

# **Developing Textbooks in India: Some Experiences of Introducing the ESD Perspective**

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## **Abstract**

*In the more than six decades since India became independent, there have been a number of initiatives at the policy level, as well as through the formal and non-formal institutions towards achieving the vision of education for sustainability. The chapter traces the chronology of the developments in the area of educational policy at the national level, with special reference to the quality and transformative role of education and its translation into national curriculum frameworks, syllabi and textbooks. It tracks parallel international developments in the theory and practice of quality education and its close linkages with education for sustainable development (ESD). The discussion illustrates how India's National Curriculum Framework (NCF) 2005 demonstrates the process of infusing a 'Sustainability Perspective', into the formal school system in the context of developmental and educational requirements of the country. It shares the process of developing environmental studies (EVS) textbooks for classes III, IV, V and how this has provided the opportunity to infuse the intent and essence of both the NCF 2005 and ESD.*

## **Introduction**

The idea of education for sustainability is not new for India. It was the cornerstone of the Mahatma Gandhi's proposal for Nai Taleem, a spiritual principle which states that knowledge and work are not separate and which was used by Gandhi for an educational curriculum with the same name based on this educational principle. This New Education also known as Basic Education. This vision of a new social order was first shared in 1937, a decade before India became independent from British rule. For Gandhi, the goals of education and society were not separate. Nai Taleem was to achieve a harmonious development of head, heart and hand, based on sound moral principles and correlation with community (National Council of Rural Institutes, 2009) (<http://www.ncri.in/html/naitalim.html>. Accessed on March 5, 2012.). A key element of this vision of education was linking the curriculum with productive activity and the social environment. This was a radical idea not only in pedagogic terms but also in social terms.

The thinking underlying Basic Education was accepted as a policy guideline for education in the early years after India attained independence in 1947, but was somewhat abandoned in the early 1960s. Kumar (2004) states that the critical role of education as an important means of realising the vision of the Constitution of India was well recognised. The vision enunciated the construction of a liberal society based on democracy and social justice. In the more than six decades since India became independent, there have been a number of initiatives at the policy level, as well as through the formal and non-formal institutions towards achieving this vision. "The transformative role of education in relation to the social order and the values underpinning it has inspired considerable scholarship in recent decades but the answer has remained elusive and ambivalent (p.15)". This chapter traces the chronology of the developments in the area of educational policy at the national level, with special reference to the quality and transformative role of education and its translation into national curriculum frameworks, syllabi and textbooks. It tracks parallel international developments in the theory and practice of quality education and its close linkages with education for sustainable development (ESD). The discussion illustrates how India's National Curriculum Framework (NCF) 2005 demonstrates the process of infusing a 'Sustainability Perspective' (ESD as the present day's articulation of Basic Education and a self-sustaining society in a global and knowledge society) into the formal school system, in the context of the developmental and educational requirements of the country. The chapter shares the process of developing environmental studies (EVS) textbooks for classes III, IV, V and how this has provided the opportunity to infuse the intent and essence of both the NCF 2005 and ESD. It discusses some of the features of these textbooks that reflect the characteristics of ESD and quality education.

## **Educational planning and administrative structure**

India is a federation of twenty-eight States and seven Union Territories with two tiers of Government, one at the level of the Union (known as Central Government), and the other at the federal level (known as State Government). As a federal system, there are well defined powers of the Central and State Governments. The Indian Constitution includes three lists enumerating the powers of the Central and the State Governments: the Union, State and Concurrent lists.

Immediately after the country attained independence from British rule in 1947, providing education became the responsibility of the Indian government in keeping with its welfarist function, (Rao, 1999:3). Following the enactment of the Indian Constitution in 1950, education became primarily the responsibility of the State Governments. The Central Government could only provide guidance to the states on education-related issues. In 1976, with the enactment of the 42nd Constitutional Amendment, education was transferred to the Concurrent List, with the objective to promote meaningful educational partnerships between the Central and State Governments. This required that both the Central and State Governments were to have a joint responsibility in the area of education.

The Department of Education of the Ministry of Human Resource Development (MHRD) at the Central level shares with the States the responsibility for educational planning. The MHRD, however, is not the sole ministry that is concerned with education. Several ministries, including the Ministries of Environment and Forests; Agriculture; Health; and Law also engage with large education related programmes. The Central Government establishes broad education policies for the development of

school curricula and management practices that serve as guidelines for states. Decisions regarding the organization, structure of education, curriculum and textbook development are largely the concern of the states. Within each state there is a State Education Department with academic and administrative structures. The efforts of the Central Government in educational planning and administration is supplemented by the efforts and inputs of other expert bodies some of which are described here.

The National Council of Educational Research and Training (NCERT), constituted in 1961, plays a significant role in curriculum development and in the training of teachers. It guides the states by providing a national framework for curriculum development, and building capacities for all stages of school education. The Central Advisory Board of Education (CABE) is the highest advisory body to advise the Central and State Governments in the field of education. The National Council for Teacher Education (NCTE), formed in 1973, advises the Central and State Governments on all matters pertaining to teacher education. The National University of Educational Planning and Administration (NUEPA), looks after capacity building and research in planning and management of education in India as well as in South Asia.

Within the country, there are parallel systems of school education. While the majority of schools are affiliated to their respective State Board of Education, private schools are also affiliated to the State Boards or Central Board of Secondary Education (CBSE), or Indian School Certificate (ICS) systems, and the International Baccalaureate (IB) each with its own examination board and pattern, syllabus and textbooks.

There are three main school types: government, aided, and private. Schools run by the Central, State or local governments are referred to as 'government' schools. Schools run by private managements, but funded largely by government aid, are known as private aided or just 'aided' schools. Schools funded in whole or in part by charging their students tuition, rather than relying on government funding, are known as private schools, and these schools retain the right to select their students. The multiplicity of Education Boards and examination systems has led to considerable diversity in syllabi and textbooks in the country.

### **Some milestones in the development of education policy**

During the post-independence period, education was recognized as a factor vital to national development. There was a great deal of thinking and deliberation about what should be the goals and objectives of education. National education policies have evolved through a process of extensive consultations in which all the states and Union Territories actively participate. Periodically, the Central/State Governments appoint commissions and committees to examine various aspects of education. In addition, countrywide debates take place on various educational issues. The recommendations of various commissions, committees and national seminars, and the consensus that emerges during the national debates form the basis for India's education policies.

