CHAPTER 3
CURRICULUM, SYLLABUS, TEXTBOOKS AND TEACHING-LEARNING MATERIAL

3.1 Introduction
In the present context, there are new developments and concerns to which our curriculum at secondary stage must respond. The foremost among these is the importance of including and retaining all adolescents in school through a programme that reaffirms the value of each learner and enables all adolescents to experience dignity and confidence to learn. Instructional design of the curriculum must reflect the commitment to Universalisation of Secondary Education (USE), not only in representing cultural diversity, but also by ensuring that learners from different social and economic backgrounds with variations in physical, psychological and intellectual characteristics are able to learn and achieve success in school.

The RMSA is committed towards providing quality secondary education to all at the secondary and higher secondary stage. The focus is on quality interventions meeting the complex needs in terms of necessary infrastructure to support quality inputs with regard to curriculum, learning resources, enhancing learning abilities of students passing out class VIII and continuous academic support/mentoring for teachers and teacher educators as per the guidelines of the National Curriculum Framework-2005.

Guiding all the states/UTs on quality issues, the RMSA framework strongly recommends “review of curriculum in States/UTs at the secondary level to meet the NCF-2005 norms”, (MHRD, 2009, pg.6). RMSA framework also states required structures will have to be created in all the States/UTs to prepare new syllabi and textbooks at the state level. The framework also states that majority of states are in the process of completing this exercise. Some of them have already completed this exercise. The states which have not yet completed the exercise of curriculum reform, preparation of new syllabi and textbooks are expected to complete the task of curriculum reforms in the very first year of programme implementation.

To quote AIDE MEMOIRE (April-2010) as the NCF 2005 has presented some dynamic areas at the secondary level related to pedagogical processes, teaching learning methodologies and assessment and evaluation systems, curricular reform and renewal become major factors to be addressed at the state and school level, with appropriate orientation and capacity building of the implementation agencies ( India, Secondary Education Project, Preparation of Development Partner Support).
The National Curriculum Framework -2005 has been brought out by the NCERT through a wide-ranging process of deliberations and consultations. The document was approved by the Central Advisory Board of Education in September, 2005. The document proposes reform in various aspects of school education at all the stages in the following areas: Syllabus and Textbooks; Pedagogic Practices; Time Management in School; Assessment; Learning Resource; School Ethos including academic monitoring and effective leadership; Arts, Craft, Work, Peace and Health and Information and Communication Technology. Realising the connectivity of these reforms with the existing practices the document also proposes reform in examination and teacher education.

Providing broad guidelines for the development of curriculum, syllabus and textbooks; assessment and evaluation and also for teacher education the National Curriculum Framework-2005 recommends the following shifts:

1. Change in the design of encyclopedic type of syllabi and textbooks and also a change in social ethos, which places stress on learners.
2. (As per the document this will enable learners to find their voices, nurture their curiosity-to do things, to ask questions and pursue investigations, to improve their ability to share and integrate their experiences with school knowledge-rather than to reproduce textual knowledge)
3. Bringing the arts, work, peace and health and physical education squarely into the domain of the curricular, infusing them in all areas of learning while giving them an identity of their own at relevant stages.
4. (This is essential as quality in education includes a concern for quality of life in all its dimensions. Concern for peace, protection of the environment and a predisposition towards social change must be viewed as core components of quality, not merely as value premises. Moreover, For the purpose of strengthening our cultural heritage and national identity, the curriculum should enable the younger generation to reinterpret and re-evaluate the past with reference to new priorities and emerging outlooks of a changing societal context. Creation of citizenry conscious of their rights an duties, and commitment to principles embodied in our Constitution must be the priority of the school education in regard. Physical development supports mental and cognitive development, especially in young children. The capacity to think reason and make sense of the self and the world, and to use language, is intimately connected with acting and interacting-doing things by oneself and with others. Therefore it is essential to involve all students).
5. Significant changes in all the curricular areas in the context of emerging social needs
6. Shift from content based testing to problem solving and competency based testing as content based testing induces rote learning and promotes conventional methods of teaching, both of which cause stress during examinations.

