertaken works in this area will be useful to develop guidelines to set u up robust HRMIS systems in States **(Recommendation 19)**	Presentation is being made by Tamil Nadu in the 6th JRM on their Information Systems.	The JRM welcomed the chance to learn about the Tamil Nadu system and recommendations are included elsewhere in the Aide-Memoire. This action is considered completed.
20	Prior to any decision on the future of VE in secondary education an evidence-driven debate be undertaken that	A pilot on the scheme was launched in Haryana across 40 schools in 8 districts covering 4908 students in September, 2012. As a result of the learnings from the pilot the scheme was revised. The expansion in the scheme is in line with the	

	recognises the financial, social and academic 'trade off's' that introducing optional vocational education in grades 9 and 10 for all schools would entail. GOI should treat its current support of vocational education as a large scale pilot. A rigorous third party review covering analysis of impact, cost effectiveness and implementation challenges may be conducted to inform any future decision making before more schools are included. This review might include a number of issues. **(Recommendation 21)**	National Skill Policy 2015 which States that Skilling needs should be integrated into formal education by introducing vocational training linked to the local economy from class nine onwards .	
21	Key aspects of the operationalization of the current pilot be reviewed and where necessary clarified with additional guidance **(Recommendation 22)**	Operational/implementation guidelines for Vocational Education were prepared and shared with all the States. All the key aspects of operationalisation viz. staffing, physical resources, assessment and certification are provided in the financial norms under vocational education. The vocational courses are being offered on the basis of skill gap analysis and demands of the State. Courses are introduced on need basis. Physical Education courses were introduced on demand from the State of Haryana. Courses in Health care and Agriculture were introduced on demand from State of Himachal Pradesh and Chhattisgarh. Tourism courses were introduced in North Eastern States. In order to facilitate vertical and horizontal mobility of	

		learners both within vocational education and vocational training and among vocational education, skill training, general education and technical education, the Document on Credit Framework named SAMVAY (Skill Assessment Matrix for Vocational Advancement of Youth) for competency based skills and vocational education under National Skills Qualification Framework has been formalised. It can be suitably adapted and adopted by the States / UTs. States of Haryana, Himachal Pradesh, Arunachal, Assam, Chandigarh, Karnataka, Sikkim, Maharashtra, West Bengal, Chhattisgarh, Delhi, Goa ,Madhya Pradesh, Punjab & Rajasthan have operationalised the vocational courses in schools. Few States like Kerala, Lakshadweep, Manipur, Mizoram etc have yet to take action on this recommendation.	
22	A mechanism to encourage, support, catalyse innovations / newer choices for VE trades in States and even in individual schools so as to make the programme community owned, community driven and help realise the community's own needs and aspirations. **(Recommendation 23)**	The existing School Management/Development Committees (SMDC) are involved in smooth implementation of vocational courses in schools, as per approved standards and guidelines. The committee is involved in assisting and advising the school in selection of vocational courses, mobilizing parents, providing guidance and counseling to the students, creating awareness about vocational education, procurement of tools , raw materials etc at the school level . It also facilitates setting up of student support systems and helps the school in forging linkages with the industry and student placement for training and employment. The committee is also involved in monitoring the implementation of the courses, fund utilization, quality of training imparted etc. SMDC are also encouraged to invite representatives	

		from the industry for each of the vocation being offered by the school. Teachers/skill trainers, guest faculty of the school and one student representative from each vocational course is also encouraged to be associated with the committee.	
23	Convention suggests that the most effective VE is done in close partnership with the private sector – this is a completely new way of working for many State governments and a degree of suspicion could be expected on both sides. As such support and guidance on how to broker good relationships with the private sector – e.g. engaging with FICCI or local chamber of commerce branches could be considered**.** **(Recommendation 24)**	The scheme has in built provisions for greater involvement of industry in design, delivery and assessment of skills of the students. The Sector Skill Councils are being involved in the design and development of curricula and courseware. Industry coordinators at the State level seek to facilitate sourcing experts and Resource Persons from the industry and for arranging hands on training for students in industrial set up. The industry is also being involved in assessment of skill sets of the students in conjunction with State Board of Education by way of provision of assessors.	
24	The State would do well to think ahead and plan for linkages with industry and local markets to enable attachment / on the job training opportunities; the range of courses / trades suitable and feasible in its geographies; establish linkages with other institutions / authorities to enable affiliation, availability of courses at the next levels, accreditation, mobility to and	States of Himachal Pradesh, Haryana, Karnataka, Madhya Pradesh have entered into a Memorandum of Understanding (MoU) with NSDC for industry linkages. State of Haryana has appointed vocational coordinators at district level for coordinating with industries. States like Arunachal, Assam, Bihar, DNH, D&D, Chandigarh, Gujarat, J&K, Sikkim, Tamilnadu, Maharashtra, Orissa, UP, Uttarakhand , Chhattisgarh etc have identified courses which has job/trade opportunity in the State. The linkage with industries/institutions is under process in the form of MoUs with registered training partners or Sector Skill Councils of various industry sectors.	

	between courses, equivalence, etc. **(Recommendation 25)**	Tamilnadu has not adopted NSQF programme till date. Few States like Kerala, Lakshadweep, Manipur, Mizoram have not taken any action on this recommendation.	
25	The scheme suggests that schools offering vocational courses may also serve as Accredited Vocational Education and Training Centers of National Institute of Open Schooling (NIOS). States can use this opportunity to map out of school children and provide VE options to these children, perhaps outside the regular school schedules. The availability of qualified resource teachers and the infrastructure would be better utilised. **(Recommendation 26)**	Most of the States are in nascent stage with regard to implementation of VE at secondary level. The objective of the Vocational Education in schools component is to mainstream Vocational Education alongwith formal education. However, NIOS has entered into MoU with NSDC and is offering NSQF compliant vocational courses.	Following further discussion, the JRM agreed that is premature to consider schools as accrediting centres.
26	Placement of the children dropping out of the system at different levels (1-4) would go a long way in establishing the principles envisaged and the credibility of the scheme. A suitable mechanism to promote placement and simultaneously track the students would go a long way in establishing the programme as a desirable	Most of the States have done an agreement with Industry or MOU with NSDC Vocational Training Providers (VTPs) to make 70 percent placement of the students those who have interest to opt for employment after the 4th Level.	

	option. (**Recommendation 27**)		
27	The remoteness of the schools and weaknesses in capacity will lead to uneven implementations. The establishment of a sound monitoring and resource support mechanism will help evaluate the implementation and make suitable corrections**.** **(Recommendation 28)**	State of Karnataka monitors through Deputy Director of Public Instruction (DDPI)/Deputy Project Coordinator (DyPC) in coordination with NSDC VTPs. State of Uttarakhand has envisaged developing a web based portal which would provide monitoring support.	
28	States may encourage stakeholder participation and need assessment at the local levels to make informed choices of VE courses. States may also establish a flexible system, which allows the addition of new options and the discontinuance of existing ones. **(Recommendation 29)**	State of Karnataka has involved students, teachers, parents, industrialists, SMDC, NSDC, VTPs, SSCs in implementation of program. State of Sikkim has taken several steps to encourage stakeholder participation and need assessment at local level.	
29	Centrally designed course curricula may need local adaptations. States may create local capacities and validation mechanisms to make the courses more relevant to their needs. The involvement of local industry / market in the process is also desirable. **(Recommendation 30)**	States of Haryana, Himachal Pradesh, Arunachal, Assam, Chandigarh, Karnataka, Sikkim, Maharashtra, West Bengal, Chhattisgarh, Delhi, Goa, Madhya Pradesh, Punjab and Rajasthan follow the modular curriculum prepared by PSSCIVE in consultation with Industry. Delhi and Chandigarh have adopted curricula being offered by CBSE.	The JRM was informed that to date no state has requested a curriculum adaptation from PSSCIVE. The JRM considers this unfortunate since the diversity of job markets and economic conditions across the country means that different curricula are needed in different places. Mobility can be facilitated by the fact that each curriculum will meet national standards.
30	The achievement of the students in the course, particularly their skills would require special	The competencies acquired at each level are assessed and certified by the Awarding Bodies i.e. the concerned National and State Education Boards to which the schools are	

	assessment techniques, beyond normal examination routines. States will have to identify personnel and mechanisms for the purpose. Involvement of qualified professionals in the process would also be desirable. **(Recommendation 31)**	affiliated, with the involvement of Sector Skill Councils. If the SSCs are not in place, industry associations /employers are associated. The results and the credits received therein are collated by the Awarding Body with the assessment and certification of the theoretical component of the syllabi assessed in the educational institution and the skill proficiency assessed in association with the industry/SSCs. The skills being duly assessed by SSCs/industry are recognized and accepted by industry and prospective employers. Guidelines for competency based assessment and certification of students is provided by PSSCIVE, Bhopal, to be adapted by the concerned State Boards. It provides for weightage of marks for skill and theory components, minimum qualifying benchmarks, duration and design of exams, modalities of internal and external assessment of theory and skills, qualification of assessors etc. Internal assessment of the performance of students is done by the school in a continuous comprehensive manner. The National /State Boards conduct external competency based assessment of skills of the students in collaboration with the concerned Sector Skill Council/industry/employer.	
31	MHRD should facilitate States to use the provision for supplementary fields, and this should be part of the work NUEPA does in capacity building for planning. **(Recommendation 32)**	NUEPA imparts training to States in this regard during training workshops organized on UDISE. 26 States are already using this feature available in UDISE.	This issue is discussed in more detail in other places in the Aide-Memoire. This action is considered completed.
32	State-level report cards, based on the Results Framework	Under Rashtriya Madhyamik Shiksha Abhiyan (RMSA), U-DISE database is mandatory at State level for preparing	The JRM clarified that the recommendation relates to the need for States to monitor the same

	prepared by NUEPA at the national level, should be used to monitor the progress of RMSA implementation and be a key input into the AWPB and PAB processes. **(Recommendation 33)**	annual plans (AWP&B) and also to verify and appraise the State/UT plans.	indicators as the national programme (and not just collect data). During the discussion, it was agreed that States should develop State-level Results Framework Documents and these would be a key document underpinning the AWP&B process.
33	MHRD should move forward in establishing a national agency for education statistics. In the meantime, NUEPA should work with a small number of States to expand the use of UDISE by include other datasets in its (such as HRMIS and student data) so as to understand the issues if all States were to adopt the UDISE architecture for all their educational datasets. **(Recommendation 34)**	The collection of Education Statistics, which was earlier being done by the Ministry, is now being done by NUEPA, which is an autonomous organisation. There does not seem to be any need for establishing a separate National Agency for this purpose. If need be, the existing department dealing with statistics in NUEPA can be strengthened.	The JRM was informed that MHRD has decided not to pursue a separate agency, but instead to strengthen NUEPA capacities. This action is considered completed.
34	NUEPA should publish analyses of the UDISE data on particular themes each year as part of its publication of tables on education data drawn from the UDISE system. As necessary, NUEPA can commission these thematic analyses. **(Recommendation 35)**	Based on U-DISE data, for the year a set of 13 publications are being disseminated each year (see www.dise.in) by NUEPA. For future publication, themes will be explored jointly with NUEPA with support of TSG.	The JRM welcomed this information. It recommends that the themes to be explored in future reports should be discussed with MHRD so that key issues of policy concern can be explored. This recommendation is considered completed.
35	NUEPA may carry out a review of the year-on-year comparability of the data, including both use of data from	U-DISE data on more than 150 parameters every year is being disseminated through Flash Statistics and the same covers a period of three years. The data provides indication about progress made on different aspects of secondary	The JRM clarified that the need is to investigate the extent to which increases in enrolment reported in the Flash Statistics (and other reports) are due to new students attending secondary education, as

	UDISE and future data collection cycles, and publish its findings. This had been recommended in second JRM as well. **(Recommendation 36)**	education. However, further analysis of the same will be explored.	opposed to previously-existing schools only now being included in the database. A related issue is the extent to which there are different practices across States for numbering schools upgraded under RMSA. During the discussion, NUEPA also indicated that the introduction by some States of child-tracking systems has led to an improvement in the quality of the data. The JRM therefore reiterates its request for NUEPA to carry or commission technical reviews of the database to identify the ways in which the quality of the data has been improved and therefore any adjustments that might be needed to previous years' reported data.
36	NUEPA should review the findings of the external agencies which have conducted the 5 percent sample checks in different States to determine if there are systemic issues which need addressing. **(Recommendation 37)**	Despite repeated efforts, all the States have not conducted 5 percent random sample checking of data. State reports are summarized (www.dise.in) which gives information about variables where discrepancy has been observed and the same has been shared with the States with a request to take corrective measures in the light of findings of 5 percent random checking of data.	The JRM was disappointed to learn the relatively few States that have completed the required 5 percent check. During discussions, the JRM further recommended that State releases should be held pending satisfactory completion of the 5 percent check. In addition, it was agreed that the raw data should be made available on the UDISE website so that others can correct sources of error.
37	Workshops for capacity building should be organized around key issues. **(Recommendation 38)**	Regional Workshops will be held during the year on how to use data for AWP&B and related issues.	The JRM expects to return to this issue in subsequent JRMs. This recommendation is considered completed.
38	State must invest on building capacities across the system - beginning at the school level, to realize the importance of data	Most of the States agree on the said recommendation and have undertaken workshop/capacity building programme for School (HM), Block, District and State level personnel on importance of UDISE data, data analysis by NUEPA.	The JRM expects to return to this issue in subsequent JRMs. This recommendation is considered completed.

	for decision making. **(Recommendation 39)**	Training on UDISE is part of in-service training of Principals/officials.	
39	The generation of school level, block and district level compilations and report cards is recommended, so as to increase the use of data for programme implementation. The formation of community resource groups, consisting of groups of head teachers, educators and other professionals, will also help in this regard. **(Recommendation 40)**	Most of the States are directly collecting UDISE data as per Data Capture Format developed by NUEPA, which is compiled and validated at district level. The data is then validated and analysed and report cards are generated at different levels. Head teachers, teacher educators and UDISE personnel are involved in the process Chandigarh, DNH, D&D, Karnataka, Manipur, MP, Orissa, UP, Uttarakhand and Tamilnadu provides School Report Cards to every school for display at prominent place for community awareness and is published on the school notice board every year and is circulated to every school. The State of Punjab has made school level report cards available on the web for open use. Also, the school Reports cards are readily available on the school GIS platform.	The JRM welcomes this information. This recommendation is considered completed.
40	Universal participation of schools in data contribution should be ensured. Legal and regulatory mechanisms should be invoked to include all schools, gaps systematically identified and appropriate enablers put in place.**(Recommendation 41)**	All States/UTs, cover all their schools under UDISE survey and continuous efforts are being made for universal participation. State of Maharashtra has recently launched an e-governance project (SARAL) in-line with the UDISE database for building schools, staff & students on regular basis.	During discussions, and on further reflection, the JRM recommended that legal sanctions are unlikely to be successful; indeed, may reduce participation. Instead, participation in data collection should be encouraged by identifying benefits to schools in doing so. This recommendation is considered completed.
41	The differences between UDISE expected fields, its	The primary responsibility of data collection lies with the States. DCF Guidelines as well as FAQs have been	The JRM reiterates the points about that: (a) releases should be held pending completion of the 5

	understanding by school functionaries and the different typology the State uses in some cases has resulted in erroneous or vague reporting. An expert comparison of the data capture template, an articulation of an operations manual and orienting school and other functionaries to enhance data check and quality of reporting. **(Recommendation 42)**	developed and shared with States and made available at www.dise.in. The quality of reporting is also reflected in 5 percent random sample checking of data available at www.dise.in. Over time the discrepancies have reduced significantly. Further, laying of emphasis on UDISE for planning interventions under the scheme has led to improvement in the quality of reporting.	percent data check; and (b) reviews of the quality of the database should be carried out. This recommendation is considered completed.
42	MHRD may encourage the States to put a robust procurement planning system in operation and if necessary, to render professional assistance by hand holding and involving all procurement agencies like PWD, external agencies (like Amtron in Assam) etc. **(Recommendation 43)**	The Manual on Financial Management and Procurement lays down the provisions for procurement. In view of integration of schemes under RMSA, the manual is being revised this year to include provision for all the schemes.	The JRM welcomes this progress. The revision of the Manual needs to be carried expeditiously so that States can operate under the new procedures. The appropriate consultation with the Development Partners is also needed. The JRM looks forward confirmation that the necessary revisions have been completed and the Manual circulated to States prior to the next JRM.
43	MHRD may expedite the process of independent post procurement review of contracts at the earliest. **(Recommendation 44)**	The status is as follows: 1st EOI was issued on 30th July 2014 with last date as 27th August 2014. Response was received from 7 agencies. 5 agencies were shortlisted for issuance of RFP with last date for submission as 12th November 2014. Only 2 agencies submitted their bid. Due to less number of bids, the EOI was again published with last date of receipt as 26th December 2014. Thereafter, 6 agencies were found suitable for issuance of RFP. 4 agencies submitted the RFP. The technical evaluation was completed on 29th April 2015 and financial bid was opened on 22nd May 2015. The agency has been shortlisted by the evaluation committee. The work	The JRM welcomes this progress and looks forward to reviewing the report at the next JRM.

		is likely to be started soon.	
44	The internal control system for monitoring of advances needs to be strengthened. **(Recommendation 45)**	State of Kerala, Manipur and Tamilnadu have strengthened their system of monitoring of advances in an effective manner. The State of MP has developed internal control system through Google drive as well as account transaction viewing facility. State of Uttrakhand has developed a hierarchical system of internal audit through SPO, DPO. The state project office has a strong monitoring mechanism through SPD/FC at the district level, DPOs along with AAO. The UTs of DNH, D&D, GOA & States of Delhi, Maharashtra, Punjab, Sikkim, Lakshadweep and J&K have not made much progress to strengthen the Internal Control System.	The JRM notes this progress. Evidence of improvement of the systems in Kerala, Manipur and Tamil Nadu systems should be collected and disseminated for other States.
45	RMSA has attained maturity and time has come for a mid-term financial review of the programme by domain experts from the area of government finance and accounting systems (such as the IA&AD) under the guidance of MHRD. This will help ensure mid-course correction for system improvement for better utilisation of the scarce resources. **(Recommendation 46)**	The matter will be taken up with office of CAG/independent external auditors for conducting a mid- term financial review of the scheme.	The JRM welcomes this proposal, but notes that the study has not yet been initiated. The JRM looks forward to the opportunity to discuss the report at the next JRM.

46	Conduct intense training of SIS, District units and SMDCs on compliance with the FM&P Manual. **(Recommendation 47)**	6 regional workshops on Finance are scheduled to be held in 2015-16.	The JRM notes this action. This recommendation is considered completed.
47	Conduct internal audit to assess compliance with FM&P Manual and target training based on audit findings. **(Recommendation 48)**	At least 16 States have reported to be conducting Internal Audit either in-house or through engaging CA. Most of the State Implementing Societies are employing State Accounts Services personnel who ensure compliance with FM & P manuals alongwith the State Financial Rules. Besides, annual statutory audits of the Societies are being carried out regularly.	This recommendation is considered completed.
48	Hold a workshop with external auditors (signing partners of audit firms) before the start of audit for FY 14-15 to discuss issues pertaining to audit quality observed in prior years and to explain expectations based on the Audit Terms of Reference. **(Recommendation 49)**	In view of change in the funds disbursal pattern since 2014-15, the audit reports of SIS are now to be laid in the State legislature.	The JRM notes that it has been agreed between the MHRD and the World Bank that workshops for external auditors will be conducted, in order to improve the quality of the statutory audits. This recommendation is considered completed.
49	Submit reports, by end March 2015, regarding clarification/remedial actions taken to address audit observations reported in Audit Reports of SIS for FY 12-13 to the Development partners so that the stakeholders get an assurance that the audit observations are being attended to. **(Recommendation 50)**	Copy of some of the letters sent by MHRD and replies received from States was shared with DPs during the 5th JRM.	The JRM notes that the documentation to date provided from the States simply indicated that they proposed to take action. MHRD should follow up with each State to ensure that action is in fact taken and then States can report the action that they have taken. The JRM looks forward to reviewing the actions taken at the next JRM.

50	Reconcile unaudited expenditures reported in IUFRs with audited expenditure and include such Reconciliation statements in the Annual Financial Statements. **(Recommendation 51)**	This is part of the Interim Financial Reports (IFRs) submitted.	This issue will be taken up during the workshop pursuant to recommendation #49 above.
51	States to ensure effective monitoring mechanisms at all levels. With more delegation of financial powers to SMDC, it is important that States should strengthen support at the district level with technical resource person to supervise, monitor and offer hand-holding technical support to SMDCs for civil works supervision. **(Recommendation 52)**	Most of the States have put some system in place for supervision of civil works. Some of the initiatives are deployment of technical persons at district level who help SMDC in supervision of civil works, capacity building of SMDC members, using the resources of RMSA, preparation of financial and procurement guidelines for SMDC.	The JRM expects to return to this issue in subsequent JRMs. This recommendation is considered completed.
52	At the State level a good team of financial experts should manage the finance division. The States may use the services of the officers of State finance and accounts services at various levels or explore the possibility of engaging retired officers from IA&AD or Finance Department on contractual terms **(Recommendation 53)**	In most of the States, Finance Controller is an officer deputed from Finance department of State Finance & Account Department. Some of the States have common Finance Controller for SSA and RMSA.	The JRM expects to return to this issue in subsequent JRMs. This recommendation is considered completed.
53	A professionally managed internal audit system should be in place without further delay	At the national level, the Internal Finance Division (IFD) acts as an internal auditor as it exercises all necessary checks before releasing funds.	The JRM expects to return to this issue in subsequent JRMs.

	either in-house or outsourced. The internal audit reports should be examined seriously and corrective actions taken to improve the systems of financial management. **(Recommendation 54)**		This recommendation is considered completed.

