Concept paper

Education for Sustainable Development (ESD) as modern education – a glimpse on India

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This paper was produced in the context of an international seminar on the same topic held in Pune, India in 2011. The seminar was organised by an international network of experts and leaders from ministries, universities, teacher training institutes and NGOs in India, Germany, Mexico and South Africa, the ESD Expert Network.

As a think tank, the ESD Expert Network jointly develops and realizes innovative concepts and strategies to strengthen individual competencies and institutional capacities to implement Education for Sustainable Development (ESD) in the participating countries. Concepts, materials and experiences are shared with a broader professional public through international conferences and the network's website www.esd-expert.net. The network and related implementation activities such as trainings for multipliers of ESD in schools and a ESD leadership training for young professionals are supported by the German Federal Ministry for Economic Cooperation and Development (BMZ) through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

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The paper consists of two parts: In the first two subsections, Thomas Hoffmann presents some general reflections about the relevance of Education for Sustainable Development and its interdependence with different/new educational approaches based on constructivist and competence-oriented teaching and learning theories and strategies. Chapters 3 and 4 deal with these questions from a specific Indian perspective. Erach Bharucha's description partly underlines Thomas Hoffmann's thoughts; partly he comes to differing conclusions.

1. What is modern?[1]

Does modernity mean to change our behaviour, clothing, and finally ourselves, following trends and preferences anybody pronounces and masses follow which in the end has no meaning but fulfils itself, is l'art pour l'art?

Or is modernity the indispensable and intelligent overall reaction to the changing conditions of our individual as well as collective lives and therefore a wise reaction in the sense of a constructive continuous development of societies and systems?

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[1] The author's reflections about modernity and modern education were compiled for the above mentioned seminar context in India. Both authors acknowledge the existence of extensive sociological debates on modernism, modernity, post-modernism at international and national levels. However, they do not claim to capture the state of the art of related findings and perceptions of sociological sciences in this paper.

The answer is necessarily ambivalent: both and it depends. It is both because it depends on which part of our multi-perspective reality we concentrate our perception. On the one hand, modernity is a fact all over the world, showing manifold impacts on the different walks of life and bringing forth strange fruit. And on the other hand, modernity is the cause of discussions about the right way to lead individuals, groups and societies into a positive future. In this context of discussion and reality, teachers, trainers, educators and policy-makers in the field of education have to explore the matter further.

In India, for most of the people the meaning of 'modern' is linked to an increasing GDP, to globalisation, urbanisation, consumerism, mobile phones, IT, etc. However, in this way of thinking that pervades in the educated upper economic groups and the expanding middle class society, the ill effects on their 'quality of life' of unsustainable economic growth is not apparent as a cause and effect phenomenon. While globalisation has brought new opportunities to developing countries, it has also thrown up new challenges like growing inequality across and within nations, volatility in financial markets and environmental deterioration (Chadrashekaran Balakrishnan 2004).

2.   Challenge for Education – ESD as modern education

It is evident that schools have to lead the successive generation to a basic knowledge and understanding of their presence based on the collective history and traditions, values, and culture. Education and school always have to prepare the successive generation for their own future. That means that the perspective for teachers and trainers must be three-fold according to the considered dimensions of time: past, present and future. We cannot ignore any of these dimensions of time! We cannot limit our efforts on education only to the present, expected and prognosticated developments have to be integrated and developments in the past must be considered. Being aware of the fact that the actual present is never static, but in permanent change, we have to state: Life at the beginning of the 21st century is obviously a more or less globalised life all over the world. While actions of the majority of former generations did not have consequences on local, national and global spatial levels and in general less intense impacts on the spheres of action, such as politics, economy, culture and environment, we must realise that our conditions have changed. A globalised life includes consequences on more and more levels and a more intense impact on various spheres. Referring to Klaus Seitz, one of the leading heads in the German discussion, we have to recognise that global challenges need global citizens. Neither climate change nor poverty, water scarcity or any other global challenge of our present and future will be solved on a local, regional or national level alone. The concept of global learning can be seen as the core of education on sustainable development.

To refer to Karl Walter Hoffmann, a German Geography didact, globalised life means that challenges and problems are globally structured, which causes an increasing complexity of our lives and the changes of these conditions are more and more dynamic. Education has to enable and empower the successive generations to face up to changing living conditions. But what does this mean for education? In what way is ESD different to conventional education? In what way is ESD modern in the above-mentioned sense? And to what extent is ESD not only modern but at the same time conservative, regarding traditional local knowledge as part of ESD? And finally, which competencies are necessary for ESD and how do these differ from those of Environmental Education?