Mahatma Gandhi had visualized education as a means of transforming a society that was characterized by conflicts, injustice and inequality, and emphasized the self-reliance and dignity of the individual. The early Commissions set up after Independence (The Secondary Education Commission 1952–1953) and the Education Commission (1964–66) articulated the themes emerging from Gandhi's educational philosophy, in the changed socio-political context and the new nation's development priorities. The Education Commission was appointed in 1964 under the chairmanship of D. S. Kothari. The Kothari Commission Report titled *Education and National Development* clearly reflected the vision of education as the most powerful instrument of national development. It perceived a broader role for education in enriching the quality of life. It asserted that besides knowledge and skills, education should also be concerned with the 'inner content' of people's lives, with ideas and idealism, and strengthening of the spirit. "We need a balance between three overlapping divisions of education (at all levels) which may perhaps be described as: tactical, strategic and humanistic. The first refers to theoretical and practical knowledge of life-long utility, the second to knowledge of life-long utility and value, and the third relates to quality and meaning of life"

(Daulat Singh Kothari, The Architect of Defence Science in India.) (<http://www.vigyanprasar.gov.in/scientists/dkothari.htm>. Accessed on February 15, 2012). The Report was hailed as a landmark in educational sectors in India and other developing countries.

Kothari's deep concern for education led to his association with NCERT since its inception. He not only conceptualised its role and functions but also gave a blueprint for its future development in the Report of the Education Commission (1964 –1966). J.P Naik who was member-secretary of the Education Commission, also made valiant efforts to get some of the commission's more important recommendations accepted and enforced by the government. As Educational Advisor in the central Ministry of Education, he helped to establish several new educational institutions, such as NCERT, the National Institute of Educational Planning and Administration Educational Planning and Administration (NIEPA), now NUEPA.

The vision of the Kothari Commission played a significant role in the formulation of the National Policy on Education (NPE) 1968. This marked a significant step in the history of education in post-independence India (Rao, 1999: 44):

“The NPE 1968 aimed to promote national progress, a sense of common citizenship and culture, and to strengthen national integration. It laid stress on the need for a radical reconstruction of the education system to improve its quality at all stages, and give much greater attention to science and technology, the cultivation of moral values and a close relation between education and the life of the people” (MHRD, 2011: 1). (<http://education.nic.in/NatPol.asp>. Accessed on February 22, 2012).

Following the inclusion of education in the Concurrent List in 1976, renewed priority was assigned to education in order to meet the new challenges and social needs of the country. There were extensive deliberations by various national committees on the country's education system and policy which culminated with the decision to evolve a National Curricular Framework which would indicate the directions in which the educational system of the country was to proceed in order to implement its education policy. This took the form of the NPE 1986. This was the first time that the country as a whole had a uniform national policy on education. It proposed a national framework for the curriculum as a means of evolving a national system of education capable of responding to India's diversity of geographical and cultural milieu, while ensuring a common core of values along with academic components (NCERT, 2005: 4). It included a specific mention of the need to create awareness of environmental concerns through infusing environmental components in the syllabi at all levels of education.

NCERT was entrusted with the responsibility of developing the National Curricular Framework (NCF) and reviewing the framework at regular intervals in the light of emergent trends in education. In this role, it carried out several studies and consultations culminating in the *National Curriculum Framework for Elementary and Secondary Education 1988*. This was the first document detailing a national curricular framework in schools. The curriculum was designed to enable the learner to acquire knowledge to develop concepts and inculcate values commensurate with the social, cultural, economic and environmental realities at the national and international levels (NCERT, 2000: 19).

Despite the stated intent and comprehensive approach of these national documents towards creating a nurturing environment for the development of competencies and values, school education in the 1990s, at all stages, came to be driven by examinations, high-levels of competition, and information-loaded textbooks. In response to the great concern about the increasing academic burden on students and the unsatisfactory quality of learning, the MHRD set up a National Advisory Committee in March 1992 under the chairmanship of Professor Yash Pal. The committee undertook a nationwide consultative process which provided the inputs to its report titled *Learning Without Burden* published in 1993.

The recommendations of this report span the entire educational process including the process of curriculum development, textbook writing and teacher preparation, with the aim of bringing a sense of

“joy” of being involved in the educational process, both to teachers as well as the students. It is in this context that the NCERT initiated the process of developing the next curricular framework for school education. This was titled the *National Curriculum Framework for School Education* (NCFSE) 2000. This document recommended the need for “paradigm shifts to support a curriculum that values the interaction of the process and the content” (NCERT, 2000: 39–40). It emphasized that meaningful school curriculum has to be responsive to society, reflecting the needs and aspirations of its learners (NCERT, 2000: 8) and suggested that the curriculum must stand on the three pillars of relevance, equity and excellence. The 2000 Framework emphasized that the school curriculum should aim at “enabling learners to acquire knowledge, develop understanding and inculcate skills, positive attitudes, values and habits conducive to the all-round development of their personality” (NCERT, 2000: 39). Further, it stated that education should promote the quality of learning to listen to others, to learn from the events that surround us, and understand the economic, social and political environment, whether at a national or global level (NCERT, 2000: 15).

While the NCFSE 2000 laid emphasis on addressing the issues of curricular load and an examination-oriented system, these continued to be the dominant characteristics of school education in India, even in the new decade. In 2004, MHRD asked NCERT to review the NCFSE 2000, especially with reference to the above concerns. To facilitate this process a National Steering Committee and twenty-one National Focus Groups were set up to cover pertinent areas relevant for curricular redesign. The Committee and the Focus Groups steered a nationwide process of intensive deliberations which saw the participation of a wide range of stakeholders, from scholars to parents and students, and input from numerous government as well as non-governmental institutions. The outcome was a document titled *National Curriculum Framework (NCF) 2005*.

The NCF 2005 was a response to the new developments and concerns facing the country. It attempted to address what Naik (1975) described as the ‘elusive triangle’ of Indian education – equality, quantity and quality. In terms of equality and quantity, NCF 2005 reflected a commitment to ensuring that all children have access to education, irrespective of socio-economic backgrounds and variations in physical and intellectual characteristics. It cautioned that universalization of elementary education would be meaningless unless the quality aspect was seriously addressed.

The NCF 2005 envisioned the transformation of the Indian education system. It emphasized ‘learning without burden’ and ‘child-centred’ education. It recommended systemic changes as markers of curricular reform. The NCF 2005, therefore, has many more facets than are obviously visible or explicit. It is what may be described as the ‘intended’ curriculum in that it is shaped by the general ideology (or, as it is often called, philosophy) of education. This intended curriculum provided the guidelines for developing the written formal curriculum, which would become the officially approved plan for instruction to be implemented by teachers as the ‘active’ curriculum as stated by Pingel (2009: 28) in his chapter concerned with the pedagogical environment. The process of translating the intended curriculum (NCERT, 2005) into the active curriculum (the syllabus and textbooks) was influenced directly, as well as in spirit, by thinking at the international level.