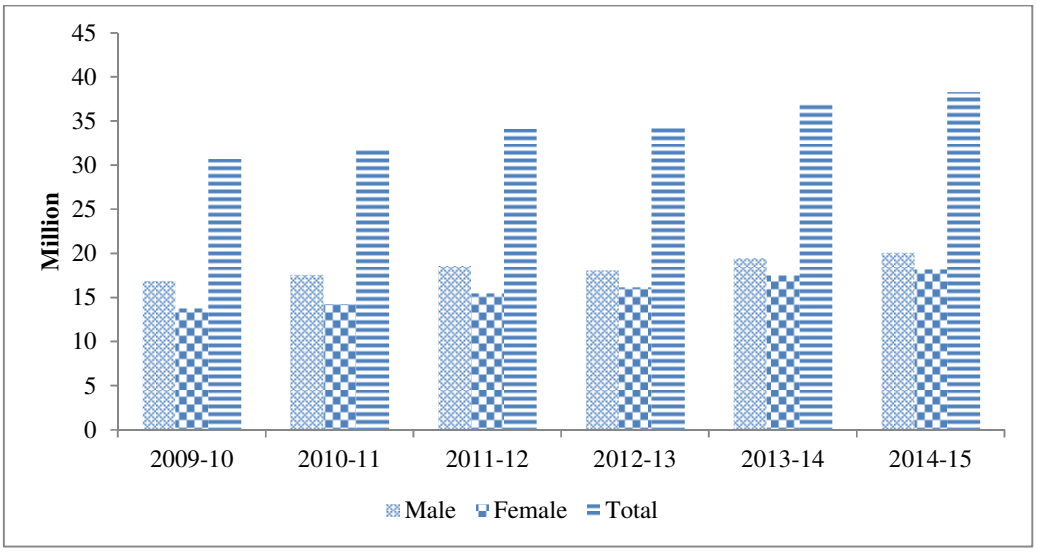
4. Progress towards RMSA Goals

4.1. The **Rashtriya Madhyamik Shiksha Abhiyan** (RMSA) aims at making secondary education of good quality available, accessible and affordable to all young persons. The RMSA seeks to: (i) improve access to good quality secondary schooling, (ii) bridge gender and social gaps; and (iii) ensure that all enrolled children are retained in education system.

Goal 1: To improve access to secondary schooling

4.2. **Overall there has been substantial growth in enrolment in secondary education in the country, which now stands at 38.3 million across all secondary schools.** Total enrolment for Grades IX and X has increased from a 2009-10 baseline of 30.7 million students, to 38.3 million students in the academic year 2014-15 (Figure 1). This represents a 24.8 percent increase over the baseline in a five-year period.

Figure 1. Enrolment in Secondary Education, 2009-10 to 2014-15



Source: Statistics of School Education, MHRD for years to 2011-12; UDISE, NUEPA
Note: SEMIS data for 2009-10 gives an enrolment figure of 28.3 million, which implies an increase of 35.3 percent to present day.

4.3. **There has also been impressive growth in enrolment in secondary education in all the States/UTs.** Enrolment in secondary education recorded substantial increase in the States of Jharkhand (105 percent), Sikkim (102 percent), Dadra & Nagar Haveli (87 percent), Chhattisgarh (85 percent) and Bihar (81 percent). In some States/UTs this increase may be attributed to an increase in the coverage of the private-aided and private-unaided schools. Between 2010-11 and 2014-15, the number of students in government-managed schools declined by about 1.1 percent.

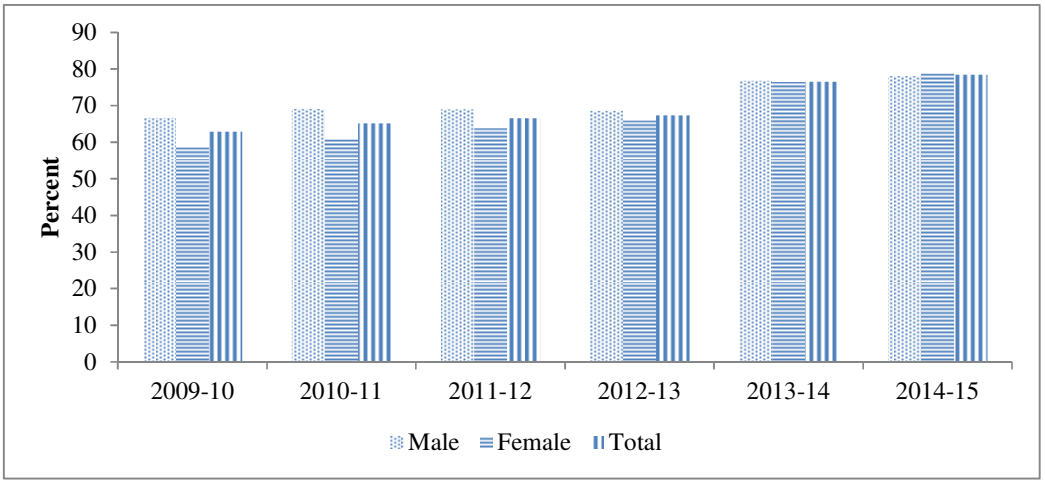
4.4. In terms of actual enrolment, several States have reported recent falling enrolment. As highlighted elsewhere in this report, demographic trends point towards patterns of declining

future enrolment as the secondary school-aged cohorts that are expected to pass through the system reduce in number, reflecting patterns already seen at primary level. As also noted elsewhere, this has implications for potential future over-capacity.

4.5. Additionally, some States have now begun introducing and recording enrolment on the basis of unique pupil numbering systems: identifiers that stay with an individual on a lifetime basis. Practices such as these are helping to make reported data more accurate. Madhya Pradesh reported to the JRM that it had reduced enrolments by about 14 lakhs because of their improvement systems. This is warmly welcomed, and the JRM encourages all States to undertaken similar exercises.

4.6. **There has been steady improvement in the Gross Enrolment Ratio (GER).** The national average GER increased by 15.6 percentage points (from 62.9 percent in 2009-10 to 78.5 percent in 2014-15) (Figure 2). While in all States/UTs the GERs increased, 15 States/UTs recorded a GER of over 100 percent during the year 2014-15. These include Chhattisgarh, Delhi, Goa, Himachal Pradesh, Kerala, Lakshadweep, Mizoram, Sikkim, and Tripura. Six States recorded GERs between 90 percent (the RMSA target) and 96 percent. These include A & N Islands, Arunachal Pradesh, Manipur, Puducherry, Tamil Nadu, and Uttarakhand. However, progress has been slow in some States/UTs. The States/UTs that recorded a GER of less than 75 percent include Andhra Pradesh (72.4 percent), Assam (74.8 percent), Bihar (69.1 percent), Daman & Diu (73.9 percent), Gujarat (74.3 percent), Jammu & Kashmir (66 percent), Jharkhand (71.9 percent), Nagaland (64.5 percent) and Uttar Pradesh (67.8 percent).

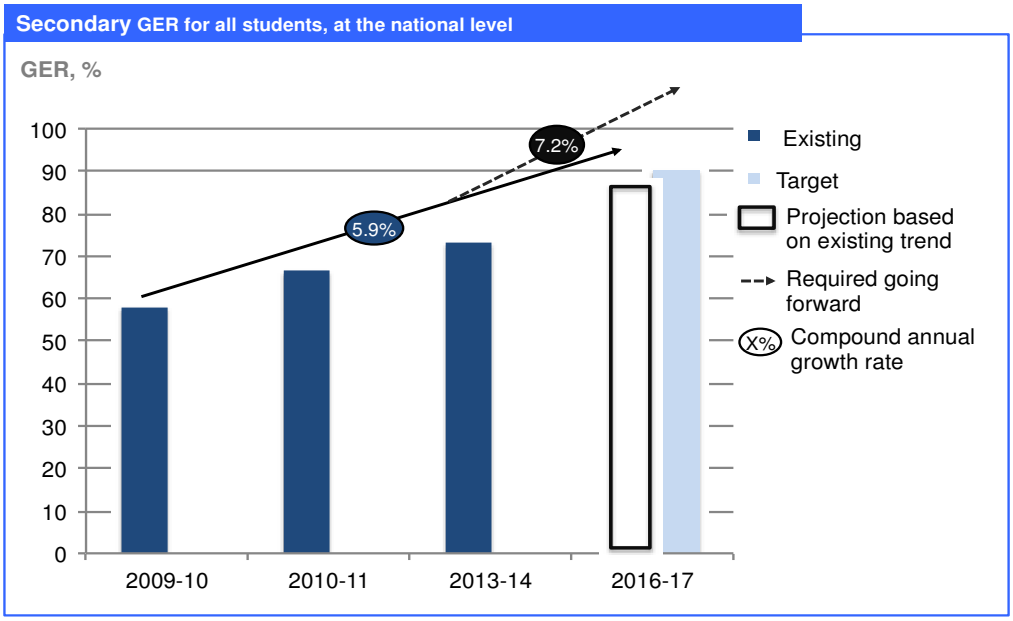
Figure 2. Gross Enrolment Ratio (GER) (2009-10 to 2014-15)



Source: Statistics of School Education, MHRD; UDISE, NUEPA

4.7. **The Programme target of a national GER of 90 percent by 2017 is unlikely to be met.** Progress since the 2009-10 has been at an impressive rate of 5.9 percentage point increases per year (**Figure-3**). However, this rate will need to increase to 7.2 percent for the remaining period for the target to be reached. Moreover, according to an analysis by the World Bank shared with the JRM, only 3 States and 4 UTs are on track for achieving RMSA targets on enrolment and retention; 11 States are lagging behind on both.

Figure 3. Secondary GER, Trends and Target



Source: Calculations by World Bank from UDISE raw data for existing trend, Results Framework Document for 2009-10 baseline.

4.8. **The priority should therefore continue to be on expanding enrolment in existing secondary schools in order to accelerate increases in GER.** This means providing additional classrooms, laboratories and teachers so that maximum use can be made of existing infrastructure. RMSA only vary rarely approves new stand-alone schools; instead mostly up-gradation of upper primary schools takes place. But even if all the currently-approved schools were completed and made operational, this would add only about 150,000 additional students (given the average size of new schools established under RMSA). Given that there are already more than 30 million secondary school students, these additional students in new schools would not shift the trend line significantly. Clearly, new schools have a place in some locations, but it should be realized that they do not increase enrolments very significantly. Therefore a preferable strategy would be expand existing schools, by building additional classrooms, laboratories, libraries etc.; and greater attention should be given to complete these investments that have already been sanctioned. And attention is solely needed given the slow rate of completion of the activities as documented elsewhere in this Aide Memoire.

4.9. **The Net Enrolment Ratio (NER) has improved but the gap between GER and NER continues to increase.** The NER has increased from 41.90 percent in 2012-13 to 48.46 percent in 2014-15. NER rates for boys and girls are more or less equal (48.11 for boys; 48.87 for girls). However, the difference between NER and GER for India as a whole has increased from 26.23 percentage points in 2012-13 to 30.05 percentage points in 2014-15. This means that there continue to be a large number of children who are not in the expected age (14 or 15 years old) in secondary education. Further analysis is needed to understand whether the majority of these students are over-age (i.e., have not progressed through the system at the rate expected) or under-age (in some States, entry into elementary education is at a younger age than 6 years old). It should also be noted that most States (24 in number) show a widening gap between NER and GER over this period (those with a negative number in Table 1); compared to 11 States who have managed to narrow the gap.

Table 1. Trend in difference between GER and NER, 2012-13 to 2014-15

A&N Islands	20.00	Lakshadweep	-3.49
Arunachal Pradesh	-3.47	Madhya Pradesh	-2.98
Assam	-2.62	Maharashtra	-1.86
Bihar	-7.56	Manipur	-0.32
Chandigarh	10.07	Meghalaya	-11.96
Chhattisgarh	-1.42	Mizoram	-5.54
Dadra & Nagra Haveli	0.76	Nagaland	4.02
Daman & Diu	6.35	Odisha	-16.62
Delhi	1.53	Puducherry	-1.38
Goa	4.72	Punjab	1.88
Gujarat	-3.92	Rajasthan	-3.09
Haryana	1.55	Sikkim	-19.53
Himachal Pradesh	2.56	Tamil Nadu	2.66
Jammu & Kashmir	-0.83	Tripura	-2.51
Jharkhand	-4.63	Uttar Pradesh	-3.26
Karnataka	-8.30	Uttarakhand	-4.14
Kerala	-3.05	West Bengal	-5.47
All India -3.82			

Source: JRM calculations based on data from *Secondary Flash Statistics 2014-15* and *Secondary Flash Statistics 2012-13*

Notes: (1) Figures for **Andhra Pradesh** and **Telangana** are not available over this period. (2) A negative number means that the gap between NER and GER has increased over the period.

4.10. **The adjusted net enrolment ratio (ANER) remains low at 55.9 percent.** The national secondary education Adjusted Net Enrolment Ratio (ANER)[1] during the academic year 2014-15 was only 55.9 percent (55.5 percent for boys and 56.3 percent for girls). Eight States/UTs recorded an ANER of over 80 percent. These are: Delhi (81.2 percent), Goa (82.2 percent), Himachal Pradesh (82.2 percent), Kerala (84.6 percent), Lakshadweep (93.8 percent), Manipur (80.6 percent), Tamil Nadu (81.2 percent) and Tripura (89.3 percent). The States/UTs that recorded an ANER less than 50 percent include Bihar (45.4 percent), Madhya Pradesh (46 percent) Meghalaya (45.1 percent), Nagaland (41.5 percent), Odisha (50.9), Rajasthan (45.4 percent), Sikkim (35.7 percent), and Uttar Pradesh (50.3 percent).

4.11. **These trends suggest that the RMSA Programme may consider monitoring both Gross and Net Enrolment Ratios.** This would also bring India in line with international data collection systems. This focus on net enrolment is to ensure that attention is paid to getting children of the appropriate age into secondary education. This should not, however, be seen to imply a neglect of children who have not been able to complete secondary education in due time, especially those who are over-age. Given the challenges that secondary schools already face to support the learning achievement of secondary age children, the particular needs of over-age children are unlikely to be fully met by them re-entering secondary education in

[1] The Adjusted Net Enrolment Ratio in secondary education is the total number of students of the official secondary school-age group who are enrolled in secondary and higher secondary education, expressed as a percentage of the corresponding secondary school-age population. The key difference between NER and ANER is that ANER includes children of secondary school age who are enrolled in higher secondary education. When the ANER is compared with the GER, the difference between the two highlights the incidence of over-aged enrolment.

secondary schools. Instead, it may be more effective for these students – who have a wide variety of needs because of the heterogeneity of their schooling experiences or lack of schooling – to be encouraged to enroll in open schools or in industrial training institutions to complete secondary education. The need for these alternative schooling options will reduce over time as the NER increases. This is an issue which might be a focus theme in a future JRM.

4.12. **The national average transition rate from elementary to secondary education declined marginally from 91.95 in 2012-13 to 91.58 in 2013-14**: The national average transition rate was 93.8 percent for boys and 89.3 percent for girls. Ten States/UTs recorded a transition rate of more than 95 percent. These are: Andhra Pradesh (96.3 percent), Chandigarh (98.9 percent), Daman & Diu (99.4 percent), Delhi (95.4 percent), Himachal Pradesh (97.6 percent), Lakshadweep (97.6 percent), Puducherry (99.7 percent), Sikkim (95.9 percent), Tripura (99.2 percent) and Uttarakhand (95.2 percent). The transition rates ranged between 90 and 95 percent in 12 States/UTs while three States - Jharkhand (79.9 percent), Madhya Pradesh (78.8 percent), and Nagaland (78.3 percent) - recorded a transition rate of less than 80 percent.

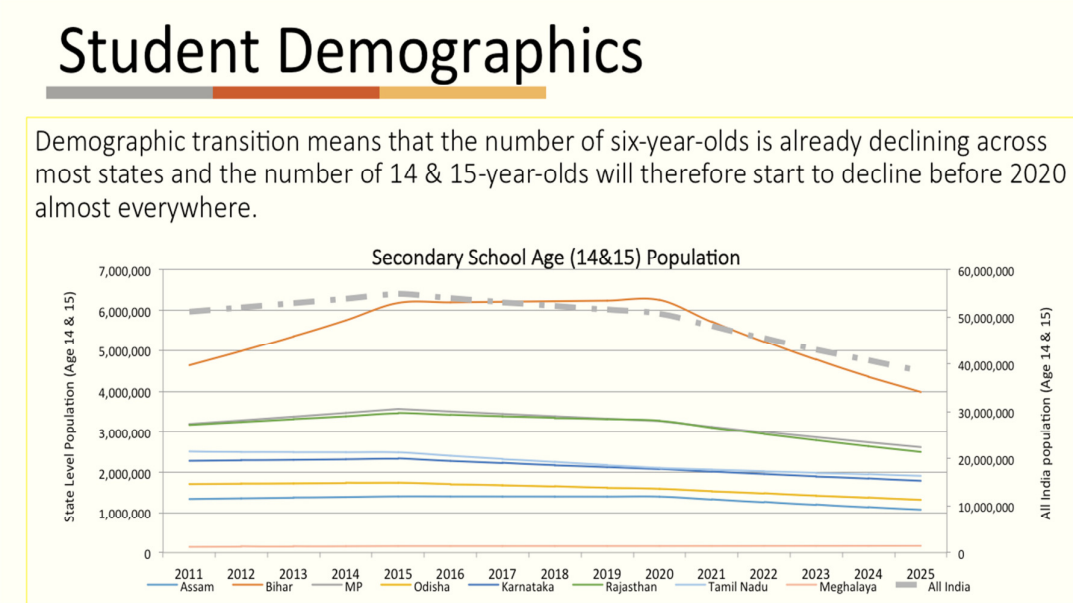
4.13. **Substantial progress has been achieved in terms of expansion of secondary schooling facilities.** The major RMSA interventions that had a direct bearing on the expansion of schooling facilities and achieving the goal of universal access to secondary education include the following:

- *Upgradation of existing schools and opening of new secondary schools:* Since the commencement of the RMSA, a total of 11,599 new secondary schools were sanctioned. Of these, 10,082 (86.9 percent) schools have been made functional, with a total enrolment of 972,000. New secondary schools have been sanctioned in 30 States/UTs. The States which had received approval for opening more than 1,000 schools included Jharkhand (1,000), Tamil Nadu (1,096), Bihar (1,153), Chhattisgarh (1,357), Madhya Pradesh (1,428), and Uttar Pradesh (1,504).

- *Construction of additional classrooms in existing schools:* Up to 2014-15, sanctions were issued for construction of a total of 52,715 additional classrooms. Out of these, a total of 20,839 additional classrooms have been constructed. Construction of 16,774 is in progress.

4.14. RMSA-TCA research and State presentations to the JRM have also highlighted demographic trends (anticipated declining secondary enrolment) – that could result in future over capacity (Figure 4). Therefore, in some cases, the provision of creative and innovative *temporary solutions* to current under-capacity may be more appropriate than planned *permanent solutions* of a more traditional form: i.e. standard new school buildings and classrooms.

Figure 4. India's Demographic Trends in Secondary Education

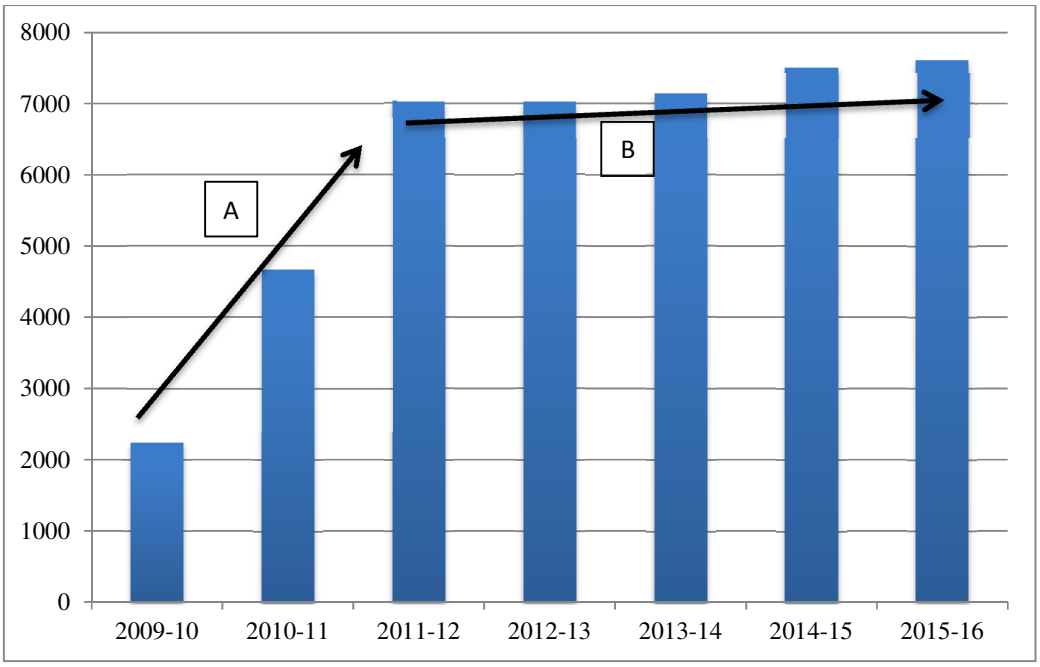


Source: Presentation to the JRM, RMSA-TCA *Student Populations and School Size – Selected Findings*

4.15. **The percentage of habitations having a secondary school or section within the specified distance norm (five kilometers from the habitation) has gone up from 68.2 percent in 2011-12 to 85.1 percent in 2014-15.** Between 2009-10 and 2014-15, the total number of schools imparting secondary education has increased by 91 percent (from 122,208 to 233,517 schools). All habitations in **A & N Islands**, **Chandigarh**, **Daman & Diu**, **Delhi, Goa**, **Lakshadweep** and **Puducherry** have a secondary school or section within the specified distance norm. Eleven other States have good coverage: **Tamil Nadu** (90.3 percent), **Karnataka** (93 percent), **Assam** (93 percent), **Bihar** (90 percent), **Uttarakhand** (90.9 percent), **Kerala** (95.6 percent), **Orissa** (96.4 percent), **West Bengal** (98.1 percent), **Punjab** 99 percent), **Maharashtra** (99.8 percent) and **Dadra & Nagar Haveli** (90 percent).