If we can accept that we need to educate children and youths with the aim of enabling and empowering them to cope with the permanently increasing and rapidly changing conditions of their lives, we need to accept that they have to become autonomous in every way and at a quite early stage. That, of course, also affects the manner of teaching, because we cannot reach autonomy as

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our aim of education if we do not allow and accept it in the classroom. Therefore, methods of learning and the design of schools have to change from receiving knowledge to practising responsibility, from learning in a static and instructive way to learning in an open and constructive manner. But are national education systems able to cope with global challenges? And what needs to be changed in the classroom though?

Findings of international educational research confirm that many countries even in less developed parts of the world have adopted educational curriculum reforms that are influenced by modern theories of learning and correspondent pedagogical concepts, and strategies. The concepts are inspired by cognitive, constructivist and social constructivist theories and concentrate on higher order skills like comprehension, critical thinking, problem solving and transfer skills. They are mostly summarised under the terms of learner-centred, learner-orientated education or child-centred education with different definitions and foci according to the cultural, scientific and philosophical context (GIZ 2013, pp. 11, 25-33).

It is largely accepted that quality learning and teaching strategies carefully blend traditional and modern forms of instruction. They combine teacher-centred and learner-centred methods in a learner-oriented perspective. The teacher input remains an important element, but the quality of the input is to be scrutinised with regard to the understanding of the learners. Teachers should inspire thinking and deeper understanding at learners' side. This all has impact on the teacher's role and his qualification. It is not just presenting and explaining new information but more guiding and facilitating the learning process (UNESCO 2005, EFA Monitoring report, p. 69).

However, lessons from all over the world tell us that a correspondent and consistent change at classroom level is difficult to achieve and rather seldom to be found. The paradigm shift that is needed for a new quality education does not happen because of revised curricula or teaching materials. It needs a complex systemic change approach and intensive and well-targeted work with in-service and future teachers, teacher educators and school management staff (GIZ 2013, pp. 25-33).

ESD requires not only this kind of new methods of teaching and learning but also new aspects due to the topic of sustainability. Sustainable development needs to be integrated throughout the formal sector curriculum in a holistic manner, rather than being taught on a standalone basis. ESD is education for sustainable development rather than education about sustainable development. It also means active and participatory learning, a hallmark of ESD, and call for the entire school, learners, teachers and administrators, to be actively engaged in working towards a sustainable school with ESD fully integrated into the curriculum as the driving factor (Lucy Hargreaveas 2008).

As compared to Environmental Education, ESD is a much broader approach to the global challenges of our time, aiming at the education of a cosmopolitan in the sense of Klaus Seitz. ESD can also be seen in the sense of Thomas Popkewitz (American Professor of Curriculum and Instruction), whose education strategy in the context of modernity and cosmopolitanism can be condensed into the phrase 'Making society by making child'. This approach is also known as the Whole School Approach, which is to be seen as the most consistent concept for ESD.

Based on these reflections, learners of successive generations need to develop additional competencies such as:

- to change the perspective and develop empathy;
- to integrate spatially far reaching and future consequences;
- to think in an open-minded and self-reflecting manner;
- to decide individually and accept collective responsibility;

- to motivate themselves and others;
- to differ between sustainable and unsustainable actions;
- how to act in a sustainable manner.

Bringing all these discussed aspects together, it is evident, that the new pedagogical concepts combined with competencies can only work if they are related to a leading idea. Sustainable Development as the leading idea explains the emergence of ESD as modern education. 'Modern' in the sense of responsible reaction and decision-making aiming at a sustainable future means that every coping strategy has to prove whether it is able to cope with actual challenges in a sustainable way. If food production, water harvesting strategies, housing techniques or any other traditional strategy achieves these requirements, it is not in opposition to modern education but part of it. This does not mean that traditional techniques and strategies are sustainable per se and therefore to be kept automatically, but that they have to be revised under the angle of modern education in the sense of ESD before being integrated.

Provided that we understand modern in a constructive and reactive sense to current changes, school must be modern. The current changes with regard to climate, our ecosystems, our social conditions and specific cultures we have to face are threatening our existence. Against this background, we have to understand that education and school have to participate in the transition to sustainable practices as the only promising solution we have. Therefore, ESD as modern education is not a modern thought, but a necessity according to our reality and therefore highly modern.

For many people in India, 'modern education' is associated with the change process due to economic development. It is thus believed that newer processes of education must be able to prepare students for this high input/output production and a consumer-oriented lifestyle. That this paradigm of living which is evidently unsustainable must inevitably lead to the collapse of our society has not been included in perceptions of their own future, long-term well-being. With this erroneous concept of 'modernity' in the context of education, rethinking education for a sustainable future is an enormous task. It requires a complete change in mind-set with regard to education and a newly emerging process involving multiple stakeholders.