### **Quality and scope of education: the international context**

Interestingly, a similar chronology and parallel concerns regarding the quality and scope of education were being expressed globally during the period between 1990 and 2005. In November 1991 the General Conference of UNESCO invited the Director General “to convene an international commission to reflect on education and learning for the 21<sup>st</sup> century”. In response, the International Commission on Education for the 21<sup>st</sup> Century was set up in 1993. The Commission comprised a group of fifteen eminent figures from across the world, and was chaired by Jacques Delors. The report of the Commission was submitted to UNESCO and published in 1996 under the title *Learning: The Treasure Within*. This report underlined the fundamental role of education in the attempt to “attain the ideals of peace, freedom and social justice”. It emphasized the importance of education in both personal as well as social development, and saw it as one of the principal means available “to foster a deeper and more harmonious form of human development, and thereby to reduce poverty, exclusion, ignorance, oppression and war” (Delors, 1996: 11). The report further emphasized that it was vital to conceive

education in a more encompassing fashion and that such a vision should inform and guide future educational reforms and policy, in relation both to contents and methods. It proposed education throughout life based on four pillars: “Learning to know, Learning to do; Learning to live together, and Learning to be” (Delors, 1996: 37).

In India, the NCF 2000 included a reference to this report, and reflected a similar vision when it stated that “the curriculum must meet the learner’s needs, societal expectation, community aspirations and international comparisons” (NCERT, 2005: 7). The Delors Commission’s Report also reflected the growing understanding that economic development alone might not be sufficient as the basis for an equitable and just world and that environment and development could not be seen as separate challenges; rather, that they were linked in a complex system of cause and effect. This approach was clearly being reflected in the international conferences and deliberations on environment and development through the 1990s. Sustainable development was included and described as “development that meets the need of the present without compromising the ability of future generations to meet their own needs” as stated by the World Commission on Environment and Development (WCED, 1987: 9). This was also the period when there was a focus on the formulation and development of the vision and framework for the reorientation of education towards the challenges and demands of sustainable development (SD). The need for education to be reoriented towards sustainable development was clearly articulated in Agenda 21, Chapter 36: Promoting Education, Public Awareness and Training, the outcome of the United Nations Conference on Environment and Development held at Rio de Janeiro in 1992. It was recognized and agreed, that "education is critical for achieving environmental and ethical awareness, values and attitudes, skills and behavior consistent with sustainable development and for effective public participation in decision-making. Both formal and non-formal education is indispensable to changing people’s attitudes, so that they have the capacity to assess and address their SD concerns” (36.3) (<http://www.gdrc.org/sustdev/un-desd/c36-a21.html>. Accessed on March 5, 2012).

This recognition and articulation set the foundations for the subsequent developments of education for environment and sustainability. Scoullos and Malotidi (2004) highlighted this wherein education was seen not as an end in itself but as an indispensable instrument for achieving a sustainable future. The scope of education broadened, touching on and integrating the notions of population, poverty, environmental degradation, democracy, human rights and peace, development and interdependence. The outcomes of the World Summit on Sustainable Development held in Johannesburg in 2002 underpinned the need to integrate sustainable development into education systems at all levels of education, in order to promote education as a ‘key agent for change’. The global focus on the critical role of education in achieving SD was reflected in the declaration of the United Nations Decade of Education for Sustainable Development (UN DESD) from 2005–2014. *The International Implementation Strategy for the Decade* described the declaration of DESD as an attempt to integrate the principles, values, and practices of sustainable development into all aspects of education and learning, and to reorient educational programmes, policies and practices so that education plays its part in building the capacities of all members of society to work together for a sustainable future. The strategy reaffirms that education and communication are the key drivers of change towards sustainable development. The International Implementation Scheme reiterated that, “It [the DESD] sees education as an enabling factor to help understand ourselves and others, and our links with the wider natural and social environment and this understanding serves as a durable basis for building respect. Along with a sense of responsibility, respect, exploration and dialogue, it visualises that Education for Sustainable Development (ESD) would aim to move us to adopting behaviors and practices which enable all to live a full life without being deprived of basics” (UNESCO, 2005a: 6).

In this context, ESD shares the characteristics of any high quality learning experience with the additional criterion that the process of learning/teaching must model the values of sustainable development itself. In India, NCF 2005 reflected this global thinking when it described quality education as being inclusive of a concern for quality of life in all its dimensions. It stressed that this was the reason that a concern for peace, protection of the environment, and a predisposition towards

social change must be viewed as core components of quality and not merely as value premises (NCERT, 2005: 9).

### **Curriculum development**

The process of curriculum development in India lies between the two extremes of centralization and decentralization. As already discussed, the Central Government, from time to time, reviews and formulates the national policy on education which provides broad guidelines with respect to the content and process of education for different stages. These guidelines are further elaborated by NCERT in the form of the curriculum framework. This framework, prepared at the Central level, provides a broad overview of the school curriculum, including general objectives, subject-wise objectives, suggested schemes of study, and guidelines for the transaction of the curriculum and the evaluation of pupil outcomes. The NCERT curriculum framework is suggestive rather than prescriptive and it is not enforceable by law in the states.

The syllabi and instructional materials developed by NCERT are used in the schools run by Central organizations across the country. The states consider whether to adopt or adapt the NCERT syllabi and instructional materials. However, these are by and large accepted by many of the states because of NCERT's credibility, and the participatory development approach that it follows. At this point, it would be pertinent to review how the word 'curriculum' is construed. The Focus Group on Curriculum, Syllabus and Textbooks observed that there is a tendency to take too wide a definition of curriculum as stated in the position paper (NCERT, 2006a:11):

“Discussions in curriculum seem to say too often that everything that happens in the school is part of the curriculum. On the other hand, at practical level, syllabus, construed as a list of objectives and topics in a particular subject, is often referred to as curriculum. These two tendencies may look contradictory in the first glance – literature claims everything to be curriculum and the planned/provisioned view covers an extremely narrow part of the school experience – but the very declaration that everything is curriculum is a challenge to planning. Therefore, what is considered essential is planned, and rest of the 'broad vision' of curriculum is left to happening by chance”.

The NCF 2005 started by revisiting an understanding of the role and scope of curriculum, with reference to the four fundamental questions for developing any curriculum and plan of instruction as outlined by Tyler:

- “What educational purposes should the schools seek to attain?
- What educational experiences can be provided, that are likely to attain these purposes?
- How can these educational experiences be effectively organised?
- How can we determine whether these purposes are being attained?” (Tyler, 1949 as quoted in the NCERT, 2006a: 11)

In addressing these, NCF 2005 envisioned that the aims of education should simultaneously reflect the current needs and aspirations of a society as well as its lasting values and the immediate concerns of a community as well as broad human concerns (NCERT, 2005: 10). The document suggested some guiding principles for curriculum development towards achieving these aims of education:

- “Connecting knowledge to life outside the school;
- Ensuring that the learning is shifted 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 overriding identity informed by caring concerns within the democratic polity of the country (p.viii).