4.16. **Construction and opening of new schools has however stalled in the past 4 years.** The very strong progress, in the first three years of implementation, partly reflects the 'front loaded' emphasis that was placed on putting infrastructure in place (see Trend Line 'A',in Figure 5). However, after this first three-year period, as Trend Line 'B' shows, new school building has slowed considerably. Not all of the reasons for the slowdown were intended and this raises questions for achievement of RMSA targets if remedial action is not taken.

Figure 5. Cumulative Total of New Schools, Completed or Under Construction (by year of approval)



Source: JRM analysis, based on MHRD/TSG data

4.17. It is understood there are four main factors that have constrained original planned progress: (i) a substantial amount of the funding required has not (yet) been sanctioned by the Ministry of Finance; (ii) lack of timely release of sanctioned funds by State governments has delayed construction; (iii) normative costs originally set at 58.2 lakh per school are judged no longer sufficient to build schools at 2015 prices, contributing to an impasse; and (iv) States have encountered problems with the timely return of utilisation certificates. The JRM recognizes that there are multiple issues underlying these four main factors which need to be resolved on a case-by-case basis. But cumulatively these delays are resulting in slow progress which is too slow.

4.18. Similar patterns of construction progress are observable in relation to the provision of additional classrooms, science labs, computer rooms and libraries, drinking water facilities and residential quarters. The constraints identified above also apply. There is a further additional constraint that contracting for these smaller civil works initiatives is typically devolved locally.

4.19. Despite this concerning overall picture, some States have been able to make substantial progress in new school building and other school related civil works. Karnataka and Gujarat are notable examples. It may be possible to draw lessons from the achievements of these States to help overcome some or all of the obstacles identified. Gujarat, for instance, has used simultaneous tendering procedures to help fast-track construction and the State has been in a position to release bridging funding from its own sources to cover construction costs until such times as monies are released by MHRD.

4.20. The delayed progress with civil works may also present a 'silver lining'. There is an opportunity to revisit original plans to allow for further optimised and cost-effective solutions. Three considerations in particular have importance here:

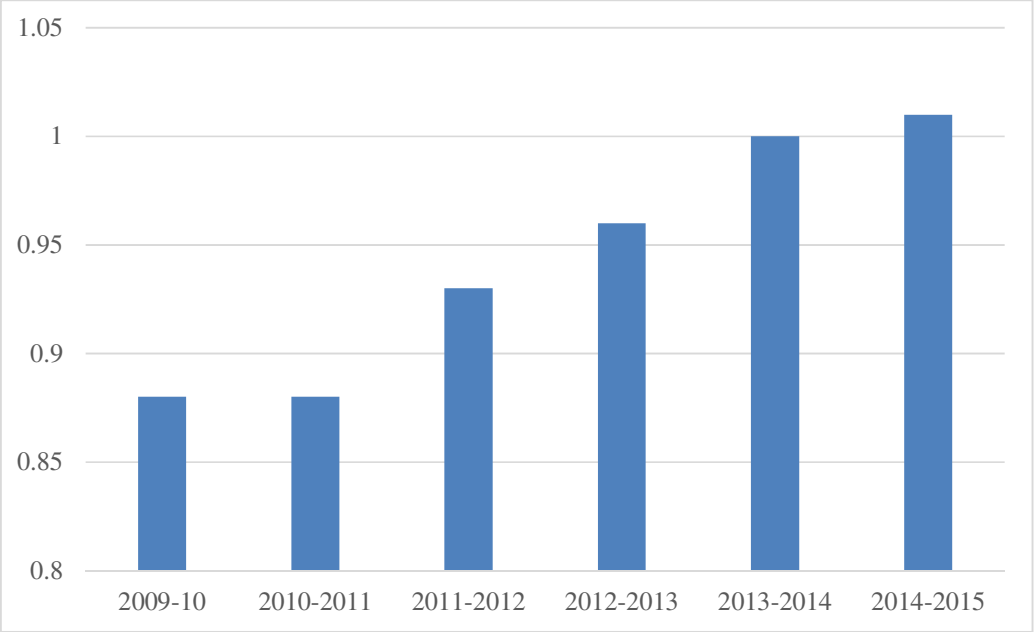
- RMSA-TCA research has highlighted some of the advantages, in certain contexts, of composite schools as compared to stand-alone schools. Experience and data show how, in some instances, composite schools can: be more conducive to transition and retention; allow for greater synergy between SSA and RSMA; create opportunities for sharing of resources; and thus be more cost-effective. Rajasthan is an example of a State that has picked up on such issues and where related excellent practice has been demonstrated. These findings support the current RMSA practice of supporting composite rather than stand-alone schools when new schools are approved.
- This same research has highlighted the vulnerability and lack of efficiency of small schools: a situation that will also further be exacerbated in a period of declining enrolment. More-innovative approaches (such as those offered by the use of ICT, clustering arrangements, and peripatetic specialist teachers, or indeed by providing transport arrangements to offer access to larger schools) may, in some situations, offer better and more cost-effective solutions. The JRM encourages States to consider and seek MHRD's approval for these innovative approaches.
- RMSA has made important strides in introducing and developing GIS mapping. Examples of this excellent work presented to the JRM have shown how (i) existing school provision could, in some cases, better be rationalised to match demographic needs, and (ii) where, in some instances, the greatest real need for new schools is in locations that current plans have not appreciated, simply because at the time the original plans were drawn up sophisticated GIS information was not available.

4.21. **Construction of additional classrooms in existing schools has improved the Student Classroom Ratio (SCR).** The construction of additional classrooms in existing schools has contributed to substantial improvement in the average Student Classroom Ratio (SCR), which improved from 56 in 2010-11 to 47 in 2014-15. The RMSA norm for SCR is 40:1. During the year 2014-15, 17 States/UTs had achieved the prescribed norm. There are 19 States/UTs where the SCR is more than the prescribed norm. The States with very high SCR include Bihar (103), Chhatisgarh (53), Dadra & Nagar Haveli (52), Jharkhand (69), Madhya Pradesh (51), Maharashtra (50), Odisha (54), Tripura (64), Uttar Pradesh (52), and West Bengal (74).

Goal 2: To bridge gender and social gaps

4.22. **Gender Parity has been achieved.** The gender gap in GER has reduced from 8 percentage points in 2009-10 to 0.3 percentage points in 2013-14. The national average GPI for secondary education in 2014-15 was 1.02 (Figure 6). While the GPI for GER increased in several States/UTs, the GPI decreased in A& N Islands, Haryana, Himachal Pradesh, Manipur, Mizoram, Punjab and Sikkim. The States with relatively lower GPI for GER included Dadra & Naga Haveli (0.93), Goa (0.91), Rajasthan (0.83) and Gujarat (0.82). The Bihar recorded the highest improvement in GPI for GER (from 0.75 in 2009-10 to 1.13 in 2014-15).

Figure 6. Gender Parity Index of Gross Enrolment Ratio



Source: Based on MHRD data provided to JRM. Notes: (1) for all school management types. (2) A figure higher than 1.00 is favourable to girls.

4.23. **It should also be noted that only half of schools are increasing their enrolment of girls.** An analysis by the World Bank shared with the JRM reviewed the enrolment of girls in schools which appeared in the UDISE for both 2012-13 and 2013-14 (the only two years available). There were two sources of increases in girls' enrolments: first, from girls' schools, and though girls' schools account for 7 percent of total schools, they account for about 25 percent of the total increase. In addition, there has been an increase has come from only 50 percent of the schools while almost all of the remaining schools show a decline, pointing to a probable concentration of girls in half of the schools. Further analysis is needed to understand the characteristics of those schools with higher girls' enrolment (for example, do they have proportionately more female teachers?) and to determine the extent of concentration of girls in particular schools.

4.24. **Most States with low GER for girls also have low GER for boys, and so expanding GER in general can be expected to help boys and girls equally** (so the GPI in these States can be expected to improve accordingly). This is not the case with Gujarat and Rajasthan, however. Their experience of girls' enrolment in elementary education has shown persistent gaps in their respective GPI even while elementary education expanded significantly. This means that these two States will have to develop specific strategies for improving girls' enrolment; and more innovative approaches will be needed.

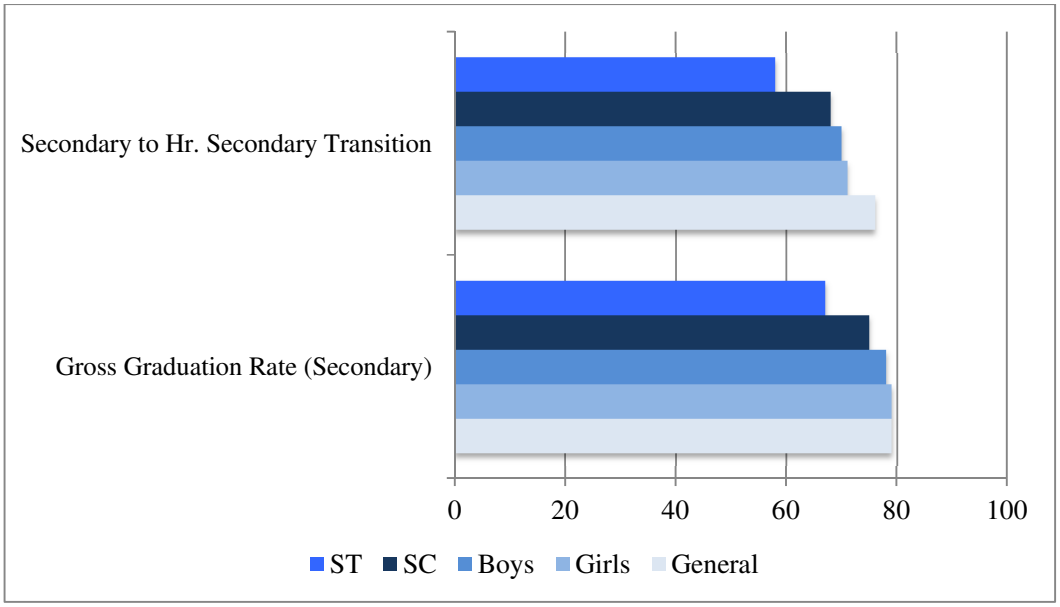
4.25. **Participation of Scheduled Caste (SC) children in secondary education is now in line with their population share.** Between 2009-10 and 2014-15, the enrolment of SC children increased by 1.71 million (from 5.44 million to 7.15 million). The enrolment of SC boys has increased by 0.7 million (from 3.04 million to 3.74 million), while the enrolment of SC girls increased by 1.01 million (from 2.4 million to 3.41 million) during this period. The total enrolment of SC children in secondary education has increased by 31.4 percent. The GER for SC children increased by 14.9 percentage points; the GER for SC boys increased by 10.4 percentage points while the GER for SC girls increased by 20 percentage points. The gender

gap in GER for SC children decreased from 7.3 percentage points in 2009-10 to -2.3 percentage points in 2014-15. The GPI for GER for SC children improved from 0.90 to 1.03 during this period.

4.26. **Participation of Scheduled Tribe (ST) children in secondary education has also increased, but ST students are still significantly behind other groups.** Between 2009-10 and 2014-15, the enrolment of ST children increased by 1.19 million (from 2.06 million to 3.25 million). The enrolment of ST boys has increased by 0.53 million (from 1.17 million to 1.7 million), while the enrolment of ST girls increased by 0.65 million (from 0.9 million to 1.55 million). The percentage increase in enrolment of ST children was higher for girls (72.2 percent) than that for boys (45.3 percent). The GER for ST children increased by 21.5 percentage points; for ST boys increased by 16.3 percentage points while for ST girls by 26.8 percentage points.

4.27. **ST students face challenges with respect to transition to, enrolment in and completion of secondary education.** Whereas SC students' participation in secondary education is on a par with other groups, ST students are lagging behind their peers in other groups (Figure 7). However, the experience of ST students varies across States. Rajasthan, Assam and Chattisgarh have shown significant rises in ST enrolment and may have good practices to share with other States.

Figure 7. Transition and progressions for students of different gender and social groups



4.28. **Nearly one quarter of a million children have been identified as having special needs**; and this has involved a huge concentration of effort, which deserves acknowledgement (Table 2). The number of children identified also highlights the size of the challenge faced in meeting these needs. The magnitude of the RMSA response is also evident.

Table 2. Children with Special Needs – Selected Statistics

Number of CWSN Covered:	Number of Girls with Special Needs:	Number of Boys with Special Needs:	Number of Special Educators Approved:	Number of Special Educators in Position:
237,354	107,159	130,195	4,960	3,437
Number of Resource Rooms Constructed:	Number of Resource Rooms Functional:	Number of Schools having Disabled-Friendly Toilets:	Number of Schools with CWSN:	Number of Schools Barrier Free:
4,301	4,261	23,743 (17.09 percent of total schools)	55,893	76,690 (55.23 percent)

Source: MHRD (2015) 'A Report on the Implementation of RMSA Programme'

4.29. More than 4,000 CWSN resource rooms and more than 3,000 special educators have already been added to system capacity. There is also a range of important quality initiatives taking place, by way of example: from capacity building workshops to the provision of almost 5,000 braille books, and an NCERT initiated project developing approaches and resources for meeting the needs of children with autistic spectrum disorders.

4.30. Despite these achievements, the challenges remain enormous – especially with a view to meeting pre-determined programme targets. For instance, the number of schools that now have disabled friendly toilets is still only 17 percent of the total number of schools.

4.31. It is also important to acknowledge that providing meaningful access to CWSN involves a whole set of pre-conditions being met: at a minimum this requires both access in the form of ramps and disabled friendly toilet facilities. However, for the physical presence of CWSN to be converted into a meaningful educational experience, specialist teachers and regular teachers sensitised and skilled to meet the needs of these children are also required, as well as specialist resources and materials. The number of schools having all of these preconditions in place is extremely low. Simply providing, say, an access ramp alone without other supportive inputs has little or no meaningful impact in meeting the educational access and quality needs of differently abled children. In planning and implementing their CWSN strategies: States, districts, and schools are thus encouraged to keep a holistic approach.

Goal 3: All children retained in Education system

4.32. **Higher dropout rates in secondary education remains a serious concern.** The annual average dropout rate in secondary education recorded a slight increase from14.54 percent in 2012-13 to 17.86 percent in 2013-14 (Flash Statistics). This indicates that more than 18 out of 100 students who enter Class IX drop out before they complete secondary education.

4.33. The Results Framework Document also contains the indicator "Secondary Education Graduation Rate". This is calculated as "those who enrolled in Grade IX in year 't' appearing for the Board exams in year 't+1' ". Available data to track this indicator are presently limited. However, latest Results Framework data show that Graduation Rate for the Year 2014-15 stood at 81.0 percent.

Goal 4: Education of Good Quality

4.34. The ultimate measure of education quality is whether students can learn what they need to learn; and a strong system is one in which all children can achieve their potential. One of the focus issues during this JRM was student learning assessments at the national and State levels. Those issues are discussed in the next Chapter. A key input into quality education is having adequate and well-trained teachers, and this is discussed in Chapter 7. Additional inputs, such as science laboratories and libraries are discussed in Chapter 9 on Programme Management.

Recommendations

Rec. 3. For civil works that have begun, States should develop an implementation plan and close monitoring plan within 3 months. Target should be set for utilization of 5000 crores INR in outstanding balances. Plans for new approvals should have a two-year perspective, so that States can prepare ground by securing land etc. These plans should be discussed during the next AWP&B cycle with States.

Rec. 4. To meet the needs of unserved habitations, States should be given flexibility to develop alternative solutions beyond simply building schools, and any new school has the full complement of infrastructure and subject teachers.

Rec. 5. Already served habitation, focus on expanding existing schools so as to move more rapidly to reach the State Programme targets for enrolment.

Rec. 6. MHRD may hold a workshop on the experience of ST students in secondary education, in terms of their access to quality education and their progress through and success in secondary education. In time for the next AWP&B cycle so that States can adjust their proposals for funding.

5. Learning Achievement Surveys

5.1. Improvement in student learning outcomes over the long run will require, primarily: (i) ensuring all secondary schools have a full complement of specialist teachers and, (ii) fundamental changes in the approach to teaching and learning in the classroom.

5.2. Learning achievement surveys at both national and State levels have two purposes - one is to get a broad picture of the academic health of the secondary school system and the other is to use the information to improve that academic health. This includes looking at both overall student learning levels and those in each subject at the national, State and district levels. The results of such surveys should then feed into teacher development processes, curricular and pedagogic processes, academic resource planning and review. It would also be useful for Boards of Secondary Examinations to use these surveys as one critical input into the design of the Board examination.

5.3. For such a process to be useful over time, the surveys should have a common framework, be designed with statistical rigor and executed with integrity. Results need to be analyzed within the framework of the purpose of Secondary Education and the goals of RMSA. Reports must be written simply and clearly so that they can be used easily.

5.4. While an ambitious vision for the future is essential, reporting must give a true picture of where we are and provide accurate diagnosis so that informed action can be taken that will put us on the right trajectory to reaching the intended goal.

National Achievement Survey (NAS) Findings for Class X

5.5. **The preliminary NAS grade X findings indicate a large proportion of under-performing students.** The findings from 20 States which have been compiled show that in all but modern Indian languages the distribution of learning performance is strongly skewed - with the majority of students scoring below the expected performance of the average student (250 out of 500 points) (Table 3). These findings, i.e., the majority of students being located in a large under-performing 'tail', are also found in NAS at Classes III, V, VIII as well as State level assessments and the spread of examination results in the board exams.

5.6. **Preliminary investigation of the composition of this underperforming 'tail' shows disproportionate numbers of scheduled tribe students.** Disaggregating this further using grade 10 NAS, ST students in N.E. India are doing notably better than ST tribes in other States – indicating the need for targeted interventions.

5.7. **The NAS provides detail on the strength of understanding of key educational concepts which can inform their remediation and learning improvement strategies.** This is valuable information for informing both national and State wide responses to curricula, educational materials, and teacher training programmes. It is critically important that the national and State NAS publications make more of this information and that State governments use this to plan their educational improvement strategies. For example, in science a little more than half of students (57-62 percent) understand atomic number of elements, know the different States of matter and can identify compounds from a list of items; on the other hand, only about a quarter of students (23-28 percent) knows what causes permanent hardness of water and can identify an unsaturated hydrocarbon with the help of chemical structure. More such examples can be found in the annexure to this Chapter.

Table 3. Provisional Grade X NAS Results

Subject	Score against assumed mean of 250	Summary
English	**228↓**	• Girls and urban students are performing slightly better than boys and rural students. • Scheduled tribe students are performing better in English than students from other social categories.
Mathematics	**222↓**	• Mean maths performance was consistently weak across gender and rural and urban. • General category students performed better than other social categories in Mathematics.
Science	**222↓**	• Mean science performance was consistently weak across gender and rural and urban. • General category and OBC students performed better than ST and SC students in Science.
Social Science	**236↓**	• Mean social science performance was below the assumed mean across gender and rural and urban. • General category and OBC students performed better than ST and SC students in Science.
Modern Indian Languages	**282↑**	• Girls and students from urban areas performed better in MIL compared to boys and students from rural areas. • General category students performed better in MIL than their other social group counterparts.

Notes: (1) ↓=below assumed 250pt mean ↑= above 250pt assumed mean. (2) These results are from 20 States and UTs whose results have been analyzed to date; all but two States have completed the assessment.
Source: Presentation to 6th JRM by NCERT.

National Achievement Survey - The Future

5.8. RMSA is driven by a concern for both *'**equity in access**'* and *'equity in learning'*. The mission commends the progress made by NCERT in introducing a robust national achievement survey that:

- Uses international standard scientific methods (Item Response Theory [IRT]) ensuring results are reliably comparable over time and geography;
- Reports not just average learning but the 'spread of learning performance' (critical if efforts are to be made to address learning equity and the very large tail of 'underperformance');
- Identifies elements within subjects where large proportions of students are underperforming (hard spots).

5.9. Given GoI's commitment to quality education and equity in learning – echoed more broadly in the new Sustainable Development Goals (SDGs) **the NAS findings should be considered the definitive reference source on learning** as UDISE is for access.