7. Use of Educational Technology including ICT to increase the reach of educational programmes, facilitate management of the system, sharing of information and space for debate and dialogue on diverse issues related to education as well as help address specific learning needs and requirement.

8. Shift in teacher education programmes from teacher centric to learner centric with flexible designs and processes providing wider social context to learning as well multiple and divergent exposures.

3.2 Salient features of the National Curriculum Framework-2005

**Aims of Education:** The National Curriculum Framework taking cues from ‘Learning without Burden’ (1993) and seeking guidance from the Constitutional vision of India as a secular, egalitarian and pluralistic society, founded on the values of social justice and equality, identifies certain broad aims of education. These include independence of thought and action, sensitivity to others’ well being and feelings, learning to respond to new situations in a flexible and creative manner, pre-disposition towards participation in democratic processes and the ability to work towards and contribute to economic processes and social change.

**Guiding Principles:** The fact that learning has become a source of burden and stress on children is an evidence of a deep distortion in educational aims and quality. To correct this distortion, the present National Curriculum Framework proposes five guiding principles for curriculum development:

- connecting knowledge to life outside the school;
- ensuring that learning shifts away from rote methods;
- enriching the curriculum to provide for overall development of children rather than remain textbook centric;
- making examinations more flexible and integrated into classroom life;
- nurturing an over-riding identity informed by caring concerns within the democratic polity of the country.

The National Curriculum Framework, while placing the learner as the constructor of knowledge, emphasises that curriculum, syllabus and textbooks should enable the teacher to organise classroom experiences in consonance with the child’s nature and environment, and providing opportunities for all children. Significant changes are recommended in all the curricular areas with a view to making education more relevant to the present day and future needs in order to alleviate
the stress children are coping with today. The NCF recommends the softening of subject boundaries so that children can get a taste of integrated knowledge and joy of understanding

3.3 Significant Changes in Curricular Areas

Language Education

Language skills such as speech and listening, reading and writing – cut across school subjects and disciplines. Their foundational role in children’s construction of knowledge right from elementary classes through higher secondary classes needs to be recognised. A renewed effort should be made to implement the three-language formula, emphasizing the recognition of children’s home language(s) or mother tongue (s) as the best medium of instruction. This includes tribal languages. English needs to find place along with other Indian languages. The multilingual character of Indian society should be seen as a resource for the enhancement of school life.

Mathematics

Teaching of Mathematics, it is proposed, should enhance the learner’s resources to think and reason, visualise and handle abstractions, to formulate and solve problems.

Science

Content, process and language of science teaching must be commensurate with the learner’s age-range and cognitive reach. Science teaching should engage the learners in acquiring methods and processes that will nurture their curiosity and creativity, particularly in relation to the environment. Concern for the environment should be emphasized in every subject and through a wide range of activities involving outdoor project work.

For any qualitative change from the present situation, science education in India must undergo a paradigm shift. Rote learning should be discouraged. Inquiry skills should be supported and strengthened by language, design and quantitative skills. Schools should place much greater emphasis on supporting curricular activities aimed at stimulating, investigative ability, inventiveness and creativity, even if these are not part of the external examination. The development of science corners and providing access to science experimentation kits and laboratories in all the schools are important ways of equitable provisioning for science learning.

A large-scale science fair at the national level (with feeder fairs at cluster/district/state levels) may be organised to encourage schools and teachers to participate in the movement of popularising and strengthening science at secondary level.
**Social Sciences**

Social Science learning in the NCF proposes to recognize the disciplinary markers while emphasising integration in Social Sciences from the perspective of marginalized groups. Gender justice and sensitivity towards tribal and *dalit* issues and minority sensitivities must inform all areas of Social Sciences.