The application of these principles would in a sense help to achieve the broader definition of curriculum “as that set of planned activities which are designed to implement a particular educational aim – set of such aims – in terms of the content of what is to be taught and the knowledge, skills and attitudes which

are to be deliberately fostered together with statements of criteria for selection of content, and choices in methods, materials and evaluation”(NCERT, 2006:19). This was the background to the process, initiated by NCERT in 2005, of development of the syllabus and textbooks within the National Curriculum Framework for all subjects for all the levels of the school system. This chapter, as already mentioned, focuses on the EVS textbooks for classes III, IV and V (students aged 8 years, 9 years and 10 years respectively) developed as part of this process. In the context, it is important to understand how the area of environmental education has been perceived and situated in the educational policies and practice in India.

### **Teaching and learning about the environment in the curriculum**

The importance of creating environmental consciousness across all age groups and sections of society was clearly articulated in the NPE 1986:

“There is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society, beginning with the child. Environmental consciousness should inform teaching in schools and colleges. This aspect will be integrated in the entire education process” (MHRD, 2011: 23) (<http://education.nic.in/NatPol.asp>. Accessed on February 22, 2012).

Education in schools in India is structured along a ‘10+2’ pattern. Ten years of general education are followed by two years of senior secondary education with disciplinary specialization in preparation for university education. The general tier of school education is further divided into the primary (Classes I – IV or V), upper primary or middle (Classes V or VI – VIII) and secondary (Classes IX – X) stages. Three Curriculum Frameworks (1988, 2000 and 2005), subsequent to NPE 1986, reiterated the importance of environmental education (EE). The approach adopted by NCERT has been to offer environment as a composite subject at primary level. At middle and secondary school levels, environmental concepts, issues and concerns are infused into the science, social science and language syllabi. At the higher secondary (+2) stage, concepts related to environment and development have been integrated into the syllabi of biology, chemistry, physics, geography, economics, sociology and political science. In 1991, a significant and far-reaching event that pushed environmental education more clearly into the formal education system in India was the Directive of the country’s Supreme Court in response to a Public Interest Litigation. It emphasised the need to make Indians more environmentally sensitive and responsible citizens. In its order the court directed that:

“We would require every State Government and every Education Board connected with education up to the matriculation stage [*and beyond*]...to immediately take steps to enforce compulsory education on environment in a graded way” ([http://www.greenteacher.org/?page\\_id=69](http://www.greenteacher.org/?page_id=69). Accessed 19<sup>th</sup> February, 2012).

In response to the Supreme Court’s directive and the requirements of the NPE 1986, several steps have been taken by government agencies and NGOs to introduce and promote environmental education. The NCF 2005 Syllabus for Classes at the Elementary Level re-endorsed the recommendation of NCF 2000 that EVS be taught as an integrated course for the entire primary stage and called for further strengthening of the integrated approach for EVS during the primary years. The National Focus Group on Curriculum, Syllabus, and Textbooks, also opined that at the primary level there may not be sufficient “conceptual basis for any clear demarcation of sciences and social sciences but it could be possible to introduce ways of looking at the natural and social world in the form of activities, ways of data collection, and making sense out of them” (NCERT, 2006a: 31).

The main focus of EVS as spelled out in the Focus Group Paper on Habitat and Learning, 2006 is:

“to expose students to the real-life world, natural and social, in which they live; to enable them to analyze, evaluate and draw inferences about problems and concerns related to the environment; to add, where possible, to our understanding of environmental issues; and to

promote positive environmental actions in order to facilitate the move towards sustainable development” (NCERT 2006b: 4).

The NCF 2005 also indicated some of the objectives of EVS at the primary stage:

- “To guide children to locate and comprehend relationships between the natural, social and cultural environment;
- To develop an understanding based on observation and illustration, drawn from lived experiences and physical, biological, social and cultural aspects of life, rather than observations; and
- To create cognitive capacity and resourcefulness to make the child curious about social phenomena, starting with the family and moving on to wider spaces” (NCERT: 2006c: 90).

The syllabus for EVS at the classes III, IV and V was designed to achieve these objectives. The intent, approach and content of the syllabus reflect the spirit of the NCF 2005 as well as some of the characteristic principles of ESD as described in the UN DESD International Implementation Scheme.

### **From curriculum to syllabus in EVS**

The National Focus Group Report on Curriculum, Syllabus and Textbooks expressed one of the serious concerns in the Indian educational system which has been that “practices adopted for development of curricula, syllabus and textbooks are largely guided by the patterns and requirements of the examination system rather than a mix of criteria based on the child’s learning requirements, aims of education, and the socio-economic and cultural contexts of learners” (NCERT, 2006a: 1).

*Learning Without Burden*, the Yash Pal Committee Report (MHRD, 1993) mentioned earlier in the chapter, had raised the above concern by pointing out how the syllabus and textbooks gave an impression that the experts involved in preparing these had little knowledge of school and classroom realities. The report had expressed apprehension that this limitation could extend to the experts’ possible ignorance of children and of the processes that children use for learning new ideas (MHRD, 1993: 18). It further stated that the “lack of adequate opportunities for teachers to participate in the process of syllabus and textbook preparation was a major factor indirectly responsible for the problem of unrealistic syllabi or curriculum load” (MHRD 1993: 20). It recommended that the culture of writing textbooks be changed so as to involve a much larger number of teachers in their preparation. International thinking supports this recommendation. The *UNESCO Guidebook on Textbook Research and Textbook Revision* reiterates that in textbook development processes it is of the utmost importance that subject-oriented expert knowledge and educational experience must be given equal status and that both academic experts and teachers are able and willing to cooperate in the preparation of textbooks (Pingel, 2009). To address these concerns, and to reflect the spirit of the NCF, the committees for the development of syllabus and textbooks involved a number of teachers and representatives of groups working closely with children, in formal as well as non-formal settings, in addition to subject experts and NCERT faculty.

### **The syllabus**

An appropriate prioritization of learning objectives and effective use of available time and space are important requirements for successful teaching. Equally important is the consideration and recognition of the learner's needs, cognitive style, gaps, aptitudes and motivation. All these need to be addressed at the syllabus planning stage itself. The NCERT syllabus attempted to address these concerns and requirements with respect to scope, content, and methodology, including the investigation of curricular structures based on trans-disciplinary approaches, using thematic modules instead of isolated disciplines.

School curricula are usually organised around various subjects. The subjects themselves have their bases in traditions and disciplinary knowledge. Though the subject-based organisation of curriculum is largely accepted, it is criticised for putting knowledge in watertight compartments and, thereby, fragmentising it. The Focus Group on Curriculum, Syllabus, and Textbooks expressed the concern that

this ‘fragmentisation’ of knowledge is said to be alien to the child’s way of looking at the world and, therefore, unsuitable for developing a proper understanding of the world in which the child lives (NCERT, 2006a: 24).