5.10. **NAS will only be a worthwhile investment if it is used.** While the robust approach of the NAS provides important data on learning performance between subjects and across State and national cohorts, a critical challenge for NCERT is therefore to make the NAS user

friendly for the intended audiences who would benefit from using it – on the basis of the presentation made to the JRM, NCERT has substantial room for improvement.

5.11. Key observations made by the JRM on NCERT's presentation of data include:

- 'Average performance' needs to be defined in terms of **what a student at this level can do** – logically this should be linked to learning standards for secondary that build from the primary standards recently defined by NCERT.
- The graphical presentation of the spread (distribution) of learning performance was powerful – however clarity was needed in determining a standard deviation against which State performance can be measured.
- The vocabulary used should be clear and understandable to the intended audience – scientific terms should be replaced with plain English – e.g., '1st quartile' could be described as 'Poorest performing 25 percent'.
- The bar charts used to enable State comparison – were very useful but significantly more effort needs to be made in providing an explanatory text / diagrams to enable accurate interpretation.

5.12. With significant improvements in communication NAS results could (and should) become the benchmark for how the system is performing in terms of overall learning performance as well as learning equity[2]. In this regard three issues are identified as pertinent.

5.13. **MHRD/NCERT will need to ensure that sufficient capacity, resource and official mandate is in place to continue NAS as a regular and robust tool of the educational mission**. The power of IRT learning assessments are in their comparability over time – enabling progress to be tracked. If this is to be done IRT based NAS needs to be continued on its existing three year cycle and findings securely archived to enable comparison.

5.14. With DFID technical support to NAS due to end in March of 2016 – it is essential that NCERT are ready and able to deliver all NAS cycles – this includes years in which two years of NAS are due in the same year –doubling the work load (see shaded portion in Table 4). DFID has offered further support to MHRD beyond March 2016.

Table 4. IRT NAS Cycle

Grade	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
3		X				X			X	
5	X			X			X			X
8		X				X			X	
10					X			X		

Source: Data from TCA provided to the JRM

5.15. NAS findings and data sets need to be made available through a publically accessible website in the same way that key data is made available through UDISE. This should include access to archived results from previous NAS cycles.

5.16. Further improvements are urgently required to make NAS findings easy to interpret and most importantly to act upon for all appropriate levels of government. This would include:

- Presenting the distribution of performance – and analysing the composition of the 'tail of under-performance'

[2]This is different from Board exams that measure individual performance and while trends can be inferred – fluctuations in the pass mark make them an inappropriate measure for system performance.

- Providing greater detail on curriculum areas in which students commonly under-perform ('hard spots') – so that these can be addressed through teacher education / text book reform and supplementary materials.
- Providing guidance and options for logical research and follow up that can be undertaken by SLAS, SCERT's and other concerned bodies – thereby making SLAS complementary and reinforcing rather than a less robust duplication of NAS.

Learning Achievement Surveys Conducted by States:

5.17. **Chhattisgarh** and **Himachal Pradesh** presented Learning Achievement Surveys which they had developed and conducted. Four key issues were evident.

- There appeared to be no linkage between the findings of the NAS and the focus and approach of the SLAS.
- Neither State had test designs that would enable robust statistical comparison over time. (This is fine as long as the intention is solely to provide a 'snap shot' and not to track progress.)
- The SLAS findings were very general. Neither State appeared to have used the results to feed into teacher development processes, curricular and pedagogic processes, academic resource planning and review except at a superficial level.
- Overall SLAS research was presented as the final product - rather than the starting point for a targeted response to improve learning.

5.18. **SLAS should only be attempted if they can be done well.** The complexity of producing IRT learning assessments with robust comparability over time means it is unlikely that State resources will be sufficient to complete such an exercise in the near future. Nor given the availability of robust national and State NAS reports would this necessarily be a logical investment of resources. The most effective way for SCERTs to build their capacity to develop SLASs would be for NCERT to engage SCERTs fully with the NAS programme; meaning that they participate actively in all phases of the survey, starting with the very first steps of the design process. At present, SCERTs are used (along with Examination Boards) mainly to implement the survey.

5.19. **There is plenty of important work for SCERTs to do in utilizing the NAS results.** This means, for example, undertaking State-specific analyses of the NAS results, disseminating the results at the State level to teachers and providers of pre- and in-service education for teachers, and developing specific training programmes to address the issues identified through the NAS survey. Through all of these activities, as well as engaging with the NAS itself (including, for example, having a larger sample of schools in particular States), will be the most effective way of building SCERT capacity to carry out good quality SLASs themselves. In the meantime, SLAS should be discouraged. The capacity of NCERT will also need to be expanded to provide more effective support to States.

Recommendations

Rec. 7. NCERT should write the NAS grade X reports (National and State) so that learning performance information is presented in ways that are easy to understand and provide clear guidance for action. To this end the draft publication and related material should be piloted with targeted audience (e.g., officials and teachers) to ensure it is understandable and actionable.

Rec. 8. MHRD should take a clear stand on the long term status and institutional arrangements of the NAS and, further to that decision, develop appropriate medium-term plans covering the staffing, financing and management of operations, archiving data and dissemination of findings (decisions to be made during the current FY).

Rec. 9. MHRD should ensure capacity building of NCERT and States on (i) the respective scope and functions of NAS and SLAS; (ii) how to use NAS more effectively; and, (iii) how to use NAS findings as the starting point for a State driven research, evaluation and classroom observation programme focused on how to improve learning in classrooms – i.e. going beyond quantifying learning levels to identifying - what works in improving learning and in what circumstances.

Rec. 10. State level learning assessments should not be pursued until State agencies have sufficient capacity to carry out good quality and meaningful assessments. Priority for SCERTs in the meantime should be given to working with NCERT on the whole cycle of NAS, using the NAS data to analyse State-specific issues, and developing materials and training programmes for teachers which respond to the NAS results.

Annexure: Using NAS Class X results

Preliminary Analysis: Strand wise strength and weaknesses in Mathematics				
Strand	**Concepts where students did relatively better**	**Percent correct (20 States)**	**Concepts students did not do well**	**Percent correct (20 States)**
Algebra	Identify the formula for the roots of a quadratic equation in standard form and ordered pairs of (x,y) that satisfy a linear equation in two variables.	49 -55%	Form a quadratic equation from given roots as literal numbers and Identify the degree of a given polynomial	27 - 29%
CG	Identify a location of a point in a Cartesian plane	46 -60%	Identify centroid of a triangle from given coordinates on a Cartesian plane and coordinates of a point on a Cartesian plane satisfying given conditions.	27-30%
Geometry	Identify corresponding equal parts in a congruent triangles and supplement of a given angle in a linear pair.	54- 63%	Identify the appropriate criteria to justify the congruency of two triangles from given information, Use properties of circles and tangents to find other parts in a circle.	20- 26%
Measure-ment	Identify the formula of area of a triangle given all sides and semi-perimeter (Heron's Formula)	49%	Identify area of an equilateral triangle give its perimeter.	23%
Number	Identify the sign of the number zero.	44%	Identify the relationship between different number systems involving real numbers	27%
Data & Proba-bility	Identify the probability of a simple event in a throw of a die.	51%	Identify the probability of an event involving numbers, Identify the median of a small ungrouped data of numbers	22 - 31%
Trigo-nometry	Find the value of trigonometric expression involving complementary angle relationship.	50%	Solve trigonometric equations involving familiar acute angles.	24%

Preliminary Analysis: Strand wise strength and weaknesses in Science				
Strand	**Concepts where students did relatively better**	**Percent correct (15 States)**	**Concepts students did not do well**	**Percent correct (15 States)**
How things work	Knows Fleming's left hand rule	49%	Knows the factors that affect the direction of force acting on a current-carrying conductor in a magnetic field	25%
Material	Understands atomic number of elements; Knows the different sates of matter; Can identify compounds from a list of items	57 - 62%	Knows what causes permanent hardness of water; Can identify an unsaturated hydrocarbon with the help of chemical structure	23- 28%
Moving Things	Can estimate distance travelled by a body at a uniform motion; Can interpret line graph	59 - 70%	Understands inertia; Can interpret line graph	20- 24%
Natural Phenomena	Knows what make stars twinkle; Understands myopia and hypermetropia	36 - 43%	Understands image characteristics for concave mirrors	20%
World of Living	Knows that the deficiency of iodine causes goitre; Knows that human males have one pair of sex chromosomes X and Y	62-66%	Knows a class of organisms that are unicellular; Knows the source of oxygen liberated during photosynthesis	24- 27%

Preliminary Analysis: Strand wise strength and weaknesses in English				
Strand	**Skills where students did relatively better**	**Percent correct (20 States)**	**Skills Students did not do well**	**Percent correct (20 States)**
Language Elements	Choosing correct infinitive, verb form modals, correct sentence structure to convey same meaning	51 - 54%	Choosing correct phrasal verbs, correct tense and punctuation to denote possession.	21 - 26%
Reading Comprehension	Retrieve information from a medium length text - factual, opinion, fiction. Interpret vocabulary/meaning of phrase from the passage	50 - 52%	Retrieve information in the presence of closely competing information in a dense text. Read between the lines and infer the poet's actual opinion in the presence of different viewpoints	18 - 25%

6. Data systems and their use

6.1. The purpose of having data systems for the RMSA program is to inform the implementation of RMSA - to monitor and assess progress, and then to guide any modifications required to ensure that the goals of the program will be met within its time frame.

6.2. Since the launch of RMSA, there has been substantial growth in the generation of data systems to the extent that today while a wealth of data is collected from schools, there is duplication of data on multiple parameters and indicators in the different databases. With various databases, there is bound to be data mismatch between them and it is not clear which one prevails in case of a contradiction of data. Moreover, this increasing trend is more on data collection and submission upwards from schools to States to the central government, than in the use of the data and analysis for secondary schools.

6.3. In order to make maximum benefit from the databases, the data generated should be meaningfully used by schools and the national, State and district administration.

Multiple data systems

6.4. **UDISE**: It is important to maintain the status of UDISE as the official database for information on school education across the country and direct efforts to strengthen it continuously at all levels of collection, verification, compilation and dissemination. As shared by NUEPA, the UDISE software allows for a maximum of 999 supplemental variables to be added for each school every year by States to serve their State specific needs. For data collection on information outside of prescribed UDISE, States may wish to consider the flexibility in the UDISE database to supplement with their own State relevant variables. NUEPA has also said that small States can use the NUEPA server to host the State-specific data. Going forward, States will also have the facility to upload their latest data on real time basis to the UDISE software at the State level. This will be treated as provisional data by UDISE till the next annual cycle of data submission. There continues to be a challenge in verification and validation of the data collected in the States despite the prescription of 5 percent sample validation.

6.5. **Management Information Systems (MIS) developed by States:** Many States have developed separate HRMIS/EMIS that include individual records and profiles of principals, teachers, and students which serve their own administrative needs. In some instances, such as in Madhya Pradesh, Karnataka and Tamil Nadu the cross-verification of their student MIS with UDISE has revealed double enrolments and helped them correct the error, leading to reduction and a more realistic reflection of the enrolment figures. As these States reported, the primary purpose of setting up child tracking systems is to manage and monitor social welfare schemes. With the use of their HRMIS online systems, both Karnataka and Tamil Nadu reported improved efficiency and transparency in the process of teacher counselling, deployment and transfers. The JRM observed that States that have developed comprehensive MIS for teachers and students should be able to export the relevant data to the UDISE database instead of conducting a parallel data collection exercise.

6.6. **Geographic Information System (GIS):** MHRD has developed a GIS with individual school reports (from the UDISE) tagged to the school site location. Some States have taken their own initiative to develop a school mapping system using GIS. It is unclear whether the State GIS systems are integrated with MHRD's system. Having one centrally developed GIS will benefit the national and State governments as a powerful school site planning tool.

MHRD may consider establishing a centralized GIS to map all schools in the country and integrate relevant features from other countries that have developed and are using GIS for school mapping for the next stage of the development in the use of the GIS system (an illustrative example is to include a snapshot view of all schools with different colour codes for primary, upper primary, secondary and higher secondary schools). State GIS systems can be integrated with MHRD's system and for those that haven't done it need not undertake their own GIS school mapping exercise. There are a number of other countries which have developed GIS-mapping systems from which India could learn.

6.7. **Project Monitoring System:** Since 2014, the MHRD has adopted an online Project Monitoring System (PMS) to monitor the physical and financial progress of RMSA in the States and States are required to update their data in the PMS on a monthly basis. This is a comprehensive and dynamic data system, which can generate useful analysis to inform and improve implementation.

6.8. **Reports of Monitoring Institutions (MIs):** Third-party monitoring was initiated under Sarva Shiksha Abhiyaan (SSA) through monitoring institutions to provide ongoing assessment and analysis of interventions and processes at the habitation and school level. This practice has been brought into the RMSA as well which offers a third party check on inputs and processes at every six months interval based on different samples of schools. The current ToRs of the MIs has resulted in an extensive scope of data collection from schools, much of which seems to be more readily available from other sources (especially UDISE). However, MI reports fall short of using data for analysis and drawing inferences or in picking up innovative interventions for dissemination. The reports do not present any professional or technical advice from these agencies, which the schools can draw upon to improve implementation. The other gap in this monitoring mechanism of the MIs is that the visit to schools is done only once during the period of the MOU, so a trend analysis/progression over time for the same set of schools is missing.

6.9. The main lacuna in the lengthy 200-250 page reports from the 74 page format is that while they are data rich they do not provide meaningful and actionable feedback to schools for improvement. The JRM found no evidence that these reports were used in planning for or improving the implementation of RMSA activities.

6.10. **Quality Assessment Tool (QAT):** The Mission reviewed the draft tool prepared by NCERT which includes an exhaustive checklist which is to be filled by stakeholders at different levels (from school up to State level). It is based on three dimensions covering provisioning, school governance and learning outcomes and hence has a wide range of parameters to report against. These include school infrastructure, learning resources, classroom processes, leadership, teacher development and learners' assessment with self-reporting formats for school principals, teachers, School Management Committees, DEOs, SPD/SPO and a classroom observation tool for field investigators/MI institutions.

6.11. **The JRM feels that major changes are needed in the way that MIs operate and the proposed QAT.** There is a lack of clarity about the role that they play individually and how they avoid duplication of effort. Different types of monitoring mechanisms are needed for: assessing the performance of the system; understanding progress on particular issues; supporting self-improvement in schools; conducting an external quality assurance check on schools; accrediting schools; and so on. These different purposes require different approaches, in terms of sampling, instruments, verification and reporting. The MI TOR and the proposed QAT appear to be trying to fulfill several different functions. Finally, both mechanisms have developed a very long data gathering tool; which includes many different types of questions (open ended, yes/no, quantitative). As such, it is unclear that any individual or individual institution would be able to answer these questions consistently and accurately across multiple schools. Finally, the JRM reviewed a number of other data

collection systems (described above; the JRM is also aware of the School Standards being developed by NUEPA, though this was not reviewed during this Mission) and so great clarity of purpose and approach is needed before yet more monitoring systems are introduced.

6.12. **Potential of National Achievement Surveys to develop as a data system:** Once the NAS cycles of assessment are stabilized, the NAS data system will provide data that becomes comparable over time. The value of NAS will grow with subsequent NAS cycles and they will become important reference points to tell the story of learning attainment based on the trajectory of changes over time. This places a high priority on ensuring adequate financing and attention on proper data maintenance, archiving and access.

Recommendations

Rec. 11. Since UDISE is the official source of education data, States must ensure validity of their data in line with UDISE requirements. NUEPA may provide guidance to States on updating of the UDISE at the State level on real time basis. MHRD may wish to consider the practicability of not releasing funds until the 5 percent third-party validity check has been completed satisfactorily, given that funding decisions are based on UDISE data.

Rec. 12. MHRD may commission a review of monitoring under RMSA, to clarify the different functions (third-party checking, system progress monitoring, support to schools for self-improvement, thematic analysis, etc.) and which tools and approaches are needed to fulfill these separate functions. The work of MIs and the development of QAT should be reconsidered in the light of this review, given that their current functioning is not adding sufficient value.

7. Status of Quality Interventions

In-Service Teacher Training Arrangements and Strategies

7.1. One of the main objectives of RMSA is to make secondary education of good quality available, accessible and affordable to all children enrolled. Quality is not only limited to the relevance of content being taught, but equally important is the appropriate curricular transaction in the classroom and meaningful curricular evaluation. Though in almost all States, curriculum has been revisited as per National Curriculum Framework 2005, quality classroom transaction still remains a far cry. We need to focus not only on teacher supply and their timely recruitment, but also to professional up-gradation of teachers.

7.2. It is heartening to note that many States are focussing on capacity building for members of State Resource Groups (SRG). Mizoram organizes 10 days of such programmes for every teacher each year with the assistance of NUEPA and other stakeholders. In Rajasthan, SRG and State level Key Resource Person (KRP) group are trained with technical support of IASE and SCERT. However, it was felt that there must be effective mechanism in place for periodical orientation of SRG members and a good coordination between SRG and DRG (District Resource Group). The SRGs and DRGs need to be in place in all States and appropriately oriented.

7.3. In many States, KRP groups at the State and the district levels have been duly identified. In some States, the term 'Tutor Facilitator' is being used. The development and selection process to recruit and maintain a pool of well-qualified KRPs and RPs would benefit from the explicit identification of criteria and expectations. There is a felt need to develop a system of formal incentives or recognition to support the sustainability of a pool of qualified trainers and teacher educators across States. A core group of such RP or tutor facilitators may be identified with ongoing responsibility for on-site academic support, monitoring and follow-up.

7.4. Though critical involvement and engagement of SCERT has been ensured in many States for training purposes under RMSA, the involvement of DIET as an active partner for in-service teacher training under RMSA at district level has not been achieved. DIETs are only focussing on SSA activities. A first step towards convergence of SSA and RMSA programs, DIETs need to be actively involved for RMSA also with suitable increases in their staffing and resources. This would seem preferable to trying to create new institutions to support the in-service training of secondary teachers.

7.5. Almost all States have the adopted cascade model of training. Some States have implemented induction training at the time of recruitment of teachers besides in-service training and training of untrained teachers. A welcome development, of late, is the focus given by the States for school leadership training program being organized with the assistance of NUEPA and other stakeholders. This must be extended to other States also and a uniform criterion may be evolved which can be followed by all States.

7.6. In RMSA, the status of in-service teacher training and funds spent for the last five years is are given below (Table 5).

Table 5. In-service training, sanctions and completed

Year	Training			Funds		
	Sanctioned	Completed	% Completed of sanctioned	Approved (lakhs)	Spent (lakhs)	% Spent of approved
2010-11	809,162	178,129	22	8,583.35	2,364.20	28
2011-12	932,854	340,050	36	16,627.67	4,942.64	30
2012-13	618,500	321,366	52	9,322.71	1,767.24	19
2013-14	617,080	246,274	40	10,657.95	3,869.17	36
2014-15	481,492	303,805	63	8,735.56	6,504.94	74

Source: Data from MHRD presented to the 6th JRM

7.7. It is clear that training completion rate needs revisiting and States must be advised to complete the training quota approved by PAB. Also, there is a considerable gap between funds approved and spent, which needs to be appropriately addressed, particularly in poor performing States.

7.8. In the training process, there is a heavy reliance on the subject and pedagogy oriented trainings. Considerable focus is being given for subject specific training, particularly in science, mathematics and language. However, not much attention is given to integration topics such as ICT, life skills, inclusive education, gender sensitivity and hands on activity in the training content of pedagogical and subject training. Training models across States are limited to centralised design and quality of materials and logistic arrangements varied within and across the State.

7.9. Though there is a general belief amongst teachers that such trainings help them to integrate new knowledge, skills and attitudes into their classroom practice, the repetitiveness and stereotypes of such trainings are putting negative impact on the participation of teachers. The mission believes that the quality of resource persons, interactive mode of training, use of ICT and multimedia are effective components of the training process. In all such trainings, the teachers must be given the feeling that the exercise of feedback collection is an important activity, and on the basis of feedback, changes in training must be made accordingly. A proper follow-up mechanism has to be put into place and teachers need to be encouraged to undertake research projects to examine the impact of training on student performance and academic growth.

7.10. There is a provision under RMSA to meet the expenditure of the training programs. The RMSA provision is limited to the extent of Rs 300/- per participants which takes care of their travel, boarding/lodging and also the expenditures of the resource persons. Almost all the participating States voiced that the provision is inadequate and needs to be suitably revised. Also, fund flow must reach on time—well in advance of the training schedule.

7.11. There is a felt need to broaden the transaction techniques and modes used for delivery in the training process. The present techniques of monologues delivered by all knowing authorities such as KRPs and RPs need to be replaced by techniques that engage participants in small group activities, demonstration, practice method and skill application activities that have potential to consolidate new knowledge and skills for integration into classroom practices.

7.12. 'One size fits all' mindset needs to be removed in the training process. In-service training must be flexible enough to previously covered topics (for new teachers), new topics (for all teachers), and specialized or advanced topics (for certain categories of experienced teachers), besides, of course, covering topics on hard spots identified in different subjects. Providing training taking middle path may lead to disengagement and has the great potential to seriously compromise the training experience.