**Work, Arts, Heritage Crafts, Health and Peace**

The NCF also draws attention to the four other curricular areas: work, arts and heritage crafts, health and physical education and peace. Certain radical steps to link learning from the primary stage upwards with work are suggested on the ground that work transforms knowledge into experience and generates important personal and social values such as self-reliance, creativity and co-operation. Art as a subject at all stages is recommended, covering all four major spheres, i.e. music, dance, visual arts and theatre with an emphasis on interactive approaches rather than instruction. The goal of art education is to promote aesthetic and personal awareness and the ability to express oneself in different forms.

The importance of India’s heritage crafts both in terms of their economic and aesthetic values should be recognised as being relevant to school education. The success of the child at school depends on the nutrition and a well-planned physical activity programme. The NCF recommends that resources and school time must be deployed for the strengthening health and physical education dimension at secondary and senior secondary stage both for boys and girls. Peace has been recognized as a pre condition for national development and as a social temper. It is proposed that the potential of peace education for socializing children into a democratic and just culture should be created through appropriate activities and judicious choices of topics in all subjects at all stages.

3.4 **Curriculum Reform in States/UTs:**

Considering the prevailing diversity and the federal character of our country, translating the NCF-2005 vision into reality requires serious engagement of all States and Union Territories. This concern seeks attention of all the stakeholders in the education sector. As the perspective of NCF – 2005 is to be understood and internalized; the need arises for reviewing the existing curricular practices in States/UTs which include syllabi and textbooks, classroom processes, infusion of concerns and other areas such as Arts, Health and Physical Education, Work and Peace in the curriculum domain.

As a follow-up of the NCF – 2005 and new syllabi developed by the NCERT, some of the states developed state curriculum frameworks whereas others directly
moved on to revision of their syllabi and textbooks. Some states, namely, Bihar, Kerala, Chattisgarh, Orissa and Karnataka have developed their State Curriculum Frameworks. Eighteen States, namely, Andhra Pradesh, Assam, Bihar, Chattisgarh, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Sikkim, Uttar Pradesh and Uttarakhand have revised their syllabi in the light of NCF – 2005. Among these states/UTs, a few States/UTs (as mentioned in column A) have also adopted NCERT’s syllabi and textbooks for different stages of school education. The table 1 depicts status of states/UTs on the revision including adoption or adaption of syllabus and textbooks in tune with the NCF-2005.

1. There are a few states/UTs which adopt NCERT’s syllabus and textbooks at secondary level, and also claim to have practicals in science are not able to actually conduct practicals regularly due to lack of adequate laboratories and equipments. Researches have shown that lack of hands-on experiences in science seriously effect learners’ performance in science, With the introduction of science practicals at secondary level these states/UTs need to immediately procure micro-scale science laboratory kits for every secondary school and initiate actions for teacher training in this area for providing learners proper science education.