A significant feature of the 2005 syllabus for EVS is that it attempts to move away from isolated ‘topics’. It proposes instead ‘themes’ which allow for a connected and inter-related understanding of different aspects of different environments – natural, social and cultural – to develop (see table A sample of NCERT’s Environmental Studies Syllabus for Class IV). Going by this approach:

- The syllabus is organized not as a list of ‘topics’ but as ‘themes’.
- The thematic approach helps to bring in perspectives from different subjects and disciplines.
- Each theme has sub-themes organized in a spiral and progressive manner.
- The sub-themes allow development of a connected and inter-related understanding.
- The themes in the syllabus do not begin by listing key concepts but by posing key questions which allow each child to think, apply, and develop his/her own understanding and articulate his or her own learnings and ideas.
- The activities are only suggestions and can be easily adapted to suit the local situations.

Table: A sample of NCERT’s Environmental Studies Syllabus for Class IV (NCERT, 2006c:115).

Questions	Key Concepts/ Issues	Suggested Resources	Suggested Activities
<p><b>Whom do trees belong to?</b> Which plants/trees around you are looked after by people - by whom? Which are not? Whom do they belong to? Who eats the fruit of trees that grow wild?</p>	<p>Neighbourhood and its plants; wild and domestic plants; Fruits eaten by people living in forests. Cutting trees</p>	<p>Local knowledge, information about domestic and wild plants (National Book Trust books).</p>	<p>Listing of some common trees in the neighbourhood; discussion about ownership of trees; fruits that are not eaten by us.</p>
<p><b>FOOD</b> <i>How we get our food</i> How does food reach us? Who grows it? How you seen vegetables and fruits growing? How you seen plants of rice/ wheat/ dal etc? What spices do you know? Which spices can we recognize by smelling or tasting.</p>	<p>From field to <i>mandi</i> - from market to house; grown by farmers; fruit trees, vegetables, cereals, pulses, oil seeds; Spices</p>	<p>Discussion with a vegetable seller/retailer in the <i>mandi</i>/truck driver who transports food items.</p>	<p>Listing plants children know that provide them food; bringing samples; common spices, observing and drawing samples, recognizing them by smell and taste.</p>

“The EVS syllabus for Class III to V is woven around the six interconnected themes. These themes provide opportunities for introducing aspects of science, social science and environmental education. The six themes are:

1. Family and Friends
  - 1.1 Relationships
  - 1.2 Work and Plan
  - 1.3 Animals
  - 1.4 Plants
2. Food
3. Shelter
4. Water
5. Travel
6. Things We Make and Do” (p.92)

The content of the themes is derived from the child’s experiences rather than a prescriptive body of knowledge or subject. These are presented in a manner in which a child encounters them in daily life. Starting with these personal experiences, the child is enabled to “connect”, and thereby link theoretical knowledge to his/her own life. The same themes are carried through the three years, moving outwards from the immediate ‘self’ of the child to include her family, the neighbourhood, the locality, and the community. Thus the child begins with an exploration of the familiar and expands her horizons as she grows. At the same time the child is also able to locate herself in different contexts – as a family member, a member of the school community and as a future citizen of the town/city and country. It is this syllabus that has provided the framework for the development of the EVS textbooks for classes III, IV and V. The author was part of the team that developed environmental studies (EVS) textbook for classes III, IV, and V. The process of textbook development spread across three years from 2005 to 2008.

### **Textbooks in the Indian School System**

Textbooks are developed and published by NCERT and SCERTs (State Council of Educational Research and Training), as well as by private publishers. Textbooks developed by NCERT/SCERTS are distributed free of cost in government schools. Private schools are free to prescribe the textbooks to be used. At the primary level most of these are from private publishers. NCERT textbooks are directly used in some states and translated and adapted by many others. Kumar (2004: 24) observed how textbooks dominate the curriculum in the ordinary Indian school and how the teacher is bound by the textbook. Textbooks, in the Indian school system, are indispensable, both for teachers and students. Textbooks are often the one and only resource that both the teacher and the students possess. Each child has a set of textbooks for all the subjects for the class in which he/she studies. The prescriptive nature of the textbooks is evidence of how everything that happens in the school or classroom is based on the textbook itself. Textbooks inform the day-to-day organization of time in the classroom, and what and how much is learnt by the student to meet the requirements of the examination system. Kumar (2004, p.25) observed how the textbook is a “structuring device, offering a programme of sequenced action” The teacher teaches what is written in the textbook, lesson by lesson, and limits recapitulation and evaluation to what is given as exercises at the end of each lesson.

The stature of the textbook and its pivotal role in the school system and in education throws up numerous challenges in itself. In addition, the process for developing the textbooks within the framework and guidelines of the NCF 2005 needed to address several other concerns:

How to write at a national level and yet reflect the multiple dimensions of schools and classrooms across the country?

How to address the tremendous diversity in respect of ecological, social, cultural, economic and religious dimensions?

How to organize and present the content in a perspective that views the environment as a totality, and how to avoid ‘compartmentalizing’ it through ‘subjects’ like science and social science.

How to provide an enabling common framework, with adequate in-built space for adaptation, right down to the level of the individual teacher?

How to design the textbook contents so as to give each the child opportunities to articulate his/her experiences and to develop logical arguments and skills, all with the existing realities and constraints of the classroom and teacher capacity?

How to provide evaluation tools that assess beyond knowledge gained by rote learning?

The challenge was also how to give form and life to the vision of the NCF 2005 which emphasized that the curriculum needs to be conceptualized as a structure that enables children to:

- Find their voices;
- Nurture their curiosity;
- To do things;
- Ask questions;
- Pursue investigations; and
- Share and integrate their experiences with school knowledge rather than test their ability to reproduce textual information.

### **The textbook development process**

In the lesson-to-lesson reality of the textbook, the writers and designers are faced with three challenges which are opportunities at the same time— how to synthesise the intent of the syllabus, the context of the learner, and the use of the textbook in actual classroom transactions. Textbooks need to be open to varied interpretation by the learner and the teacher, and be flexible enough to be reconstructed in the classroom. These challenges were addressed by the textbook development team which comprised school teachers, teacher educators, and practitioners and which came from diverse backgrounds and experiences. The development process for each book spanned a period of eight to ten months. Each year the process started with intensive brainstorming by the entire team to identify the format and key coverage of each thematic area for the relevant class (e.g. III, IV or V). Thereafter, smaller teams of two or three persons worked separately on drafting lesson/s based on their selected theme. These drafts were discussed in detail by the entire team at periodic intervals and suggestions/inputs noted to be included in the reworking by small teams. Once all of the draft chapters were developed, the entire team once again worked collectively at fine-tuning language, exercises and questions. This process of textbook development threw up a number of challenges as well as the opportunities to explore innovative ways to transform challenges into meaningful teaching-learning material.