Nature of Onsite Academic Support Structures

7.13. It emerged clearly from the State presentations that the States are organising training of teachers every year of varying durations from five to ten days. To this end, they have developed resource materials. These State-specific materials, of course, vary to take care of the local needs. It emerged during the discussion that these materials have been developed after discussing with State Resource Persons and other functionaries. We find these are unstructured and trainings are usually planned in an ad hoc manner. Evidence suggests that there is considerable variability in the needs assessment procedure followed by different States and is mostly informal and unsystematic. It may be rewarding to review these materials in the light of the hard spots in different subjects as identified by SLAS or NAS by the concerned State and include materials that sensitize teachers to handle the difficulties of the students.

7.14. There may be commonalities in the hard spots identified in different subjects across States and thus the training materials developed by one State may be useful and provide insights to others about the ways to address those difficulties. These resource materials should be uploaded on websites and shared with others. Some States have developed web portals for this purpose. It was also found that Rajasthan has formed What's App Group where teachers can share difficulties and also the probable solutions of the difficulties. This practice should be evaluated but may be of use to other States as well.

7.15. The RMSA-TCA presented selected findings with regard to student populations and school size. One finding concerned the efficiency of schools by size. An input-output model was set to establish efficiency of school size in converting four key inputs (such as PTR, SCR, toilets and seven key facilities like drinking water, library, electricity, playground, computer laboratory, boundary wall, and science laboratory) into an output which is measured by pass percentage in high school board examination. Results clearly showed better performance in respect of schools having these facilities as compared to the schools where these facilities are inadequate or not available. The Mission, therefore, reiterates providing these essential components of the instructional infrastructure and should therefore be provided in all secondary schools under RMSA.

7.16. The computers have been provided to the schools for enrichment of existing curriculum and pedagogy by employing ICT tools for teaching and learning. Assam has conceptualized smart classes. However, in many schools these computers remain unutilized for subject teaching for want of trained persons. Also, competency building is required regarding turning these computer labs into ICT labs. For these guidelines may be developed at the national level and shared with the States which will be of great help for implementation at the State level.

7.17. The RMSA covers classes 9 and 10 where science subject is taught to the students as a discipline, where, in order to provide practical experience to students, laboratory is required. It was expressed by some States like Mizoram that, in order to make the laboratory operative, a lab attendant is required. In the absence of lab attendant, the laboratory remains unutilized.

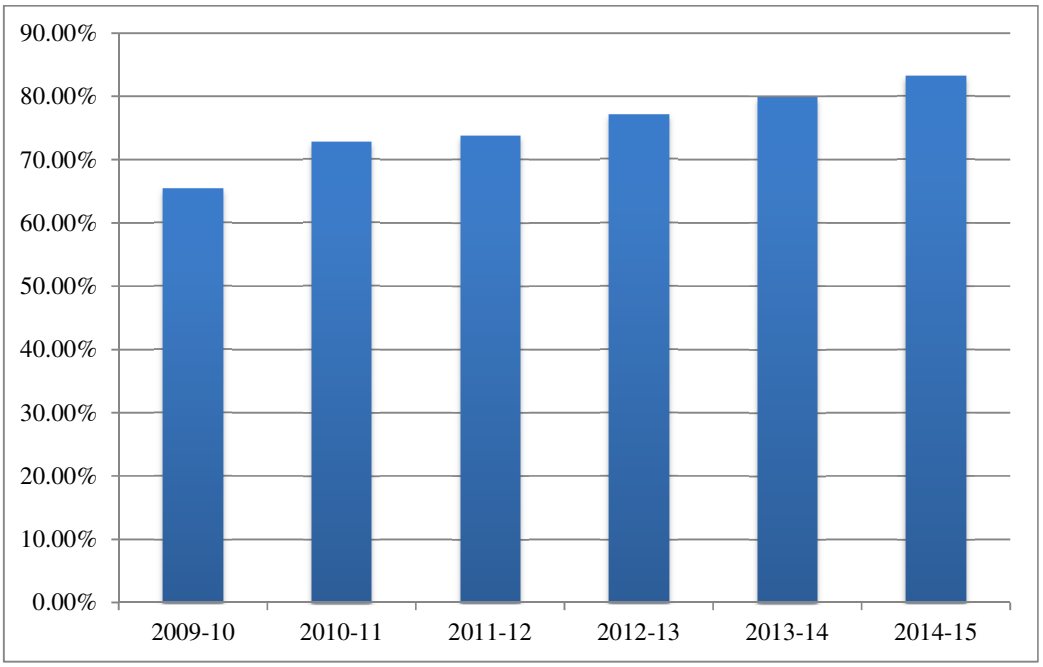
7.18. Human Resource Management Systems (HRMS) have been implemented in Karnataka and Madhya Pradesh though the two State systems differ in several respects. Karnataka has implemented a complex matrix/ network of teacher monitoring, aimed towards providing support. In Karnataka, through online subject teachers' forum, teachers have learnt to use digital tools and resources for their subject teaching. Thus, HRMS is a critical tool that will enable better planning, management and performance of teachers. The HRMS needs to be strengthened by including functions like teacher deployment, transfer, training, as well as gathering, supply and demand of subject teachers in the States. It must also be highlighted as one of the best practices for adoption/ adaptation by other States.

Availability of Required Number of Teachers

7.19. It was heartening to note that vacant teaching posts have been reduced over the years from 25.82 percent in 2013-14 to 19.95 percent in 2015-16. However, there is a vacancy of more than fifty percent in some States like Jharkhand (83.8 percent) and Uttar Pradesh (54.63 percent). Of the total approved posts under RMSA (115,428), only 64 percent posts have been filled in. The situation is grim in States like Jharkhand, Gujarat, Uttar Pradesh, Bihar, Odisha, Nagaland, Meghalaya, and Chhattisgarh. The study by RMSA-TCA showed that the situation is worse in rural and tribal areas.

7.20. Under RMSA, new schools are opened with the approval of 6 teacher posts (one Head Master/ Principal, one each for Science, Mathematics, Social Science, Language, and English teacher). And more than 80 percent of schools have the minimum number of teachers (Figure 8).

Figure 8. Proportion of Schools with at least the Minimum Number of Teachers in Position



Source: MHRD data provided to the JRM

7.21. However, given the need for subject specialist teachers in secondary schools, a more important indicator is the percentage of schools which have teachers in each of the core subjects. **At present, less than one quarter of schools have at least one teacher in all five core subjects; and this figure has barely moved during the RMSA implementation period.** Also, the RMSA-TCA study reported that the availability of subject specific teachers in small and stand-alone schools remains poor, which ranges between about 30 percent and 40 percent. There is need to review mechanisms in place at the district and State levels to support transparent and equitable distribution of teachers across schools.

7.22. About 33 percent Headmasters/ Principals posts are vacant in government secondary schools causing a concern for quality improvement in secondary school education. A large number of posts of Headmasters/ Principals is vacant in Jharkhand, Gujarat, Bihar, Chhattisgarh, and Uttar Pradesh. One of the reasons could be that while these posts are promotional in nature, qualified teachers for promotion may not be available. Whatever may be the reason, this has to be sorted out on priority so as to place Headmasters in RMSA schools.

7.23. There is a gradual improvement in the pupil-teacher ratio, which has decreased from 30:1 in 2009-10 to 27 in 2014-15 (MHRD data provided to the JRM)

7.24. The qualification of teachers to teach secondary classes has been prescribed in all States. It is observed that 89.8 percent of teachers in India have a graduate degree (or above) and 86.1 percent of all secondary teachers are professionally qualified (i.e., with a BEd. or above degree) (Flash Statistics, 2014-15). Concerted efforts must be made across States to recruit qualified teachers for the remaining vacancies.

7.25. Except a few States, all other States are recruiting TET qualified teachers to teach secondary classes. While the existing format of TET is meant for elementary classes and the TET curriculum for secondary classes has not yet been developed by NCTE, wide variation and some sort of adhocism persists regarding appointment of TET qualified teachers for secondary classes. There is a need to adopt some uniform pattern across States.

7.26. **Overall, about 40 percent of schools in India do not have a Mathematics, a Social Studies or a Language teacher (or are lacking two or more of them) and about one third of schools do not have a Science teacher.** Shortage of subject teachers in four core areas (Language, Mathematics, Science, and social Science) in secondary schools across States is directly related to poor school performance. This has also been raised by previous JRM while undertaking field visits. The present JRM also feels that unless this issue is dealt with in all seriousness and effectively monitored, the concern for quality becomes meaningless. This has particularly negative impact on children belonging to disadvantaged sections and rural segments of the population. (The situation in different States is given in the Annexure to this Chapter.)

Production and Distribution of Free Textbooks

7.27. There is no provision for free textbooks under RMSA. However, as part of State initiative, many States are providing free textbooks to all categories of students. Some States are only providing to girls and SC/ST students and there are few States which do not provide any such incentive. There is thus a wide variation in the distribution of textbooks across States. While JRM appreciates such endeavor on the part of the States, it is felt that in order to reduce gender gap, the RMSA may consider including provision of distributing free textbooks to girls.

7.28. A welcome development, of late, is the ambitious ICT tool for learning through electronic mode for targeted school children through *e-pathshala*. NCERT has developed National Repository of Open Educational Resources (NROER) for teachers, students, parents and educators. All textbooks from classes 1 to 12 have been converted into electronic publication which are free and open e-book standard. NCERT is also working with the State boards to convert their resources in multiple languages/ subject areas. Madhya Pradesh has already put all their school textbooks online at *e-basta*. This collaborative platform, which is offering resources for all school subjects for teachers and students, needs to be extended across all States, and NCERT must play proactive role in this regard.

7.29. Some States are using the concept of virtual classes for enrichment programme. They have set up Centre's at some schools of excellence and started regular virtual classes for 10^{th} and 12^{th} standards. Huge repository of virtual class videos has been developed.

Recommendations

Rec. 13. DIETs should be involved as active partners in RMSA for teacher development and training, as some States have started to do.

Rec. 14. Instead of 'one size fits all' training process, differential instruction for new and experienced teachers based on needs assessments and with focus on covering hard spots in different subjects as identified by NAS, SLAS and Board Examination results needs to be adopted. The training material should be disseminated electronically (such as uploaded on RMSA website) for sharing with other States and extending access for a greater number of teachers.

Rec. 15. MHRD may wish to consider, in consultation with the States, whether the current norm of 300 INR per teacher trainee per day is sufficient for States to offer good quality in-service education, covering resource persons, materials and logistical costs.

Rec. 16. A follow-up mechanism must be put into place to examine the impact of teacher training programmes on student performance and academic growth.

Rec. 17. Human Resource Management System (HRMS) may be strengthened by including functions like teacher deployment, transfer, training as well as gathering, supply and demand of subject teachers, learning from existing good practice.

Rec. 18. States should develop a realistic plan to fulfill remaining subject-specific teacher vacancies within the time period of the 12th Plan. States should not hesitate to make alternative arrangements on a temporary and time-bound basis if regular appointments cannot be made in the reasonable time-period, subject to maintenance of required qualifications.

Rec. 19. The collaborative platform of NROER needs to be made more user-friendly by providing more effective catalogue and search functions.

Annexure: % of Schools without Core - Subject Teacher in Government Schools

Sl. No.	States	% of Schools Without			
		Mathematics Teacher	Science Teacher	Social Studies	Language Teachers
1	ANDAMAN & NICOBAR ISLANDS	23.16	15.79	16.84	26.32
2	ANDHRA PRADESH	30.62	25.7	39.36	23.32
3	ARUNACHAL PRADESH	43.03	35.25	27.87	29.51
4	ASSAM	17.89	18.93	24.9	36.28
5	BIHAR	49.9	46.58	46.76	64.62
6	CHANDIGARH	4.6	6.9	4.6	6.9
7	CHHATTISGARH	43.97	33.12	36.93	38.49
8	DADRA & NAGAR HAVELI	12	12	8	4
9	DAMAN & DIU	57.69	57.69	57.69	57.69
10	DELHI	8.84	11.89	12.97	3.44
11	GOA	14.12	20	15.29	11.76
12	GUJARAT	52.73	54.46	67.27	46.2
13	HARYANA	16.45	20.41	12.15	9.54
14	HIMACHAL PRADESH	52.59	42.09	43.93	81.17
15	JAMMU & KASHMIR	41.31	37.89	52.54	38.14
16	JHARKHAND	65.68	66.11	66.3	57.94
17	KARNATAKA	38.75	32.16	61.28	20.87
18	KERALA	17.21	17.69	23.59	11.23
19	LAKSHADWEEP	0	0	0	0
20	MADHYA PRADESH	33.24	19.42	11.13	70.3
21	MAHARASHTRA	31.81	28.96	30.99	35.99
22	MANIPUR	26.89	17.65	18.49	30.25
23	MEGHALAYA	35.42	29.17	31.25	45.83
24	MIZORAM	11	13.33	13.33	66.67
25	NAGALAND	52.07	51.03	52.76	41.72
26	ORISSA	36.11	36.92	75.67	28.69
27	PONDICHERRY	12.78	63.16	12.78	97.74
28	PUNJAB	29.91	37.23	30.52	95.04
29	RAJASTHAN	59.2	51.1	61.36	52.67
30	SIKKIM	44.63	44.07	52.54	43.5
31	TAMIL NADU	9.92	13.42	23.72	35.85
32	TELANGANA	35.53	28.5	44.73	29.45
33	TRIPURA	42.68	34.72	57.44	37.02
34	UTTAR PRADESH	71.23	63.04	67.45	62.1
35	UTTARANCHAL	21.74	20.93	19.81	31.29
36	WEST BENGAL	36.08	25.44	33.36	13.72
Country Total		**37.89**	**33.17**	**41.62**	**41.04**

= Above 40 percent. Source: MHRD data provided to the JRM.

8. Innovative/ Best practices – State Specific Interventions

8.1. The JRM has noted elsewhere in this Aide-Memoire of the need to capture, validate and disseminate examples of good practice (and this recommendation carries forward from the last JRM). The present JRM has not had an opportunity to develop a process for validating potential examples. However, during our discussions and interactions with various governments, we found a few examples which might be investigated to identify whether they can be considered good practice. We offer the following in this light.

Child Tracking

8.2. The Child Tracking System, as RMSA initiative, has been instituted by the States of Karnataka, Madhya Pradesh, Tamil Nadu, Assam etc as part of their web portal to track double enrolment, dropout, distribution of scholarship, retention at secondary level etc. Assam uses Child Tracking System for setting the targets in secondary education sectors as well as creating demand of New Schools and Up-gradation of Upper Primary schools. Karnataka has also piloted in two districts to capture the data of every child by assigning a unique child ID. It is also used for capturing the attendance of the children. In Madhya Pradesh, Samagra Shiksha Portal- for child tracking and incentive distributions instituted to facilitate the students to avail all entitled scholarship. Similarly, Tamil Nadu is providing Aadhaar Integrated unique identification card with photo and profile with barcode to every child called Smart Card to track the students and ensuring the delivering benefits/incentives from Government to the children.

Human Resource Management

8.3. Teacher management and development is an integral part of the e-governance system. Madhya Pradesh has introduced an online e-governance application for human resource management of the school teachers and staff. The system has allotted a unique ID to all teachers/staff as mandatory requirements. It provides online payroll of 3.47 lac teachers/ staff tracking transfers, promotions, retirements etc., track the relieving and joining and maintenance of service records (e-Service book). It has provision to record grievance of teacher online and track recorded grievances. The e-governance system is also used to identify need of guest teachers by analyzing payroll & enrolment data. All Guest Teachers are registered on the Portal and the bills of their honorarium are generated through the portal. Similarly, initiatives have also taken by the Tamil Nadu and Karnataka. The appointment and transfer of teachers are made available on-line with transparency. It helps in estimating the vacancies as per the pupil teacher ratio. Karnataka has created a system to manage information related to Teacher Data. The form captures the information of every teacher and also assigns a unique teacher ID that in turn helps to identify the teacher. It also tracks the attendance details of a teacher. The training system is also in use by DSERT.

Integration of ICT in teaching learning practices

8.4. The States like Chhattisgarh and Rajasthan have introduced ICT in learning-teaching and training. In Rajasthan, e-books and e-content will be made available to students on school education portal. Alongside, there will be provision for installation of English Language Lab, Satcom facility, on-line MIS system for effective monitoring of schools and Smart classrooms equipped with K-Yan projector and screen.

Career Counseling

8.5. Chhattisgarh has planned for an interactive voice response based career counseling in 3 districts namely, Balodabazar, Korba and Kanker. 1000 students will be participating online on this counseling. A detailed report based on psychometric analysis of students will be generated. Based on this collected data the pedagogical attitude and capability of students will be judged for their future career. With these analysis student can be guided to the best career as per their capability and ability.

9. Programme Management

Progress against 'Annual Work Plan'

9.1. The many achievements of RMSA have been acknowledged above. However, it is also important better to understand where progress is currently lacking or being impeded. In presenting this information an attempt has been to try to identify and understand where and why particular areas of programme underperformance occur. If these can now be prioritized through greater management attention and remedial action, the potential exists to achieve the greatest programme uplift in the remaining years and months of RMSA.

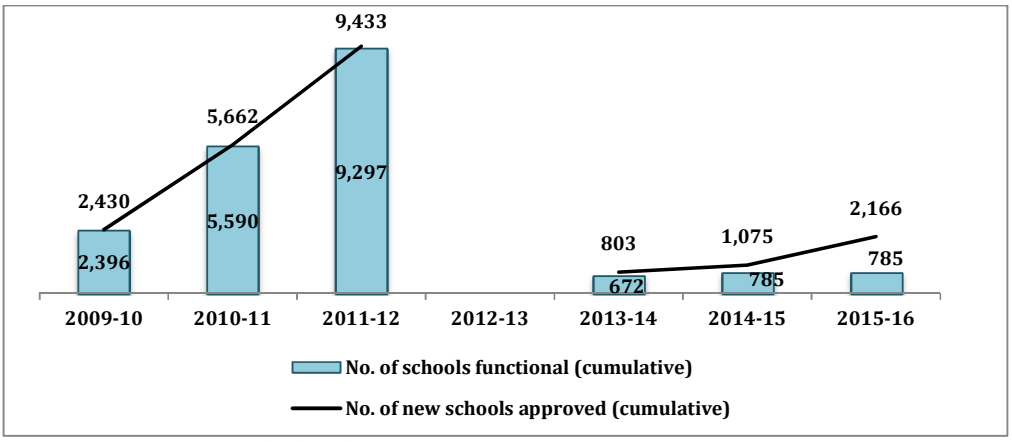
9.2. Other important general observations from the review of Annual Work plans include the following:

- There has been low utilization of available funds (2014-15- Non-recurring-52 percent, Recurring-82 percent), and time and cost over-runs for civil works.
- Complex, variegated and time-consuming procedures for sanctions and implementations appear to be important factors that have held back implementation.
- The delay in recruitment of teachers, especially Subject teachers is a programme component in need of critical attention.
- The shortfall in training of teachers (only 64.53 percent in 2014-15 & 35.92 percent during 2009-10 to 2014-15) is a further area of critical concern.
- Utilization of Recurring Fund has increased from 37.8 percent in 2011-12 to 82.42 percent in 2014-15. However, Utilization of Non-Recurring Fund has increased from 28.9 percent in 2011-12 to 51.97 percent only in 2014-15. It is necessary to significantly expedite implementation of civil works, recruitment of teachers, and training of teachers to ensure optimal utilization of available resources.

9.3. **Establishment of new schools:** From 2009-10 to 2011-112, a total of 9,433 new schools were sanctioned of which 9,297 schools (98.6 percent) became functional. New schools were not approved in 2012-13, but over the next three years (2013-14 to 2015-16) a total of 2,166 new schools were sanctioned of which 785 schools (36.2 percent) were operationalized as on 31 March 2015. Thus, over the entire period, 11,599 new schools have been sanctioned against which 10,082 schools (86.9 percent) have become functional. These functional schools have provided access to nearly one million students at an average enrolment rate of 96 students per school[3]. Operationalization of the remaining 1,517 schools – including 1,091 schools sanctioned in 2015-16 – would enhance enrolment by about 150,000 students[4].

[3] Total enrolment in 10,082 functional schools is 9.72 lakh representing an average of 96 students per school.
[4] The number is estimated at historical average rate of enrolment *viz*. 96 students per school.

Figure 9. Growth in new schools under RMSA (2009/10 – 2015/16)



Source: MHRD data provided to the JRM

9.4. It will be noticed that many of the States which have the biggest shortfalls in completion of civil works and other activities of RMSA are also those States which have the lowest GERs (Table 6). So there should be augmented support and capacity building from MHRD/TSG and enhanced monitoring.

Table 6. GER-2009-10 & 2014-15- In India's most populous States

State	Population (Mn)	%age of India's Total Population	GER 2009-10	GER 2014-15	CAGR
U.P.	199.81	16.50	72.40	67.79	-1.3%
Maharashtra	112.37	9.28	72.80	89.31	4.2%
Bihar	104.10	8.60	35.20	69.09	14.4%
W.B.	91.27	7.54	54.90	78.17	7.3%
A.P.	84.58	6.99	67.20	72.4	1.5%
M.P.	72.63	6.00	63.70	80.18	4.7%
TN	72.15	5.96	82.10	91.89	2.3%
Rajasthan	68.55	5.66	57.90	76.16	5.6%
Karnataka	61.10	5.05	72.00	81.8	2.6%
Guj	60.44	4.99	60.30	74.34	4.3%
Odisha	41.97	3.47	55.60	77.06	6.7%
Kerala	33.41	2.76	97.60	103.24	1.1%
Jharkhand	32.99	2.72	33.90	71.86	16.2%
Assam	31.21	2.58	49.40	74.78	8.6%
Punjab	27.74	2.29	54.90	85.59	9.3%
Chattisgarh	25.55	2.11	51.50	101.82	14.6%
Total	1119.87	92.49			
India	1210.85		62.90	78.51	4.5%

Source: UDISE-2014-15 & Census-2011

9.5. **Progress in civil works:** The progress of civil works for new schools has been very slow. Out of 11,599 new schools, civil works have been completed for 4,131 schools representing a completion rate of 35.6 percent (Table 7). Almost all these civil works were completed during the first three years (2009-10 to 2011-12) of RMSA. In 2012-13, there was no fresh sanction of civil works. During the next three years (2013-14 to 2015-16), civil works for 2,166 schools were sanctioned of which construction was completed for only one school.