2. The Table 1 shows that there are a few states/UTs such as Delhi, Goa, Himachal Pradesh, Jharkhand, Uttarkhand, etc. which have adopted/adapted the NCERT’s textbooks for all the stages or for maximum number of classes i.e. from VI – XII. These textbooks in consonance with the NCF-2005 present new approach for subject teaching and provide opportunity within the text to learn from other curricular sites and relate knowledge with one’s own context. Therefore, there is a need to find out from the system whether teachers understand the emerging approach and whether there is correspondence between the approach and the way teachers transact these textbooks at the secondary level. Moreover, these states/UTs also need to review the need of state-specific educational needs of learners at various stages and also the need to bring out curriculum guidelines or new set of syllabi and textbooks to fill up gaps between the state-specific needs and syllabi and textbooks developed at the national level.
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<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
<th>Column C</th>
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<tr>
<td>States/UTs adopted NCERT’s syllabi and textbooks for different stages of school education developed as a follow-up of NCF-2005:</td>
<td>States/UTs revised their syllabi in tune with NCF – 2005 ideas and NCERT’s syllabi are:</td>
<td>States/UTs which follow State Syllabus and are being persued for implementing curriculum reform are:</td>
</tr>
</tbody>
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| 1. Arunachal Pradesh (I-XII)  
2. Assam (XI-XII)  
3. Bihar (IX-XII)  
4. Chandigarh (IX-XII)  
5. Chhattisgarh (XI-XII)  
6. Delhi (I-XII)  
7. Goa (I-XII)  
8. Haryana (VI-XII)  
9. Himachal Pradesh (VI-XII)  
10. Jammu & Kashmir (I, III, VI and IX)  
11. Jharkhand (I-XII)  
12. Kerala (XI-XII)  
13. Sikkim (IX-XII)  
14. Uttar Pradesh (VI-XII)  
15. Andaman & Nicobar Islands (IX-X)  
16. Rajasthan (XI-XII)  
17. Andhra (V-VII)  
18. Lakshadwip (XI-XII) | 1. Punjab  
2. Mizoram  
3. Manipur  
4. Uttar Pradesh  
5. Madhya Pradesh  
6. Meghalaya  
7. Orissa | 1. Gujarat  
2. Maharashtra  
3. West Bengal  
4. Tripura  
5. Daman and Diu  
6. Puducherry  
7. Dadra and Nagar Haveli  
8. Karnataka  
9. Nagaland  
10. Tamil Nadu |
3. The Table 1 shows the status of states/UTs with respect to syllabus and textbooks at various stages of school education, yet following may not be clearly pointed out:
   a. Whether States/UTs adopt/adapt the NCERT’s syllabi and textbooks for all the subject areas including Art and Health?
   b. Whether States/UTs which have revised their syllabi based on the NCF-2005 implemented the same at all the stages or mixed approach i.e. traditional/new is being followed at different stages.
   c. Whether proper linkages have been observed among different stages of school education with regard to curriculum and syllabus while formulating the curriculum for secondary level.
   d. Whether States/UTs which have revised their syllabi and implemented the same have also revised their textbooks?

4. Moreover, at the secondary stage of school education there is also a need for great synergy among SCERTs and education boards in the area of syllabus and textbooks which at present lacking in most of the States/UTs.

3.5 Strategies

Since, Curriculum Reform is a process of reforming systematically all the related aspects of education i.e. syllabus, textbooks, classroom processes, assessment and evaluation, teacher education and ICT therefore it needs to be planned not only connecting each of these aspects but also interweaving them with each other e.g. if curriculum, syllabus and textbooks are being revised it does not mean to add or delete some content, it does mean to present content enumerating pedagogical concerns and also the emerging perspectives of assessment which demands change in typology of questions from recall type to thought provoking questions which require higher mental order skills. Reforming curriculum and textbooks also demands training of teachers to deal with emerging pedagogical and content related concerns. In the present chapter strategies and action plan for revising curriculum, syllabus and textbook are suggested, subsequent chapters on classroom processes, assessment and teacher education deal with the other aspects of curriculum reform.

Following set of strategies are needed to bring curriculum reform with respect to syllabus and textbooks in all the States/UTs:
1. Review of the status of curriculum of States/UTs at secondary stage involving various state stakeholders by the respective state/UT (This is required urgently by all the states/UTs, as field visits and observations reveal that due to lack of synergy among different state agencies, the curriculum reform process lacks linkage among different stages of school education e.g. in most of the States/UTs SCERT takes up curriculum reform up to elementary stages and State boards are responsible for the secondary stage. The curriculum of these two stages often lack thematic linkage which increases gaps and adequacies in child’s learning who enters from class VIII to class IX)

2. Based on the review and need of the State for different aspects of the curriculum reform states/UTs need to initiate:
   - Development of teacher’s manual for handling syllabus and textbooks developed in consonance with emerging pedagogical approaches (In case of states/UTs already revised syllabi and textbooks or adopt the NCERT textbooks at the secondary stage)
   - Development of Guidelines for the review of syllabi and textbooks also the development of syllabi for all the subject areas (In case of states/UTs which have not initiated review of secondary stage curriculum in the light of the NCF-2005)
   - Development of textbooks in phase wise manner if syllabi have already been revised and implemented