### **The EVS textbooks**

The EVS textbooks for classes III, IV and V were published under the title *Looking Around*, in 2006, 2007, and 2008 respectively by NCERT. This title indicates the perspective that defines the process of teaching and learning about the environment. It assumes that the surroundings provide scope for observing, experiencing and connecting. It communicates the important pedagogical principle that the world around us and our interaction with it is an endless, rich resource for learning. It underlines that we can learn much by interacting with the world around us. The textbooks are an attempt to reiterate the quality of a good textbook as described by the National Focus Group on Curriculum, Syllabus, and Textbooks: “Any good textbook should lead the child to interact with the environment, peers, other people, etc., rather than be self-contained. It should function as a guide to construct understanding through active engagement with text, ideas, things, environment, and people rather than ‘transferring knowledge as a finished product’ (NCERT, 2006a: 38).

The title of the EVS textbooks *Looking Around* is also indicative of the content, approach and key features of the textbooks that come closer to the student's own context and accommodate a broader base of information as opposed to that reflecting a specific milieu. It supports Sandell's view that, if education is to be beneficial to students, it is important that both the choice of content and the teaching approach take student preferences into consideration. It is also important that these choices are made in relation to the students' previous knowledge and experience, as well as allowing them opportunities to draw on these resources. If not, there is a risk that what is learnt during lessons will only be valid in the classroom and of no relevance for the students' life and actions outside school (Sandell, Öhman and Östman, 2003: 232). In the *Looking Around* textbook series, the selection and organization of content, the treatment of the themes and the approach and methodologies come together to provide each child the space to become an active participant in looking around themselves, exploring and discovering.

The EVS textbooks reflect some of the key characteristics of ESD as described in the UN DESD International Implementation Scheme document:

- Inter-disciplinary and holistic: learning for sustainable development embedded in the whole curriculum, not as a separate subject;
- Values-driven: sharing the values and principles underpinning sustainable development;
- Critical thinking and problem solving: leading to confidence in addressing the dilemmas and challenges of sustainable development;
- Participatory decision-making: learners participate in decisions on how they are to learn;
- Locally relevant: addressing local as well as global issues, and using the language(s) which learners most commonly use.
- Multi-method: word, art, drama, debate, experience...different pedagogies which model the processes (UNESCO, 2005b: 6).

The approach to the development of the EVS textbooks reflected "the option of introducing the idea of sustainable development, not as a new subject, but rather as an integrated perspective which is applied to the existing content in all subjects" (Sandell, Öhman and Östman, 2003:198). The content and its treatment are further discussed with reference to the EVS textbooks for classes III, IV and V.

### **Interdisciplinary and holistic**

A young child's world is not organized into compartments, but is an integrated experience of interacting with, and making sense of the world around. While interpreting the new curriculum and the new textbooks the key concern was to present the environment as a totality and avoid treating different aspects as in compartmentalised subjects such as 'science' and 'social science'. Just as the title of the books has moved away from the 'subject' label, the organization of content of the books also moves away from the traditional 'topics' to an exploration of dimensions of different disciplines through various themes. The approach was to achieve an integration of the different aspects of a theme and provide space for each child to explore and discover the world around. Therefore, concepts that are typically dealt with in biology such as plants, or animals that are studied in zoology, or which are at the primary stage framed in the categories of 'living and non-living', are introduced not as categories but through the child's familiar experiences and surroundings.

Besides thematic integration that synergises different subjects, integration is also facilitated through the different approaches and methods of transaction, assessment, and the 'values' being promoted. This supports the belief that when watertight compartments between subjects are broken, this can enrich not just the 'content' but also the process and outcomes of teaching and learning. A similar approach is supported by Sandell where working with sustainable development is a case of putting things into context and where the different areas and levels are seen as integral parts of a whole (Sandell, Öhman and Östman, 2003: 199).

### **Values and sensitivity**

The UN DESD International Implementation Scheme stressed that understanding values is an essential part of understanding an individual's own world view and that of other peoples'. Understanding your own values, the values of the society you live in, and the values of others around the world is a central part of educating for a sustainable future. Each nation, cultural group and individual must learn the skills of recognizing its own values and assessing these values in the context of sustainability (UNESCO, 2005b).

ESD is intrinsically about values, with respect at the centre. This involves respect for others, including those of present and future generations, for difference and diversity, for the environment and for the resources of the planet. The ways countries decide how to approach sustainable development will be closely linked to the values held in these societies for it is these values that define how personal decisions are made and how national legislation is written. Textbooks play an important role in communicating values, explicitly and implicitly. This role has been a continuing topic of debate. As Slater in Pingel pondered, "Do history, geography and social studies textbooks seek only to reflect society, or to change it? Do they seek to guarantee certain attitudes and values? Or do they more modestly seek to enable young people, with a foundation of knowledge, skills and insights, to make their own independent choices between alternative attitudes and values?" (Pingel, 2009: 62).

Traditionally, textbooks in India, especially for EVS and social science tend to portray the 'ideal' or 'positive' by portraying 'role models' or advocating 'good behaviour'. Generally, the trend has been to ignore awkward, or unpleasant, areas or touch upon issues of inequity, discrimination and contradictions with platitudes like "We should respect our elders" or "Everyone is equal". In the last decade or so multi-perspectival methodologies and skill-oriented approaches that do not prescribe a fixed body of content issues are being implemented in more and more countries. As described by Pingel (2009: 40) in a chapter on multiculturalism in the *UNESCO Guidebook*, "Textbooks employ a narrative structure that integrates all components of the society and regards the mixture and growing together as a value in itself. They follow an integrative and inclusive concept rather than a separatist and exclusive model of collective identities."

The EVS textbooks attempted to follow this approach. In these textbooks, issues of equity and access to resources are sensitively raised in lessons that project these through a child's perspective. Children are encouraged to share their personal experiences and opinions through the in-text questions and exercises. There is an attempt to reinforce continually the fact that there are differences in the way people live and, while we may not do exactly what or how others do, it does not mean that those who are 'different' are 'bad'. It is important to sensitize children to the fact that difference is not bad.

The stories of physical, socio-economic, and cultural differences are told through the voices of children and often reflect the child's perception of the situation. The narratives invite children to understand such issues by questioning, analyzing, debating and relating with their everyday life and experiences rather than 'telling' the child what to think. The intent of exposing children to real issues through an engaging methodology is that it will nurture and shape sensitivity, develop the capacity to think critically and creatively to seek solutions and take actions at community and individual levels.

### **Critical thinking and problem solving**

Applying the perspective of sustainable development raises questions as to what types of knowledge and skills are necessary in order for students to make important choices in life. Schools are institutions within society which play an important role in building values and attitudes. This means that students must be led beyond the study of concepts, principles and theories but additionally to develop view points on the sciences, people, nature and the relationship between people and nature. Sandell, Öhman and Östman (2003: 198) opined that the immediate environment and the local community represent an important starting point for teaching for sustainable development. Environmental problems are transformations that have taken place as a result of human interaction with nature which is in conflict with certain norms and values. In order to build confidence in addressing dilemmas and challenges of sustainable development, textbooks need to address real problems during lessons. These problems need to be relevant to the students' lives and the society in which they live, and preferably problems that the

group has some influence over or can affect in some way. Thus an important principle for the choice of content is that depictions of facts should be obtained from numerous sources. This means using alternative perspectives and understandings, including those held by minority groups.