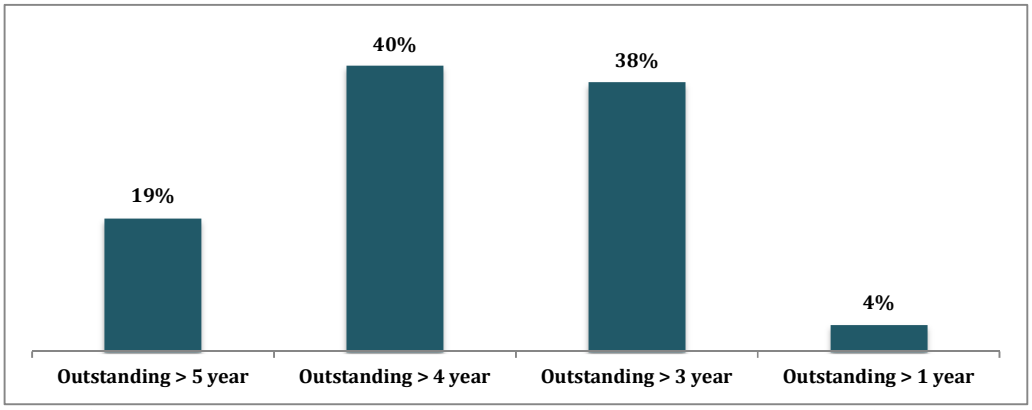
Table 7. Progress in Civil Works

	2009/10 - 2011/12		**2013/14 - 2015/16**		Total	
Sanctioned	Nos.	%	Nos.	%	Nos.	%
Sanctioned for construction	9,433	100.0	2,166	100.0	11,599	100.0
Civil works completed	4,130	43.8	1	0.0	4,131	35.6
Civil works in progress	2,898	30.7	115	5.3	3,013	26.0
Civil works not taken up	2,405	25.5	2,050	94.6	4,455	38.4

Source: MHRD data provided to the JRM

9.6. The Mission also notes that the civil works of 3,013 sanctioned schools (26 percent) have remained incomplete spanning over 5 to 3 years (Figure 10). There could be several problems and constraints for such a situation (e.g. delay in release of funds by the state to the implementing societies often due to non-submission of UCs in time; procedural delays in the procurement process; escalation of unit costs requiring additional commitment and allocation of funds by the State), but the States/UTs need to address them immediately.

Figure 10. Analysis of incomplete civil works (2009/10 – 2015/16)

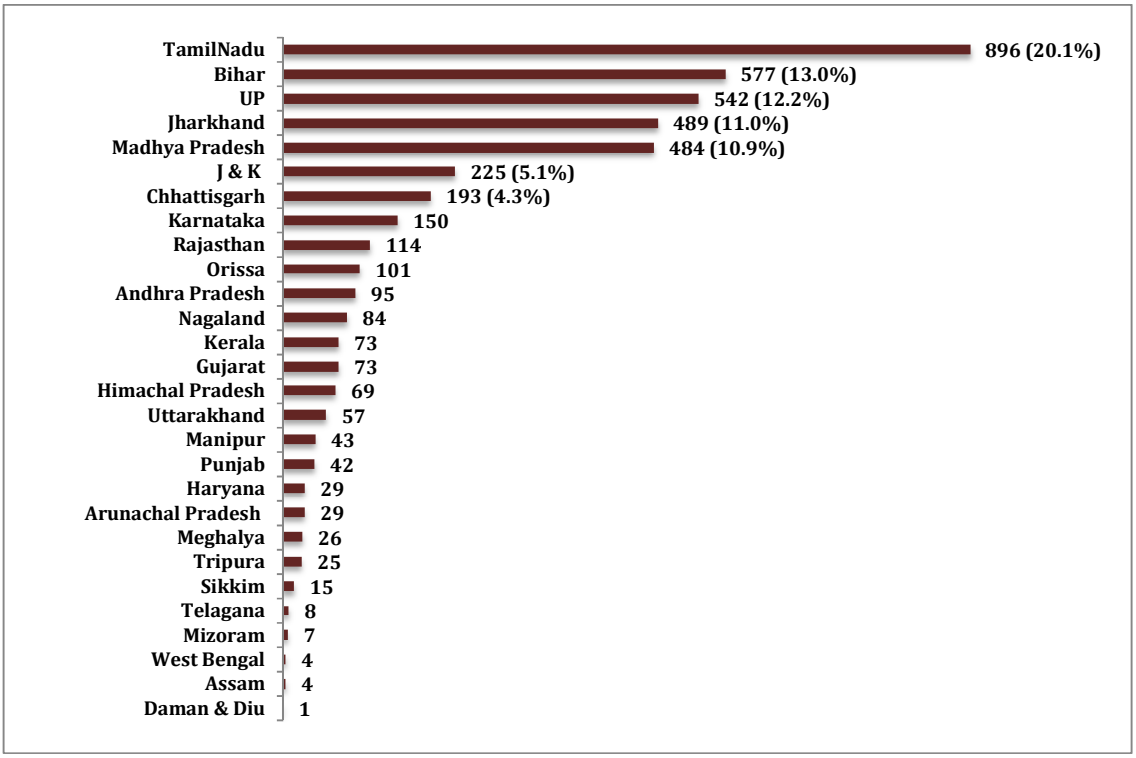


Note: This figure should be understood as follows – the left-most bar shows the works in-progress (19 percent of the total outstanding works-in-progress) carried over from 2009-10 till date and thus remained pending for more than 5 years. Similarly, the bar second from the left shows the works in-progress (40 percent of the total) carried over from 2010-11 till date and remained pending for more than 4 years. In 2012-13, no fresh works were undertaken.
Source: Data provided by MHRD to JRM

9.7. Of the sanctioned 11,599 schools, civil works have not been undertaken for 4,455 schools (38 percent). About two-third of these schools belong to Tamil Nadu, Bihar, Uttar Pradesh, Jharkhand, and Madhya Pradesh (Figure 11). It is understood that some of these States have received funds allocation during the current financial year (2015-16) and they will take up the construction works as soon as funds are released. A case in point is Madhya Pradesh, which

has got allocation of funds for construction of 484 new schools in this financial year, and the State is now in the process of undertaking the civil works.

Figure 11. Civil works not yet undertaken (2009/10 – 2015/16)



Source: MHRD data provided to the JRM. Note: The 4,455 pending civil works includes works sanctioned for 1,091 schools in 2015-16.

9.8. **Construction of additional classrooms**: Till date, construction of 52,715 additional classrooms has been approved for the existing government schools of which works have been completed for 20,839 classrooms (40 percent), while works for another 16,774 classrooms (32 percent) are in progress. However, civil works have not yet undertaken for 15,102 classrooms (29 percent). Bihar, Tamil Nadu, Andhra Pradesh, and Jharkhand account for about 64 percent of the total works not undertaken. It is imperative that the concerned States/UTs draw up specific plans to complete the pending works and thereby improve students-classroom ratio.

9.9. **Strengthening of the existing schools**: It is heartening to note that the States/UTs have already completed the construction of sanctioned toilet blocks in line with the national thrust on Swacch Bharat Abhyan. However, the progress towards strengthening other facilities of the existing schools has been quite slow. Against the respective approvals, the works have been completed for 10,107 science labs (39 percent), 6,920 computer rooms (32 percent), 10,133 libraries (37 percent), 12,062 art/craft/culture rooms (38 percent), and 7,096 drinking water facilities (Table 8). Besides, works have not been undertaken for making provisions for 7,309 science labs (28 percent); 8,647 computer rooms (40 percent); 8,366 libraries (31 percent); 9,705 art/craft/culture rooms (31 percent); 49,544 toilet blocks (76 percent); and 2,724 drinking water facilities (22 percent).

Table 8. Strengthening physical infrastructure of existing schools – component wise progress (2009-10 to 2015-16)

Infrastructure		Sanctioned	Completed		In-progress		Construction not undertaken	
			Number	%	Number	%	Number	%
Science lab	Nos.	25,948	10,107	39	8,532	33	7,309	28
Computer room	Nos.	21,864	6,920	32	6,297	29	8,647	40
Library	Nos.	27,428	10,133	37	8,929	33	8,366	31
Art/craft/culture room	Nos.	31,453	12,062	38	9,686	31	9,705	31
Toilet block	Nos.	65,318	65,318	100	-	-	-	-
Drinking water	Nos.	12,327	7,096	58	2,507	20	2,724	22

Source: MHRD data provided to JRM.
Note: these are just those schools which have been approved for additional infrastructure (other schools may require additional infrastructure
Source. Data from MHRD provided to JRM, as of July 2015

9.10. Among the States/UTs, Bihar has not undertaken any strengthening works, while Nagaland has taken up only 4 percent of the sanctioned works. Jharkhand and Meghalaya have undertaken around 30 percent of the approved works[5]. The overall progress, especially in these States, is a matter of great concern and deserves immediate attention.

9.11. In concluding the above discussion, it is clear that there has been substantial improvement in access to secondary education. However, there is urgent need to expedite the pending works for infrastructure and facilities. It is also imperative to equip the schools with required core subject teachers.

9.12. The JRM has some practical suggestions that may help in this regard:

- Streamline Administrative Procedures can increase implementation momentum. This could include:
  - Advance preparation for implementation of AWP – identification of sites, possession of land, etc.
  - Preparation of Recruitment, Training, Procurement (including Civil Works) calendar, etc.
  - Financial – Optimum utilization of available funds, cash flow management.
  - Enhancing the deployment of Human Resources: e.g. speeding up the teachers' recruitment time-frame; teachers' training may be complemented through online modular self-training, especially in subject areas.
- Instead of aggregated civil works packages at State-level, District-level work packages may be tendered. District-level Implementation Agencies may be able to complete works faster. CEO, Zila Panchayat/District Collector can co-ordinate.
- Simplify procedures for sanction: e.g. use of a district-level implementation agency (Zila Panchayat) for civil works
- Use Regional/District packages for tendering to decentralize execution of civil works.
- Delegate the implementation of smaller civil works (ACR, drinking water facility, toilets, etc) to local bodies (Gram Panchayat/Zila Panchayat, Urban Local Bodies. New school buildings may be constructed by District/Regional Implementing Agencies.

[5] Source: MHRD, Progress Report

- Resolve issues pertaining to Unit-cost, cost escalation- SoR revision, tender-premium, time-over-run. This could involve proportionate sharing by GoI & States.
- Emphasise monthly monitoring at CEO, Zila Panchayat level.
- Speed up the timeframe for implementation of Annual Work Plans
  - o Innovative strategies – mobile classrooms / teachers, bicycles / transport subsidy for students:
    - Make greater use of online PMS:
    - Consider formulating revised AWPs now for both 2015-16 and 2016-17
    - Use monthly video-conferencing for monitoring progress and resolution of problems
- Use innovative strategies to address access and un-served populations: e.g mobile classrooms / teachers, bicycles / transport subsidy for students.
- Some States have procurement procedures much different from FMP. There is a need to accommodate prevalent procurement procedures in States if they are substantially to conform to the FMP.
- It appears that advances to implementing agencies are treated as expenditure. Funds in the pipeline need to be tracked with reference to Utilization certificates.
- Make greater use of teachers' training through video conferencing – VC network of Panchayati Raj & Rural Development department can possibly be used.
- Prioritization should be given to filling vacant posts of Head-masters (33 percent vacancy in 2014-15). This is achievable as candidates can be identified within existing staffing.

Release and Utilization of School Grant

9.13. The following table shows the approval and expenditure on school grants since 2010-11. Except for the year 2012-13, more than 25 percent of the approved amount remains unspent (Table 9). Some of the States like Bihar, Chhattisgarh, Rajasthan, and Uttar Pradesh are not fairing satisfactorily in this regard. There are many reasons for this shortfall. We need to look into and find out solutions so that the States utilise the approved amount in time.

Table 9. School grants, approvals and utilization

Year	Approved (Lakhs)	Expenditure (Lakhs)	Expenditure as % of Approved
2010-11	35,009	16,131	46
2011-12	37,764	24,372	65
2012-13	35,957	32,467	90
2013-14	36,861	24,005	65
2014-15	45,647	34,306	75
Total	191,238	131,281	69

Source: MHRD data provided to the JRM.

9.14. Funds under recurring and non-recurring heads from the Government of India to the State governments through State treasury are released in two instalments every year. The State government releases the amount to the State Implementation Society (SIS), which then is transferred to district and schools. Therefore, the fund flows through multi-channel system before it reaches to the school. This causes delay in undertaking activities as per approved plan. A mechanism may be evolved whereby school grants are released to the school directly from SIS with intimation to District Project Officer (DPO).

Research and Development

9.15. There is need for research base to identify and disseminate good practice to support the effective implementation of RMSA, in the following illustrative areas:

- Effective use of data
- Managing skill and vocational development
- Effective Teacher Management
- Professional Development of Secondary School Teachers
- School Improvement and Leadership
- Availability of Science and Mathematics teachers

Procurement

9.16. MHRD has issued a Manual on Financial Management and Procurement dated 24th January 2012 which is applicable for all procurement done on and after 1st April 2012 by implementing agencies. All States are required to follow this Manual for their procurement of works, goods and consultancy activities.

9.17. As envisaged in the FM&P Manual, the first step in the procurement activity is preparation of a realistic procurement plan based on AWP & B and as per the timeline indicated in the procurement plan, the implementing agencies are to monitor and take action so that the activities are completed in time. JRM noted that many States have not prepared a procurement plan at State level and as on end of July 2015, some 11 States have submitted their procurement plan for the year 15-16 to MHRD. It is requested that MHRD may follow up with balance 25 States for early submission of procurement plans. It is pertinent to mention that the procurement plan is an important base document for monitoring the procurement activities which in turn track the project progress in each State.

9.18. JRM noted that in first three years of the program (FY 09-10 to 11-12), the civil works constitute the major procurement activity in States (approximately 60 percent) and afterwards the focus shifted from physical infra-structure building to soft components like teacher recruitment, their training, quality of education etc. The total expenditure on civil works has increased from meager sum of Rs. 10 crores in FY 2009-10 to Rs. 3678 crores in the FY 14-15 which is approximately 45 percent of the total expenditure in that year.

9.19. JRM noted that in almost all States, civil works are being executed by either PWD or by various State public sector undertakings and in few States by SMDCs though last year the powers of SMDCs for civil works have been increased from Rs 10 lakh to Rs 30 lakh. This may be due to lack of technical expertise available with the SMDCs to handle civil contracts.

9.20. JRM noted that there is considerable delay in execution of civil works contracts in the States though some works are sanctioned more than six years back in the FY 2009-10, those are yet to be completed. As on 31st July 2015, only 4131 new schools (approx. 36 percent) are completed out of 11599 schools sanctioned, 26 percent schools are at various stages of completion and for balance 38 percent schools, the work is not yet started. Out of 52715 additional class rooms sanctioned, only 39 percent of class rooms are completed, 32 percent in various stages of completion and balance 29 percent, the work is yet to start.

9.21. Therefore, there is an urgent need for closer monitoring and supervision of civil works by the District offices as well as SISs for faster & timely execution and better quality works.

9.22. JRM is pleased to note that in 18 States, e-tendering process is followed for all major procurements above certain threshold.

9.23. The design of RMSA envisages Post Procurement Review (PPR) by both the Bank and MHRD independently on sample basis. In FY 13-14 & 14-15, two rounds of post procurement review were conducted by World Bank in four States in each round, viz., **Uttarakhand, Andhra Pradesh, Mizoram and Maharashtra** in first round and Tamil **Nadu, Karnataka, Kerala and Madhya Pradesh** in second round. The major findings were shared with the MHRD and the JRM team during the Mission. The general findings in variance with FM&P Manual conditions are as follows: No procurement Plan; Less bidding time; Not advertised in widely circulated national newspaper; Standard bidding document not used; Contract awarded after expiry of bid validity period; Providing a clause for lower and/ or higher limit for bids in the bid document. The complete PPR reports will be shared with MHRD for onward circulation to respective States for their comments if any and, pending finalization of the reports, necessary follow up actions.

9.24. Regarding independent PPR by MHRD, it is noted that the agency is already shortlisted and in the process of final approval from competent authority. MHRD is planning to complete the post procurement review in all the States in two years period.

9.25. From the PPR findings, it is observed that the State implementing agencies are not aware of the conditions indicated in the FM&P manual. Otherwise the implementing agencies could very well comply with these simple avoidable nonconformities. Therefore there is an urgent need for imparting training to implementing agencies on procurement conditions in FM&P manual across States.

9.26. It is noted that MHRD has plan to conduct series of regional workshops to impart training on use of FM&P manual in the current financial year.

Financial Management

9.27. Based on data provided to the Mission, the above table shows that 85 of the funds released so far have been utilized till date. However, the correctness of the above-mentioned figures need to be verified vis-à-vis audited expenditures as there are significant differences between expenditures reported and the audited expenditures This is evident from the expenditure figures as per the audited utilization certificates for FY 12-13 and FY 13-14 available with the Mission. As is evident from the above table, un-audited expenditures reported by the States in FY 13-14 exceeds audited expenditure for the same FY by about INR 1000 Crores. Whereas, in FY 2012-13 audited utilization figures exceed the expenditures reported by about INR 150 crores. An analysis of the State-wise audited utilization certificates of FY 13-14 shows that INR 4790 crores was lying unutilized with the State Implementation Societies as on March 31, 2014 out of which about 75 percent is represented by bank balances (including FDRs) and about 25 percent by advances. The unutilized amount could actually be higher as many States have shown advances as utilized. Further analysis shows that excluding the 6 States (Maharashtra, Kerala, Lakshadweep, Himachal Pradesh, Delhi, Daman and Diu which have not given break-up of unutilized amount under recurring and non-recurring grants, unutilized amounts under non-recurring grants constitute about 90 percent of the total unutilized amount as on March 31, 2014 (the State-wise break-up is given in Annexure.) The States having large unspent balances as on March 31, 2014 are Andhra Pradesh, Bihar, Chhattisgarh, Odisha, Madhya Pradesh and Rajasthan.

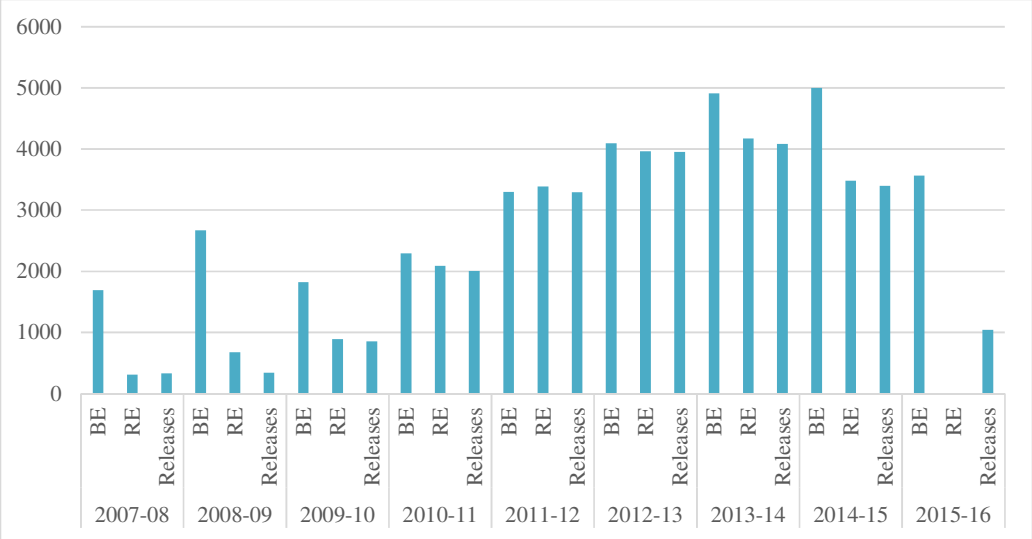
Table 10. Budget allocations, releases and expenditure

Year	Budget Estimate	Revised Estimate	Opening Balance	GOI Fund Releases	State Fund Releases	Total Releases	Total Available Funds	Expenditure Reported by States
2009-10	1354	550		549	238	787	787	81
2010-11	1700	1500	706	1482	353	1835	2541	901
2011-12	2424	2513	1641	2500	1092	3592	5233	1678
2012-13	3124	3172	3555	3172	1057	4228	7783	2403
2013-14	3983	3123	5380	2936	1414	4350	9729	5104
2014-15	5000	3480	4626	2181	926	3107	7733	4240
2015-16	3565		3493	733	210	943	4436	1616
Total	21150	14338		13553	5290	18842		16022
Overall Percentage of Expenditure to Releases								**85**

INR crores. Source: Information furnished by TSG, MHRD to JRM.
Note: BE and RE for FY 14-15 and FY 15-16 represents estimates for the Integrated RMSA Program as the estimate for RMSA alone is not available.