3. Review of the status of curriculum of all the States/UTs at secondary level and the processes through which each state/UT evolves its curriculum and also need assessment of the curriculum developers in the state by the NCERT.
4. While proceeding for the review of syllabi, textbooks and teacher’s manual following guidelines may be considered by the States/UTs:
   a. Appropriateness of topics and themes for the relevant stages of Children’s development from a psychological point of view.
   b. Pervasive resonance of the values enshrined in the Constitution of India in the organisation of knowledge in all subjects.
   c. Continuity from one level to the next.
   d. Inter-disciplinary and thematic linkages between topics listed for different school subjects, which fall under discrete disciplinary areas.
   e. Linkages between school knowledge in different subjects and children’s everyday experiences and knowledge derived from them.
   f. Sensitivity to gender parity, peace, health and the needs of children with disabilities.
   g. Integration of work-related attitudes and values in every subject and at all levels.
   h. Need to nurture aesthetic sensibility and values by integrating the arts and India’s heritage of crafts in every aspect of the curriculum.
   i. Linkage between school and college syllabi, avoiding overlapping.
   j. Using the potential of educational technology, which includes the new information.
   k. Encouraging flexibility, epistemic activism and creativity in all areas of knowledge and its construction by children.

As per the emerging curricular vision the textbooks need to be seen as tool which engages learners in learning. Care needs to taken to make teachers understand the distinction between transmission of knowledge by adult (including those responsible for textbooks and teachers) and construction of knowledge by the learners, which is a key to resolving the
problem of burden. Attention is, therefore, to be paid to transaction of a textbook and of the learner’s ability to comprehend and make sense of ideas and information as established by studies made in the field of developmental psychology.

In brief, Curriculum, Syllabi and Textbooks (at secondary level) need to:

a. Focus on understanding avoiding information load
b. Provide space to subject-specific pedagogy in-built in the content
c. Integrate assessment within the content and learning
d. Must be interactive
e. Provides space for learning beyond the textbook
f. Soften the boundaries between different subject areas
g. Provide adequate space for hands-on experience, arts and crafts. Incorporates social concerns related to gender, marginalised groups, health and work.

3.6 Plan of Action

<table>
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<tr>
<th>S. No.</th>
<th>Programme/Activities</th>
<th>Nodal Agency</th>
<th>Modalities</th>
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1 For the academic structures refer figure 1 in chapter 11.
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<tr>
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<th>Academic support to all the states/UTs on the review of curriculum, syllabus, textbooks and other aspects of curriculum reform with regard to the following:</th>
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<tbody>
<tr>
<td>i.</td>
<td>Helping states/UTs for curriculum policies /guidelines and revising syllabi and textbooks at the secondary stage.</td>
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<td>ii.</td>
<td>Assessing the need of the curriculum developers in the States/UTs.</td>
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<td>iii.</td>
<td>Building capacity of curriculum developers for curriculum reform with the help of state/UT level curriculum committee.</td>
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<td></td>
<td>NCERT</td>
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<td></td>
<td>The sub committee on Curriculum Reforms under NRG will take up this task. (under the chairmanship of Director, NCERT) at the National Level. This sub-committee may constitute various groups to deal with different aspects of curriculum reforms.</td>
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<th>Review of the status of curriculum reform in the state/UT with regard to the following:</th>
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<tbody>
<tr>
<td>i.</td>
<td>Review and development of the curriculum, syllabi and textbooks as per status and need of the state/UT for the secondary stage of school education.</td>
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<tr>
<td>ii.</td>
<td>Preparation of teacher’s manual for handling syllabus and textbooks (based on emerging curricular vision) at the secondary stage.</td>
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<td>State Government / Union Territory Administrati on</td>
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<td></td>
<td>State Government will set up Curriculum Reform sub-committee under SRG. This sub-committee may constitute various subject groups to deal with different aspects of curriculum reforms in the state/UT.</td>
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