The EVS textbooks attempt to take discussions about the natural environment beyond appreciation of nature to introducing the complexities and issues related to environment and development. These include the social and economic aspects through lessons that focus on displacement due to dams, migration, changes in agricultural practices and their impacts. The textbooks are replete with material which exposes children to such complexities. These are introduced through lesson formats, and techniques which communicate at the appropriate degree of complexity suited to the age level of the students.

Sandell suggests that environmentally ethical reflection is always characterised by the evaluation of alternatives and this type of evaluation requires some system of measurement e.g. a benchmark. In order for students to be able to develop a reflective, environmentally ethical approach in relating to the world, they should be given the opportunity to evaluate critically and discuss the different ways of determining the benchmarks (Sandell, Öhman and Östman, 2003: 229). The lessons in the textbooks pose questions that invite such reflection and debates on alternatives, without necessarily suggesting the perfect or even 'right' solution. The textbooks also include a number of stories that talk about positive actions to preserve and protect the environment. Several lessons and exercises seek to build confidence in the ability of children to 'make a difference,' and empower them to question, debate and explore solutions or answers. This calls for a change in the role of the teacher who has no longer simply to transfer textbook information but equally has to clarify, question, pose problems and make suggestions in order to stimulate further discussions. Providing an opportunity where environmental and development issues can be discussed in a democratic arena helps to develop a number of life skills such as critical thinking and systematic articulation of arguments; negotiation, sensitivity and receptivity to a variety of viewpoints and prepares students to become proactive citizens in a democratic society.

### **Local context and relevance**

The Focus Group Paper on Curriculum, Syllabus and Textbooks expressed concern that, in almost all schools of the country, classroom practices were totally dominated by textbooks. The textbook emerged as the single focus of all the knowledge that a child is supposed to acquire at a given stage or class. "Thus 'teaching the textbook' as appears in the source becomes the whole of education. As a result, undue importance is given to the textbook; it has acquired an aura of supremacy and a standard format. It has to be completed from cover to cover in strict sequence; it has developed a language of its own that is difficult to comprehend and is laden with dense concepts" (NCERT, 2006a: 37). The EVS textbooks attempt to break from this mould by encouraging much of the 'learning' to take place not between the covers of the textbook but rather by using the textbook in lessons as the starting point to initiate enquiry and investigation by each individual in his or her own context.

As early as 1937, Gandhi pinpointed the advantages of using the real world as the classroom as this was the closest environment in which children are growing. He pointed out that learning inputs are spread over the entire surrounding environment and the society which can easily be harnessed. He also advocated learning-by-doing as the best method of learning. The Delors Report of 1993 also saw education as a social experience "through which children learn about themselves, develop interpersonal skills and acquire basic knowledge and skills. This experience should begin in early childhood in different forms depending on the situations but always with the involvement of families and local communities" (Delors, 1996: 23).

Almost seventy years after Gandhi's articulation, the UN DESD International Implementation Strategy reiterated that learning includes what happens in education systems but extends into daily life. Important learning takes place in the home, in social settings, in community institutions, and in the workplace (UNESCO, 2005b). The EVS textbooks reflect this wider perspective of learning spaces and communicate the important pedagogical principle that the world around the student and his or her interactions with it is an endless and rich resource for learning. They invite children to talk to parents,

elders and community members to find out about their experiences. This might include: What games did they play when they were young? What kind of house did they live in when they were 9–10 years old? How did they travel, and where did they go? The children are encouraged to go to different sites in the neighbourhood to observe, record, interview and investigate; this could be a construction site, a neighbourhood park, a farm, a market place. All these help the teacher to contextualize the learning within the local and the familiar. The opportunity to involve parents and the wider community in the learning process forges the understanding that there are multiple sources of knowledge which need to be valued and respected. The combination of conventional teaching and out of school approaches enable children to experience the three dimensions of education: the ethical and cultural, the scientific and technological, and the economic and social as underlined in the Delors Report (1996: 17).

The lessons invite children to share their personal contexts and narrate their own experiences – questions that link the lesson to the individual help in this. Questions such as: Can you ride a bicycle? Who taught you to ride? Have you ever been in a thick jungle? How did you feel? Do you know anybody who thinks like Akshay’s grandmother? What do you think Akshay should do? Such engagement helps each child relate at a personal level to lessons and not just view these as something to be memorised and reproduced for examinations. The opportunities for personal learning experiences, as well as understanding those of others, help children to construct meaning of the world around them through their daily life experiences. These also help to link textbook knowledge and its application in the child’s own context, as well as to understand that there may be no single correct answer or understanding. Scott and Gough (2003: 99), citing Pimbert and Pretty, believe that as knowledge and understanding are socially constructed, they are functions of each individual’s unique context and past. There is therefore, no single ‘correct’ understanding. What we take to be true depends on the framework of knowledge and assumptions we bring with us.

#### **Multi-method: variety of teaching-learning activities**

The NCF 2005 focused on the processes by which learners actively construct knowledge. The books are based on the recognition that children construct knowledge through their own experiences and by direct engagement in activities. This reflects what Scott and Gough describe as the qualitative tradition of educational thinking which sees learning as an iterative, reflexive process through which the individual progressively constructs meanings out of past and present experience (Scott and Gough (2003: 91). In order to construct their own knowledge, learners need to be actively engaged – both mentally and physically. The Focus Paper on Curriculum, Syllabus and Textbooks further articulated that “Learners can be actively engaged only when they are motivated to learn. Active engagement involves enquiry, exploration, questioning, debate, application and reflection leading to theory building and the creation of ideas/positions. This implies that it is important to create opportunities for questioning, enquiry, debate, reflection and arriving at concepts or at creating new ideas” (NCERT, 2006a: 33). Based on this premise the EVS textbooks include a wide range of teaching-learning methodologies to involve children in relating to their immediate environment (from family to community and natural to human-made) through a variety of activities.

The thematic organization of the syllabus provides scope for using a wide variety of formats for lessons. These include stories, narratives, interviews, diaries, news reports, poems and discussion, drawing from, and building upon, the child’s experiences and perceptions. The different presentation formats of the lessons, including the variety of visual material, support the theory of multiple intelligences which manifest as different learning styles of children. Some children may be more attracted by the visuals; some may make personal emotive links with the narrative; some may enjoy the challenge provided by the exercises (develop cognitive skills), and some may be attracted by the science/history/geography/language aspects. The lessons have something for everyone, thereby supporting a more inclusive learning environment.