9.28. **Overall budgetary allocations to the RMSA Programme and its constituent components indicates that the Programme is not expanding at the rate needed to meet its goals.** Indeed, in the past year allocations have fallen (Figure 12) (See also table in Annexure.)

Figure 12. Budget Allocation and Releases



Notes: (1) Figures in Rs. Crores; (2) The figures represent the totals for all five components of the Integrated RMSA Programme, including for years before the five components were integrated. (3) Releases for 2015-16 are only up to August 2015.
Source: MHRD data provided to the JRM.

9.29. Some States have made fixed deposits in commercial Banks to handle excess funds. The State of Gujarat has made heavy investments in Gujarat State Financial Services (GSFS) out of RMSA funds lying with the State.

9.30. **Audit Reports of SIS**: The Audit Reports of all SIS for FY 13-14 have been submitted to MHRD and shared with the development partners. Out of 35 audit reports received for the year, 15 audit reports have qualified opinions.

9.31. The auditors continue to point out several internal control weaknesses, including non-compliance with the FMP Manual, poor advance monitoring system, huge transfers to construction agencies, cash payments above permissible limits, bank accounts not reconciled with books, inadequate maintenance of documentation (vouchers) for expenditure, non-maintenance of fixed assets register. **Audit reports of some of the State Implementing Societies namely Jammu and Kashmir, Haryana, Manipur and Bihar have serious audit / accounting issues that needs to be addressed on a priority basis**. MHRD needs to classify audit reports based on risk profile and implication of audit observations to ensure resolution of the serious issues by closely following up with the concerned SIS. The actions taken should be reported to the development partners by December 31, 2015.

9.32. There are also wide variations in the quality of audit reports. A few reports have significantly material issues reported by the Auditor, yet the opinions are unqualified. Some auditors have simply bunching up all the preliminary audit observations at the field unit level. Many audit reports are silent about coverage of SMDCs which is mandated by the FMP Manual. Successive JRMs have expressed concern over the quality of audit reports and the accompanying financial statements prepared by the SIS. Many audit reports do not report on coverage of SMDCs as is required by the FMP Manual. It has been agreed with MHRD that a Workshop will be held for External Auditors along with relevant Finance Staff of State Implementation Societies dealing with Audit of the Program. The overall objective is to improve the quality of financial statements and audit reports of SIS. The workshop will aim at enhancing the understanding of the auditors and relevant staff of RMSA and SSA on the Audit Terms of Reference as included in the FMP Manuals of these Programs, inform the auditors about the expectations of the various stakeholders from the audit reports and do few real-life case studies based on financial statements and audit reports of SIS received for FY 12-13 and 13-14.

9.33. According to the better practices of governance in the corporate sector, the institution of Audit Committee plays an important role in ensuring proper audit and appropriate resolution of audit findings. For this to happen effectively in the government context, State may consider forming an Audit Committee for the SIS having representation of non-executive or independent members such as representatives of Finance Department, Planning Department and a Chartered Accountant. Requisite changes may be incorporated in the FMP Manual in this regard.

9.34. The Review mission reviewed action taken on the recommendations of the Vth JRM and was note that remedial action was not satisfactory in the following activities:

- A financial review of the program by MHRD recommended by the fifth JRM is yet to be conducted. The JRM is of the opinion that it is a necessity at this stage of the program. This will help ensure course correction for system improvement and better utilization of the scarce resources.

- Financial reporting by SIS and audit thereof continue to be substandard in most States. There is little evidence to suggest that remedial actions have been taken on audit observations.

- Internal Audit is not contributing adequately to the improvement and firming up of the financial reporting process. Internal Audit is an instrument for assessing internal control systems in SIS and it has a major role in strengthening controls. Fault finding has to

give way to a proactive effort by the Internal Audit teams to guide the SIS in proper maintenance of accounting records.

9.35. **Summing up,** it is felt that unless we raise the standards of financial management in RMSA, critical accountability and assurance issues will remain. The scale of funding in RMSA demands a minimum complement of book keepers, accountants and financial managers; and a supportive control environment from the executive committee and governing body of SIS at the State level. The reliability of the Financial and accounting data stream for taking stock of progress which feeds into the annual planning and decision making processes.

Recommendations

Rec. 20. States that have their own procurement systems may ensure alignment with the provisions of the FMP Manual through adjustments of their bidding documents.

Rec. 21. MHRD may follow up with 25 States who have not submitted the procurement plans for the FY 15-16 to furnish the same at the earliest.

Rec. 22. A thorough financial review of the program needs to be undertaken by domain experts from the area of government finance and accounting systems under the guidance of MHRD to resolve data anomalies and also assess the control framework in financial reporting and fund management. This will help ensure midcourse correction for system improvement and better utilization of the scarce resources.

Rec. 23. MHRD should review audit reports based on risk implications of audit findings and ensure resolution of the serious issues by closely following up with the concerned SIS, and report to the JRM on audit findings.

Rec. 24. Conduct a workshop for Auditors and SIS staff involved with audit of the program before the start of audit for FY 2014-15.

Rec. 25. Strengthen TSG with adequate number of staff to meet the complex requirements of financial monitoring and capacity building of SIS staff for this nationwide program.

Rec. 26. Revise the FMP Manual to reflect the change in fund flow arrangements in the Program, integration of accounting and financial reporting of the five separate schemes and change in the accountability structure with greater involvement of the State.

Annexures to Chapter 9

FY	Budget/Revised Estimates	RMSA	Girls' Hostel	ICT @ Schools	IEDSS/ IEDC	Vocationalisation of secondary education	Total
2007-08	BE	1305	0	250	120	20	1695
	RE	.15	0	250	60	1	311.15
	Releases	0	0	254	76	0	330
2008-09	BE	2185	80	300	70	37	2672
	RE	260	40	300	70	7	677
	Releases	0	0	277	65	0	342
2009-10	BE	1354	60	300	70	37	1821
	RE	550	80	200	60	1	891
	Releases	549	65	185	55	0	854
2010-11	BE	1700	100	400	70	25	2295
	RE	1500	67	400	95	25	2087
	Releases	1482	56	386	80	0	2004
2011-12	BE	2424	250	500	100	25	3299
	RE	2513	250	500	100	25	3388
	Releases	2500	195	498	83	17	3293
2012-13	BE	3124	450	350	70	100	4094
	RE	3172	327	353	28	80	3960
	Releases	3171	319	353	27	80	3950
2013-14	BE	3983	450	350	50	80	4913
	RE	3123	376	559	48	65	4171
	Releases	3046	372	559	42	65	4084
2014-15	BE					5000	5000
	RE					3480	3480
	Releases					3398	3398
2015-16	BE					3565	3565
	RE						
	Releases					1043[6]	1043

Source: MHRD provided to the JRM. Note: in Rs. Crores.

[6] This represents releases till August 2015

Grants Unutilized as on March 31, 2014

States/ UT	Recurring	Non.- Recurring	MMER	Prep. Fund	Total	Bank
Andaman & Nicobar Island	13.02	0	0	0	13.02	1.74
Andhra Pradesh	11025.46	43534.06	803.65	0	55363.17	33437.03
Arunachal Pradesh	59.49	1133.57	0	0	1193.06	1190.54
Assam	911.24	18691.53	0	0	19602.77	12277.87
Bihar	0	0	0	0	34893.63	43530.39
Chandigarh	199.26	187.1	0	0	386.36	386.36
Chhattisgarh	-1588.6	26389.09	0	0	24800.49	14314.08
Daman & Diu	0	0	0	0	1040.36	939.66
Delhi	0	0	0	0	74.51	11.82
Dadar & Nagar	421.74	0	0	0	421.74	421.74
Goa	112.84	323.69	0	0.97	437.5	430.95
Gujarat	1283.75	1962.64	0	0	3246.39	5603.46
Haryana	1833.51	2730.93	0	0	4564.44	4564.44
Himachal Pradesh	0	0	0	0	4079.6	4083.28
Jammu & Kashmir	2056.08	9667.43	0	0	11723.51	11723.51
Jharkhand	2486.44	19590.68	0	66.76	22077.12	18121.26
Karnataka	-1436.63	44695.75	0	0	43259.11	43865.72
Kerala	0	0	0	0	2763.89	1927.96
Lakshdweep	0	0	0	0	345.17	321.98
Maharashtra	0	0	0	0	6830.8	6830.8
Manipur	501.55	905.08	0	0	2231.78	2231.78
Meghalaya	564.11	853.65	0	0	1417.76	1417.76
Mizoram	224.73	3912.91	0	0	4137.64	4106.16
Madhya Pradesh	-1411.68	26373.49	0	0	24961.81	27373.3
Nagaland	743.69	1659.56	0	0	2403.25	729.65
Odisha	8352.11	69805.02	0	0	78157.13	19527.11
Puducherry	39.9	845.18	0	0	885.08	876.13
Punjab	1567.04	6166.43	0	0	7733.47	2059.02
Rajasthan	7447.46	34381.08	0	0	41828.54	41158.39
Sikkim	670.77	303.28	0	0	974.05	688.39
Tamilnadu	645.71	33807.41	754.15	0	35207.27	34331.13
Tripura	1089.71	1110.25	0	0	2199.96	2218.74
Uttar Pradesh	3983.19	16080.74	0	0	20063.92	18247.81
Uttarakhand	1353.98	17513.6	0	0	18867.59	15456.06
West Bengal	542.68	239.91	0	78.81	861.4	589.73
Total					479047.3	374995.8

Source: Audit Reports of SIS for FY 2013-14.

Note: 1. Figures in INR Lakhs. Unutilized grant for MMER has been shown separately only for States where the UC shows it separately. For the other States, MMER savings, if any, is included in unutilized amount under the recurring grant. 2. Some audited UCs give a consolidated Statement for recurring and non-recurring grant and therefore the break-up of unspent amount under recurring and non-recurring grant is not available.

10. Restructuring the JRM exercise

(Some suggestions)

9.1. The way the JRM exercise is being organized it has come to be quite ritualistic. The field visits are mechanical. The 'presentations' made by different organizations are mostly prosaic and unnecessarily long. The composition of the Mission Team is so routinely decided that many Members remain either disinterested or do not have the correct perspective to engage in a meaningful review of the Abhiyan. If the resources invested in the JRM are to remain useful, then, the whole exercise will need to be totally restructured.

9.2. Notwithstanding the fact that we are not mandated to get into this analysis, therefore, with the best of intentions to maximize returns from the JRM exercise, we have taken the liberty to propose for it a new structure and systems.

9.3. Given below in brief is a sketch of the new framework proposed:

(i). (a) The Subject areas to be covered in these reviews should be clearly identified; and, panels of known domain-experts should be compiled in the Ministry so that composition of the Mission Team can be settled appropriately.

(b) It will be useful to draw on the strength of States' Abhiyan-functionaries to reinforce the Mission Team's domain expertise with States' field experience. Such involvement of State functionaries will promote cross - fertilisation of ideas and (best) practices. The Ministry should, therefore, compile also a panel of efficient, enterprising and, imaginative State functionaries engaged in the Abhiyan

(ii). The turnover of govt. Members in the Team is so high that there is hardly any continuity of knowledge or JRM experience. The continuity factor prevails only on the side of the Development Partners' representatives. This can be a cumulative feature if the govt. nominees retire from the Team at the rate of 1/3 biennially. Such an arrangement will also provide every Member with participation for a minimum of two JRMs

(iii). The mission Team can comprise 17 Members as at present (8 govt. nominees + 8 Development Partners' representatives + 1 Mission Leader). 15 identified State govt. functionaries can be co-opted [as suggested in (i) (b) above] to add to its strength.

(iv). (a) The mission can continue to maintain the two –segment approach – field visits followed by a desk analysis of the data/information collected and the observations made.

(b) Field visits can comprise visits to institutions and interactions with State govt. The institutions need not necessarily be from the States visited for interactions with govt. functionaries and project personnel.

(c) Institutions to be visited can be identified from panels of different types of institutions to be maintained in the Ministry.

(d) Visits to institutions should be structured. Visiting Teams should be given check-list of points to be covered so that there will be uniformity of approach and comprehensiveness of coverage.

(e) Likewise, interactions with govt. functionaries and project personnel should also be organized and structured

(v). (a) The field – visits can be for 9 days so that each visiting Team (of 3 Mission Members+3 State functionaries) can visit 4 institutions for 2 days each and also have detailed interactions with the State Government

(b) Since it may not be possible for Mission Members to stay away from their duties for long periods, there can be a long gap (4 weeks?) between field-visits and desk- review.

(vi). (a) The Desk-review phase can be for 5 working days including 'presentations' for 2 days.

(b) To get out of the ritualistic rigor of sub-standard presentations, the parties to make the presentations should be selected from a panel (of institutions) carefully compiled over a period of time based on good practices.

(vii). (a) It is our impression that quality issues suffer the maximum transmission losses in implementation of this Abhiyan. Knowledge about and, understanding and application of instructions /guidelines related to quality is a very weak link in the RMSA chain. 'Quality' may therefore, have to be retained as a standing 'theme' for many JRMs to come.

(b) A good deal of good work has been done in earlier JRMs and by others or quality issues . Final delivery of these material at the field level and their impact on improvement of institutional / class room performance has been weak; it will be good to have as check-list of the factors relevant to this context and continue to focus attention on strengthening them.

(c) In this connection, building –up capacities of teachers deserves to be singled out for specific emphasis. It will be useful to spell out the process of doing this; and, to check on that during the 'field-visits' of the JRM.

(d) Emphasis on Teacher Training, especially short-term Refresher Courses requires special attention. The following points merit spotlighting here with reference to formulation of the course-content:

- Assessment of training needs.
- Results based analysis of Board examinations.
- Scrutiny of available data from NAS /SLAS.
- Examination of 'best practices' and 'innovative approaches' identified for propagation.

- Concerns emerging from observations (on class-room performance) of academic supervisors (eg. DIET faculty, etc.)

(e) Identification and propagation (for wider-adoption) of best practices. It will be useful to set out in detail the process of doing this so that maximum returns can be ensured. (The JRM or its standing sub-committee (proposed) can help in developing these Guidelines.)

(f) Identification and propagation (for wider-adoption) of innovative approaches. It will be useful to set out in detail the process of doing this so that maximum returns can be ensured. (The JRM or its standing sub-committee (proposed) can help in developing these Guidelines.)

(viii). (a) Monitoring implies continuity of oversight. In this regard, it is, possibly, a misnomer to call the institutions doing this work as monitoring institutions because they only look at schools once in 3 or (even) 5 years. Also, many of them do not also have a deep understanding of school education. As a result, the (so-called) monitoring reports have not been of much value.

(b) These should be seen as 'objective third party inspections'; and, the institutions should be identified with careful reference to their understanding of school education.

(c) Their reports need not go into a description of the evolution of the Abhiyan; they should report the status with reference to the objectives and targets. Additionally, they should furnish a short report on selected important parameters giving 'alerts' on deviations and under performance.

(ix). Based on all the data / information / documents collected, observations made and interactions held, the JRM should give appropriate 'advisories' to the govt. on emerging threats.

(x). Issues relating to frequency of the JRMs were also considered. The discussion on whether the JRMs should be just annual exercises or, continue to be half- yearly and on whether, in addition to the main JRM with a national perspective, there should be separate Statewise JRMs on a quinquennial rotation (like the Teacher Education JRM model), will throw up many pros and cons that may require deeper examination. It is not, therefore, being listed as a Mission Team recommendation. Nevertheless, the issue is being flagged as one requiring attention.

Annexes:

1. **Terms of Reference, Agenda, Check List**
2. **List of Members**
3. **Results Framework Document**

Annex 1 - Terms of Reference (ToR) for the 6th RMSA JRM (24 August - 08 September, 2015)

1. Introduction

1.1 Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is a Programme of the Government of India, implemented in partnership with the State Governments with the main objective to make secondary education a good quality available, accessible and affordable to all young persons. The scheme seeks to enhance enrolment in classes IX and X by providing a secondary school within a reasonable distance of every habitation, to improve quality of education imparted at secondary level by ensuring all secondary schools conform to prescribed/ standard norms, to remove gender, socio-economic and disability barriers and to achieve universal access to secondary level education by 2017, i.e. by the end of the 12th Five Year Plan.

1.2 RMSA was launched in 2009, funded through national resources (central government + State government) and now has tied up for external funding by Development Partners (DP) – World Bank's International Development Association (IDA), United Kingdom's – Department of International Development (DFID) and European Union (EU). As part of the agreement for external aid from the DPs which came into effect in November, 2012, the Joint Review Mission (JRM) is to be conducted every six months in the months of January and July/August each year. The January Mission undertakes States visits, while the July/August mission is a desk review.

1.3 The Sixth Joint Review Mission (JRM) of Rashtriya Madhyamik Shiksha Abhiyan is scheduledto be held from ***August 24, 2015***. The Mission will be a desk review of the programme implementation, with a focus on the themes identified for the Mission. The Mission will be led by Government of India (GoI).

2. Mission Plan

2.1 The RMSA Mission will comprise of 14 members, including two specialist members on financial management and procurement. Members would be chosen in such a way that expertise would be available for all the major functional areas.

2.2 The agency wise composition of the Mission will be as follows:

- Government of India (MHRD) - 7 members including Mission Leader and Finance and Procurement Team
- World Bank and DFID combined - 7 members (including Finance and Procurement team)

3. Mission Objectives and Guiding Principles

3.1 The main objective of the JRM is to review the status of progress and to also consider issues related to programme planning, implementation, monitoring and evaluation, including financial management/procurement, capacity of States with respect to programme objectives.

3.2 The guiding principle will be one of a Learning Mission from the experiences so far; identify gaps and to collaboratively explore and work out options for bridging those gaps. RMSA has been under implementation since 2009-10 and is still evolving its processes and systems. The JRM therefore will include reviewing overall strategies being adopted in the planning and implementation of the programme with reference to its basic objective.

4. Terms of Reference (ToR) for the Mission

4.1 The Mission will:

- follow up on issues identified during the 5th JRM (January,2015)
- examine issues related to programme implementation in the following areas:

    - Progress against Sanctioned Annual Work Plans
    - Challenges in physical access and strategies for ensuring education to the children of un-served habitations
    - Status of quality interventions – in-service teacher training arrangements and strategies, nature of on-site academic support structures, availability of required number of teachers and classrooms, progress in teacher recruitment production and distribution of free textbooks, release and utilization of school grant.
    - Progress of civil works particularly new schools, upgradations, additional classrooms, toilets and drinking water facilities.
    - Review of the Financial Management and Procurement (FMP) procedures will also be carried out as part of the JRM. The Mission would review the extent to which States are complying with the provisions and processes laid down in the FMP Manual of RMSA.
    - Review Monitoring Institution reports and other third party evaluation and studies
    - Identify innovative/ best practices – specific interventions that have been successful and can be replicated;
    - Identify areas needing interventions (administrative, HR, financial, capacity building) and areas for further qualitative research/ case studies;

4.2 The Mission however will put a special focus in their work on the following aspects of the programme:

    - Understanding what is known about student learning outcomes from the national assessment survey (NAS) and State level assessment surveys (SLAS) in order to recommend strategies to strengthen the measurement of learning outcomes and dissemination of information about how to improve learning outcomes

- Understanding the progress on enrolment (GER and NER), retention including reduction in drop-out rate, transition, and completion with focus on gender, social groups and students with special needs (IEDSS) inclusion

- Understanding the range of mechanisms used to collect data from schools, e.g. from UDISE, Monitoring Institutions, Quality Monitoring Tools, and State level processes, and the way these datasets are used. To what extent are the datasets complementing/duplicating each other - and how can the data be best consolidated and utilized.

4.3 The Mission may also look at the preparatory work in the identified research areas during the exercise.

4.4 The organization of meetings and deliberations in Delhi for the JRM will be the responsibility of the World Bank. MHRD will be responsible for inviting states and national institutions.

5. Time Frame

5.1 The JRM will take place between 24 August-08 September 2015 in New Delhi and the draft schedule / time -frame is proposed as follows:

Date	Activity
24 August 2015 (Mon)	o 9.30-10.00 am: Opening remarks by GOI and introductions o 10.00 –11:30 am: Briefing by Government of India o 11:30–12:00 noon: Tea Break o 12.00–1.30 pm: Discussion on Action Taken Report from recommendations of 5th JRM o 1.30–2.30 pm: Lunch break o 2.30–5.30 pm: Internal discussion on distribution of tasks and writing responsibilities among mission members
25 August (Tues)	o 9.30–11.30 am: 2014-15 NAS Grade 10 survey – presentation by NCERT on findings from the survey and plans for national dissemination o 11:30–12:00 noon: Tea Break o 12:00–1.00 pm: Session on state level achievement surveys – Presentation by Himachal Pradesh and Chhattisgarh o 01:00–2:00 pm: Lunch Break o 02.00–3.00 pm: Session on Teachers Eligibility Test by (TET) by CBSE and NCTE o 3.00–4.00 pm: Planning for teacher training- Presentation by Mizoram and Rajasthan o 4.00-5.00 pm: Session on report of evaluation of teacher training - presentation by TCA o 5.00- 5.30 pm: JRM Members internal discussion
26 August (Wed)	Session on RMSA Progress o 9.30–11.00 am: Presentation on updated Results Framework by NUEPA o 11.00-12.30pm: Session on RMSA progress against indicators of GER, NER, retention, drop-out, transition, and completion – Trends analysis Presentation by the World Bank

	○ 12.30-1.30 pm: Presentation on school size, population and planning by TCA ○ 1.30-2.30 pm: Lunch break ○ 2.30-4.30 pm: Presentation on progress against indicators by Chhattisgarh, Himachal Pradesh, Rajasthan and Mizoram ○ 4.30-5.30 pm: JRM members internal discussion
27 August (Thurs)	○ 9.30-11.00 am: Presentation on Quality Monitoring Tools and Reporting Framework by NCERT ○ 11.00-12:00 noon: Presentation by Monitoring Institutions from Gujarat and Madhya Pradesh on their findings ○ 12.00 to 01.00 pm: Presentation by Karnataka and Tamil Nadu on how they manage different information systems (including states' own systems) ○ 01.00-2.00 pm: Lunch break ○ 2.00-3.00 pm: Presentation by Tamil Nadu and Madhya Pradesh on (i) social inclusion and (ii) on how they manage different information systems (including states' own systems) ○ 03.00-4.00 pm: Discussion on data consolidation and use ○ 4:00-5:00 pm: Presentation by Gujarat and Assam on environmental management. ○ 5.00-5.30 pm: JRM Members internal discussion
28 August (Fri)	○ 9.30-11.30am: Session on Financial Management (follow-up to last JRM by MHRD/TSG + comments from states) ○ 11.30-1:00 pm: Session on Procurement (follow-up to last JRM by MHRD/TSG + presentation from Assam and Karnataka) ○ 1.00-2.00 pm: Lunch break ○ 2.00-5.30 pm: JRM Members internal discussion and report writing
31 August (Mon)	9.30 am onwards: Report writing
1 September (Tues)	9.30 am onwards: Report writing
2 September (Wed)	9.30 am onwards: Report writing
3 September (Thurs)	9.30 am onwards: Report writing
4 September (Fri)	9.30 am - 4.00pm: Finalization of report and sharing with MHRD
7 September (Mon)	10.00am-12.00 noon: Pre-wrap up meeting with MHRD
8 September (Tues)	10.00am- 2.00pm: Wrap-up meeting

6. Documents and information

6.1 The following documents will be shared with the Mission members one week prior to the JRM:

a) GOI budget allocation, releases and expenditure for RMSA for 2012-13 / 2013-14/ 2014-15/2015-16, broken down by sub-programme and by state
b) Financial Management Reports
c) Audit Reports from States/UTs, Amount under National Component for the period 2013-14

d) UDISE reports – National, State and District Report Cards- 2014-15
e) Updated Results Framework Document
f) Overall annual programme implementation reports on States and UTs
g) Appraisal notes of all States and UTs and RMSA PAB minutes 2015-16
h) Reports of the Monitoring Institutions for all the states
i) Action Taken Report from 5th JRM Recommendations

Annex 2 – List of Sixth JRM members

Government of India

- S. R. Sathyam, Mission Leader
- K. Ramachandran
- A. K. Awasthi
- A. K. Srivastava
- Ashok Ganguly
- Indu Prasad
- Pranati Panda
- P. K. Dash

DFID India

- Colin Bangay
- Sandeepa Sahay

European Union

- David Smawfield
- S.K. Chaudhuri

World Bank

- Toby Linden
- Sangeeta Dey
- Satyanarayan Panda
- Papia Bhatachaarji

Annex 3 – Results Framework Document

Results Framework and Monitoring Document (RFD)[7] (Last Revised on 23rd August 2015)

Project Development Objective (PDO): **To assess the outcomes of RMSA in making secondary education available, affordable and relevant, and accordingly, plan for achieving the target of 90% GER by the end of 12th Five-Year Plan (i.e. 2016/17)**

Sl. No.	PDO Level Results Indicators*	Core	Unit of Measurement	Baseline 2009/10 (Actual)	Cumulative Target Values[8] (Actual and Projected)							Reporting Frequency	Data Source[9]	Responsibility for Data Collection (at the national level)	Description (indicator definition, target setting/projection method, other remarks, etc.)[10]
					2010-11 (Actual)	2011/12 (Actual)	2012/13 (Actual)	2013/14 (Actual)	2014/15 (Actual)	2015/16 (Projected)	2016/17 (Projected)				
	Key Performance Indicators														
Intermediate Results															
A.	**Access and Equity**														
1..	Enrolment in Secondary Education (Grades IX and X) by management (in Millions)	☒	State/UT Government Funded	13.8	12.1	12.9	18.2	16.9	16.6	15.6	14.8	Yearly	SEMIS and UDISE	NUEPA, NIOS	All schools Projection/target setting method

[7] This document has been revised on 23rd August 2015 on the basis of decisions (with regard to the number of indicators that should go in the RFD and their estimation methods) jointly taken by the MHRD and DPs in several rounds of meetings during 2014/15.

[8] In this RFD, the figures reported against various indicators are actual for 2009/10, 2010/11, 2011/12, 2012/13, 2013-14 and 2014-15, and for the remaining two years, i.e., 2015-16 and 2016-17, the cumulative target values are projected figures.

[9] The major sources of data on secondary education used in this RFD are SEMIS for 2009/10, 2010/11 and 2011/12, and thereafter, DISE/UDISE and Census of India/MHRD/NUEPA (for population data). Further, it may be noted that the coverage of SEMIS, DISE and UDISE has improved in every successive year primarily because of two reasons: one, due to establishment of new schools/institutions, and two, because of improved response of the private un-aided sector. Coverage of schools/institutions in government and private aided sectors in SEMIS, DISE and UDISE is almost universal every year beginning from the base year, i.e. 2009/10.

[10] For details, see the Technical Note given in Annex 1.

			Pvt. Aided	6.9	8.8	10.5	7.9	8.5	8.7	9.2	9.6				Projection from 2015/16 to 2016-17 is based on past trend (Linear) in the growth of enrolment from 2010-11 to 2014-15.
			Pvt Unaided	7.3	10.5	9.6	8.2	11.6	12.7	15.3	17.6				
			Central Govt/PSUs Funded	0.3	0.2	0.2	0.4	0.3	0.3	0.2	0.2				
			Total /All Mgt (In Millions)	28.3	31.6	33.2	34.6	37.3	38.3	40.3	42.0				
2.	Transition Rate from Grade VIII to Grade IX (Enrolment in grade IX in the year t+1 minus repeaters in grade IX in the year t + 1 as % of the Enrolment in grade VIII in the year t)	☒	%									Yealy	SEMIS and UDISE	NUEPA	All schools The target values of the transition rates from grade VIII to grade IX is based on the past trend and the RMSA objective of universal enrolment by 2016/17.
			Boys	90.6	92.5	93.4	94.9	94.1	93.8	94	95				
			Girls	92.1	92.0	92.4	90.2	89.7	89.3	91	92				
			Total	91.3	92.2	92.5	92.6	91.9	91.6	93	94				
3.	Share of SC in Secondary enrolment (%)	☒	State/UT govt.	20.6	19.8	20.5	21.5	21.9	22.5			Yearly	SEMIS and UDISE	NUEPA	All schools Projection/target setting method: Projected values from 2015/16 onwards are based on the linear trend from 2012-13 to 2014-15. According to MHRD projections, the share of SCs in the total child population in the age group 14-15 is 17.5% in 2014
			Pvt. Aided	16.0	17.7	18.5	16.6	16.6	16.9						
			Pvt. Un-aided	14.6	16.7	15.1	14.1	14.7	14.9						
			Central govt./PSU funded	17.1	15.4	15.6	15.3	16.5	15.2						
			Total/All management	19.9	18.2	18.3	18.2	18.4	18.7	18.9	19.2				
4.	Number of SC girls per 100 SC boys enrolled in IX-X	☒	State/UT govt.	89	91	95	95	97	99			Yearly	SEMIS and UDISE	NUEPA	All schools Projection/target setting method
			Pvt. Aided	84	91	90	88	88	88						

			Pvt. Un-aided	71	80	76	78	78	79						Projected values from 2015/16 onwards are based on the linear trend from 2012-13 to 2014-15.
			Central govt./PSU funded	79	66	66	72	65	66						
			Total/All management	84	87	88	89	90	91	92	93				
5.	Share of ST in secondary enrolment (%)	☒	State/UT govt.	9.3	10.9	11.3	10.9	11.6	11.7			Yearly	SEMIS and UDISE	NUEPA	All schools Projection/target setting method: Projected values from 2015/16 onwards are based on the linear trend from 2012-13 to 2014-15. According to MHRD projections, the share of STs in the total child population in the age group 14-15 is 9.2% in 2014
			Pvt. Aided	7.5	8.2	7.0	7.5	8.2	8.1						
			Pvt. Un-aided	5.3	4.4	5.5	4.9	4.5	4.6						
			Central govt./PSU funded	8.1	10.1	10.3	7.0	9.0	7.9						
			Total/All management	7.8	8.0	8.3	8.4	8.6	8.5	8.6	8.8				
6.	Number of ST girls per 100 ST boys in grades IX-X	☒	State/UT govt.	86	91	97	97	100	103			Yearly	SEMIS and UDISE	NUEPA	All schools Projection/target setting method Projected values from 2015/16 onwards are based on the linear trend from 2012-13 to 2014-15.
			Pvt. Aided	84	87	87	92	88	88						
			Pvt. Un-aided	72	74	75	74	74	76						
			Central govt./PSU funded	75	79	76	81	69	71						
			Total /All management	82	87	89	92	93	94	95	96				
7.	Enrolment of CWSN in Secondary (Grade IX and X) by management	☒	State/UT govt.	85990	98160	NA	374340	123515	120989				SEMIS and UDISE		Data seem to be highly inconsistent???
			Pvt. Aided	88008	100306	NA	61741	73359	68787						

			Pvt. Un-aided	92479	116038	NA	28028	29906	29033						
			Central govt./PSU funded	933	1302	NA	4743	805	762						
			Total /All management	267410	315806	NA	468852	227585	219571						
(B)	**Quality Input Indicators (Infrastructure, Teachers & TLM Provisions)**														
1.	Proportion of secondary schools/sections with all the basic/core infrastructure and teaching learning facilities[11]	☒	% Core facilities (all 10 items)									Yearly	SEMIS and UDISE		Data inconsistency in reporting certain variables??? Target values from 2015/16 have been projected on the basis of the past trends from 2012/13 to 2014/15
			Adequate Pucca Classrooms	**42.6**	55.3	56.9	41.5	45.5	48.2	51.8	55.1				
			Urinals (04 or more)	**82.5**	34.9	38.6	39.9	46.3	50.1	55.6	60.7				
			Drinking water	**93.1**	92.3	91.4	97.4	98.1	98.6	99.2	99.8				
			Separate Headmaster's Room	**75.8**	76.6	71.9	67.1	72.6	74.6	78.9	82.7				
			Office room/ Staffroom	**73.9**	69.4	65	57.3	63	63.9	68.0	71.3				
			Girls' Activity room	**20.3**	28	25.5	19.5	23.5	24.6	27.6	30.2				

[11] Pucca classrooms (at least two classrooms for grades IX-X up to the total enrolment of 80 and thereafter, one classroom for every 40 additional enrolment in grades IX and X); at least 04 toilets (one toilet block – two toilets each for boys and girls) in usable condition; drinking water facility; one headmaster/principal's room; one office/administrative staff room; one girls activity room; art and craft room; a functional library with minimum number of prescribed textbooks and reference books; an integrated science laboratory with necessary equipments and material; one computer laboratory with adequate number of usable computers and required IT accessories/equipments.

			Art and Crafts (Activity) Room	**16**	24	21.9	19.3	25.4	26.9	31.5	35.3				
			Library	**71.3**	54.5	50.9	80.1	82	48.3	38.3	22.4				
			Integrated Sc. Lab	**41.6**	49.9	47.6	36.3	42.1	41.3	44.9	47.4				
			Computer Lab	**35.3**	29.9	27	49.1	53.2	55.6	59.1	62.4				
			Core facilities in:												
			State/UT Government Schools	0.3	0.1	0.2	0.5	0.6	0.5	0.5	0.5				
			Pvt. Aided	1.2	0.8	0.8	0.8	1.3	1.5	1.8	2.2				
			Pvt. Un-aided	4.3	2.6	3.3	5.2	7.5	7.8	9.5	10.8				
			Central govt/PSU funded	5.5	3.3	5.1	4.6	11.4	14.9	20.6	25.7				
			Total/All management	1.3	1.2	1.6	2.3	3.4	3.7	4.6	5.3				
2.	Proportion of secondary schools/sections with at least the minimum number of teachers in position[12] as on 30th September	☒	State/UT Government Schools	62.2	66.4	64.4	72.2	79.2	86.3			Yearly	SEMIS and UDISE		Projection/target setting method Projected values from 2015/16 onwards are based on the linear trend from 2012-13 to 2014-15.
			Pvt. Aided	62.7	74.0	92.2	82.7	83.1	81.2						
			Pvt. Un-aided	71.2	77.9	71.9	75.9	79.0	80.5						
			Central govt/PSU funded	82.0	89.0	83.3	83.8	85.6	93.7						

[12] This includes 05 subject teachers plus the headmaster/principal.

			Total/All management	65.4	72.7	73.8	77.1	79.9	83.2	86.2	89.2				
3.	Proportion of secondary schools/sections with at least the core subject teachers in position[13] as on 30th September	☒	State/UT Government Schools	22.5	0.1	0.3	13.8	24.3	23.5			Yearly	SEMIS and UDISE		Projection/target setting method Projected values from 2015/16 onwards are based on the linear trend from 2012-13 to 2014-15.
			Pvt. Aided	37.7	0.3	1.1	8.9	13.7	14.1						
			Pvt. Un-aided	47.5	0.3	0.5	5.9	11.9	12.7						
			Central govt/PSU funded	50.3	0.5	0.6	5.1	18.2	22.0						
			Total/All management	34.0	0.3	0.6	10.0	17.4	17.5	18.5	20.0				
(C) Quality Process Indicators[14]															
1.	Proportion of Government + aided teachers received in-service training (Cumulative for past 3 years)	☐													
2	Curriculum analysis and handholding of curriculum developers , Teacher support packages and capacity building programme														

[13] This includes teachers for Mathematics (01), Science (01), Social Studies (01); Languages (02).
*, **, ***, **** Explained in Annexure-I
[14] The set of indicators reported in this section need to be finalized and updated by the NCERT.

3.	National Assessment of Students' Achievement[15]	☐								•					

[15] This indicator is meant to track the processes involved in using a robust national student achievement assessment system and its results for quality improvement policies. The targets and outcomes here takes different processes completed, such as (a) methodology for a national assessment system with standard items id entified agreed; pilot testing and validation of assessment tools; sampling of schools/ students; training for conducting the tests etc; (b) Carrying out the actual assessment and data entry and analysis; (c) analysis and results published and disseminated; and (d) A Plan of Action to improve Quality (especially learning outcomes) is formulated and activities related to the Plan of Action included in the AWP&B of the next year.

*Annexure -I

**Test and questionnaires of Baseline Cycle will be used in subsequent phase.

Annex A

Technical Notes on the Indicators and the Revised RFD

The RFD has been revised in the light of the discussions held with DPs (Colin Bangay from DFID; Toby Linden, Sangeeta Dey and Rudraksh Mitra from the World Bank and Prof. S.M.I.A. Zaidi, Prof. Arun C. Mehta, Prof. K. Biswal, Dr. N.K. Mohanty and Shri Naveen Bhatia from NUEPA). As discussed and decided in the meeting, the following two types of changes/additions have been made to the earlier RFD.

(i) Since 2010-11, 2011-12, 2012-13 and 2013-14 SEMIS/UDISE data are now available, the revised RFD contains latest data on all the indicators for which 2009-10 SEMIS data were given. Hence, the target values of all these indicators have been set based on their past trends (of the last 5 years, i.e., from 2009-10 to 2013-14) with an upward revision from 2014-15 to 2016-17. Targets have been set from 2014-15 onwards with the assumption that the future trends of the values of these indicators would change because of RMSA interventions.

(ii) The values of some of these indicators (Key Performance Indicator No.7, Access Equity Indicators Nos. 1, 3, 4, 5, 6, 7 and Quality Input Indicators Nos. 1, 2 and 3) have been reported by various sources of funding (i.e., state/local govt. funded, private aided, private unaided, central govt. funded and the total/all sources of funding) instead of providing data only for government managed and the total as given in the earlier RFD. This has been done to provide a holistic picture of the development of secondary education and to avoid technical problems associated with computation of some of the key indicators.

Indicators Reported in the RFD: Methods of Computation and Target Setting

I. Key Performance Indicators

1. Total Enrolment in Secondary Education (Grades IX-X)

Data Source: SEMIS and UDISE

Methodology of Target Setting:

Enrolment targets in Classes IX-X set based on the linear trend in the growth of enrolment from 2009-10 to 2014-15 with an increasing trend in future years due to RMSA interventions.

2. Gross Enrolment Ratio (Grades IX-X)

Data Source: SEMIS/UDISE, Census of India and population projection by MHRD, GOI, New Delhi.

Method of Estimation:

Gross Enrolment Ratio (GER) = (Total Enrolment in grades IX and X in a year t / Population of 14-15 years in the same year t)*100

Methodology of Target Setting:

GER target values estimated on the basis of past trend in GER from 2009-10 to 2014-15.

3. Gender Parity Index (GPI) of GER in Secondary Education

Data Source: SEMIS/UDISE, Census of India and population projection by MHRD, GOI, New Delhi.

Method of Estimation:

GPI of GER at secondary level = (GER of girls for Grades IX-X in year t) / (GER of boys for Grades IX-X in year t)

Methodology of Target Setting:

The projected values of GPI from 2015-16 to 2016-17 is based on the past trend (Linear) in GPI from 2012-13 to 2014-15. Once the gender parity is achieved, the target should be to maintain the gender parity, i.e., 1.0.

4. Gender Equity Index

Data Source: SEMIS/UDISE, Census of India and population projection by MHRD, GOI, New Delhi.

Method of Estimation:

Gender Equity Index at Secondary Level = Share of girls in total enrolment in grades IX-X in year t/ Share of girls in total relevant age group population (Age group 14-15) in year t

Methodology of Target Setting:

The projected values of GEI from 2015-16 to 2016-17 has been set based on the past trend (Linear) in GEI from 2012-13 to 2014-15. Once the gender equity is achieved in any year, the target should be to maintain it, i.e., 1.0.

5. Social Equity Index (Scheduled Caste)

Data Source: SEMIS/UDISE, Census of India and population projection by MHRD, GOI, New Delhi.

Method of Estimation:

Social Equity Index at Secondary Level (SC) = Share of SC enrolment in the total enrolment in grades IX-X in year t / Share of SC population (age group 14-15) in the total population of age group 14-15 in year t.

Methodology of Target Setting:

As the social equity (SC) has achieved its maximum value of 0.9, the target from 2014-15 to 2016-17 should be to maintain the same.

6. Social Equity Index (Scheduled Tribe)

Data Source: SEMIS/UDISE, Census of India and population projection by MHRD, GOI, New Delhi.

Method of Estimation:

Social Equity Index at secondary level (ST) = Share of ST enrolment in the total enrolment in grades IX-X in year t / Share of ST population (age group 14-15) in the total population of age group 14-15 in year t.

Methodology of Target Setting:

As the social equity (ST) has achieved its maximum value of 0.9, the target from 2015-16 to 2016-17 should be to maintain the same.

7. Secondary Education Graduation Rate

Data Source: SEMIS/UDISE, Census of India and population projection by MHRD, GOI, New Delhi.

Method of Estimation:

Secondary Education Graduation Rate = (Number of students appeared in Grade X Board Examination in year t+1/ Number of students enrolled in Grade IX in year t) * 100

Methodology of Target Setting:

The target values of graduation rate have not been reported.

II. Intermediate Results (Core Indicators)

A. Access and Equity (7 indicators)

The following data sources, method of estimations and target setting remains same for all 7 indicator of access and equity.

Data Source: SEMIS/UDISE, Census of India and population projection by MHRD, GOI, New Delhi.

Method of Estimation:

1. Transition Rate from Grade VIII to Grade IX in year t = Enrolment in grade IX in the year t+1 as % of the Enrolment in grade VIII in the year t after adjusting for repeaters in grade IX of year t+1)

2. Share of SC in Secondary Enrolment = (Total number of SC enrolled in IX-X in year t /Total enrolment in IX-X in year t) * 100

3. Number of SC girls per 100 SC boys enrolled in IX-X in year t = (Total number of SC girls enrolled in IX-X in year t / Total number of SC boys enrolled in IX-X in year t) * 100

4. Share of ST in Secondary Enrolment = (Total number of ST enrolled in IX-X in year t /Total enrolment in IX-X in year t) * 100

5. Number of ST girls per 100 ST boys enrolled in IX-X in year t = (Total number of ST girls enrolled in IX-X in year t / Total number of ST boys enrolled in IX-X in year t) * 100

Methodology of Target Setting:

The projected values of the indicators at Sl. Nos. 2, 3, 4, 5 and 6 from 2015/16 to 2016-17 are based on the linear trend from 2012-13 to 2014-15.

B. Quality Input Indicators (Infrastructure, Teachers & TLM Provisions) (3 indicators)

The following data sources, method of estimations and target setting remain same for all the 3 access and quality input indicators.

Data Source: SEMIS/UDISE,

Method of Estimation: Percentages and proportions

Methodology of Target Setting:

Projected values from 2015/16 onwards are based on the linear trend from 2012/13 to 201415.

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