The diverse sources of the content (including newspaper reports, films, true life experiences of ordinary people, personal interviews and folklore) and the variety of formats used for presenting the content itself open up great scope for children’s curiosity, vocalization, empathy, experimentation, exploration and discovery, and free expression. The exercises are integrated into the lessons rather than placed at

the end of the lessons. They pose imaginative questions and provide space for reflection. These are seen as integral to the process of understanding the key ideas in the lesson, and building links with each one's personal context and experience. The suggested activities help develop a range of skills including observation, recording, written and oral expression, classifying and categorising, and psychomotor skills as well as creative and aesthetic sensibilities. The objective of the activities and exercises is not so much to evaluate the students' knowledge but to provide an opportunity for students to express themselves. The activities are designed to serve not only as evaluation tools but also as opportunities for group and peer learning, and sensitization to diversity, as well as similarities, within the social and cultural context.

The changed form and broadened role of the textbooks reflect a significant trend in many countries over the past few decades. This development implies a redefinition of the role of the teacher. As discussed in the *UNESCO Guidebook on Textbook Research and Textbook Revision* (2009), lessons in which the pupils are placed in the spotlight of the instruction procedure are replacing the traditional teacher-centric classroom. The various materials and methods provided by textbooks are used to inspire pupils to ask questions and to explore ways in which these questions may be answered (Pingel, 2009: 49).

### **Understanding plural realities and celebrating diversity**

Pluralism is the key to ESD. It does not refer to diversity alone but to the energetic engagement with diversity. It is important that students learn not only about their own environments, which are familiar to them (which can be the starting point), but also about how different people live, why there are differences, and what are the similarities despite the differences. India, being a geographically vast and culturally diverse country, is replete with variety and plurality of all kinds – bio-geographical, environmental, regional, socio-economic, cultural, linguistic and more. The EVS textbooks attempted to reflect these multi-dimensional, plural realities of the country.

The themes around, which the EVS textbooks are organised (Family and Friends, Food, Shelter, Water, Travel, the Work We Do), offer ample scope for exposure to, and understanding of this diversity. The themes as well as the formats of the lessons in the textbooks deal with several social and cultural issues. For some children these may be a part of their daily life (such as issues related to access to food and water and family processes), while for others these may not be things that they had ever thought of. The range of lessons expose children to the wide variety of living conditions – from a makeshift shelter on a pavement to affluent lifestyles in big cities. The textbooks deal with such issues and topics as: the challenges in understanding differences in food not just as flavours but in terms of availability and nutrition; family structures and relationships; the kind of work people do; and the 'value' attributed to different kinds of work and professions. Such lessons provide opportunities to highlight issues of gender, caste, or religious stereotypes. The issues are explored through real-life examples and exercises that invite the children's own observations and experiences. The narratives provide 'guided space for the learner to reflect'.

In a multi-lingual country like India, language represents significant aspects of the culture. While talking about lives of people from different regions within the country, the local flavour is maintained by retaining words and phrases in the original. These arouse curiosity and provide children with reference points to understand and relate with relationships, objects, concepts and processes from different socio-economic and cultural settings. Pluralism also allows different perspectives and opinions on the issues to be discussed and studied. It is in the discussions that take place in the classroom where these different perspectives and opinions and their implications are critically reviewed and valued. The textbook lessons and exercises encourage students to express their opinions and impressions in the classroom. Nurturing open and free expression while, at the same time, respecting the views and experiences of others is an integral objective of ESD.

### **Reflecting the new paradigm**

The EVS textbook development team took up the challenge of capturing the spirit of the NCF 2005 and giving concrete shape to the concepts delineated in the syllabus in the form of the textbooks. Though seemingly simple, the agenda was complex. The agenda was to be achieved within the context of the change of paradigm of education from one which stressed rote learning and memorization of facts to

process-oriented learning which stressed skills and competencies. In his chapter about “checking the general quality of a textbook”, Pingel (2009: 78) elaborated, under these premises the “content could no longer stand alone; it had to support also a range of co-scholastic objectives such as developing critical thinking; discussing different value judgements; building up an understanding of time and space; and developing a sense for taking over responsibility in the community”.

The NCF 2005 and the EVS textbooks reflect this paradigm shift in education. They permit the child’s view to be the centre of teaching. The child as the learner inhabited the minds of the team developing the textbooks. This focus helped the team to achieve many objectives. The EVS textbooks gave great importance to the ‘milieu’ in acknowledging that knowledge and understanding are a reflection of the context and that there is no single understanding. This was recognition that each learner and his/her context are unique. This approach allowed for the integration of the diversity – socio-cultural, economic as well as environmental – and the presentation of such integration, as an important value.

The format and approach of the textbooks redefined significantly the role of teachers, shifting the paradigm from teacher-centeredness to learner-centeredness. This was a significant leap. By their very nature, the textbooks inspired students to explore their own surroundings, encouraged them to bring their observations and experiences to the classroom, and motivated the exchange and sharing within and outside the class. This helped to ensure that learning just did not happen out of the text in the textbook, thereby negating the dominance of the textbook as stated in the NCERT position paper (2006a: 37).

The ethos of NCF 2005 – child centred pedagogy; global concerns regarding quality of education; the pluralistic demands of a diverse democracy, and the challenges of a globalized world – had to be infused in the process of developing the textbooks as much as in the textbooks themselves. The effort was that this should become a perspective that informed the treatment of chosen themes rather than a forced presence. Texts sought to avoid the usual trap of packing content as knowledge and skills. The focus was on the aspects of the attitudes and values as these are significant determinants in making choices and choosing the path of sustainability. Kumar states, however, that this is easier said than achieved. “Child centeredness can hardly be disseminated as a slogan, nor can joyful learning take place unless teachers are given a theoretical understanding and self confidence to sustain the recommended pedagogy, and not merely exhorted or pressurised to follow it for the sake of certain outcomes” Kumar (2004: 21). These concerns were addressed through a series of teacher orientation workshops across the country following the introduction of the new textbooks. The workshops, however, threw up their own challenges in terms of teacher receptiveness and understanding of the changed paradigm and its practical implication in classroom transactions. The author was a part of this process as well, but discussing that is beyond the scope of this chapter.

The thinking, and chronology of developments in the area of quality education, as well as the recognition of education as a key driver for sustainable development, both at the national as well as international levels, help to support the argument that quality education is indeed ESD. This close overlap is reflected by Scott and Gough (2003) who write that “sustainable development is unlikely ever to have more than a token presence in school, higher or vocational education unless it can show convincingly that it is a means to improve the quality of education generally – not according to the standards of environmentalists, but according to those standards which the main stakeholders in education and learning, such as parents, teachers, pupils, government ministers and employers have arrived at for themselves” (p.101). India’s NCF 2005 is based on this recognition, and the EVS textbooks developed within this framework are an attempt to infuse the sustainability perspective in both theory and practice.

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Chapter 7 in *Reorienting Education Efforts for Sustainable Development: Experiences from South Asia*

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