3.   The Case of India – why there is a need for ESD Educational background

The immediate post-independence thinking on education was initiated from the time of the freedom struggle with the Mahatma's thoughts on frugality and Tagore's thoughts on nature as an inspiration for educating young people. This evolved into more practical ways of thinking on 'specific instructional objectives' based on knowledge rather than developing skills or attitudes. The efforts of the National Council on Education Research and Training (NCERT) towards change processes in education began to include environmental concepts in the 1980s. Environmental education was, however, finally triggered through a Supreme Court Order to Government in 1991 as a response to a Public Interest Litigation (PIL) by Shri M. C. Mehta. This, however, has used the 'infusion approach', whereby environmental concepts are to be taught as a small part of science, geography, social sciences and language. It has thus remained as an add-on which has produced only marginal support for knowledge skills and attitudes required for altering people's lives towards a sustainable future.

The Sarva Shiksha Abhiyaan (SSA) also known as the 'Education For All' movement was introduced in 2000-2001 as the flagship programme run by the Government of India. This scheme is framed to provide useful and relevant elementary education for all children in the age group of six to fourteen by

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2010. In this context, the landmark passing of the Right of Children to Free and Compulsory Education Act 2009 (RTE Notification) marks a historic moment for the children of India. For the first time in India's history, children are guaranteed their right to quality elementary education by the State with the help of families and communities. India's education system over the past few decades has thus made significant progress in theory. According to India's 'Education for All Mid-Decade Assessment' between 2000 and 2005, India has increased primary school enrolment by 13.7% and by 19.8% for girls, reaching close to universal enrolment in Grade 1. However, a quality of education for all children remains a major challenge for the Indian society. One in four children left school before reaching Grade 5 and almost half before reaching Grade 8 in 2005 (UNICEF 2005 EFA Monitoring report, latest available data).

The SSA aims to bridge social, regional and gender gaps, but it does not focus on the urgent need of developing new life skills for sustainability and the rapidly depleted natural resources. A study by the National Council on Education Research and Training (NCERT) on the SSA program found certain loopholes like a lack of awareness among the students, teachers, parents and principals and a lack of well-qualified teachers for refresher courses (Indian Educational Review, Vol. 49, No.2, July 2011).

The change from a traditional education approach which already includes an unfocused Environmental Education (EE) towards a focused ESD requires a new approach. This approach needs the economic and social dimension to face sustainable development, in addition to an understanding of the ill effects of unsustainability on Indian environment. The appreciation of the economic issues and societal concerns has not been a part of the current teaching of environmental education yet. That's why teachers frequently say that they are unable to see a difference between EE and ESD due to this gap in their knowledge.

Ecological situation – and the difficulty to create consistent awareness and response

The slow-forming ecological disasters that people invariably get used to, and continue to live with, are the result from unsustainable development. The effects of gradual, imperceptible 'climate change' go unheeded, while a major extreme weather event is immediately responded to, but is also forgotten after a short period. Biodiversity loss which affects less-known species goes unheeded, while the local disappearance of or severe reduction in abundance of a glamorous species such as the tiger receives attention for a short period of time in the media, only to subsequently fade out. The disastrous fall in numbers of vultures due to Diclofenac (medicine) administered to dying cattle elicited a poor response in India. Reaching and educating veterinary professionals on the role of Diclofenac is relatively more possible in comparison to targeting the more numerous untrained practitioners and farmers who work in the rural areas of the country (Richard J. Cuthbert Veterinary NSAIDs in India 45(3), 420–426). Even the rapid decline in house sparrow populations across urban India and its slow recovery has remained a mystery. But an epidemic of avian flu that may affect humans is taken as a serious event. A depletion of marine fish stocks continues to be thought of as a serious issue as it forms an important source of food and livelihood. Similarly, the rapid loss of Sal trees used as valuable timber due to a pest that destroyed thousands of trees was considered serious, while reports of dying Erythrina (coral trees) has not even been heard of as its timber is of little value. Providing the necessary triggers to alter education is thus complex. Much of this is dependent on unconnected or distant stochastic events. It invariably happens in India when an appropriate trigger event occurs and there is a strongly motivated group of people or an individual capable of influencing a large number of people in society. Unfortunately, this has not happened for ESD.

4. Challenges for ESD as modern education in India

Any attempts bringing ESD into formal education will obviously have on the long run a positive impact on Indian society. But ESD can only be initiated, if the awareness for improvement exists. The democratic process of governance in India is not really conducive to this, unless it is shaken by events that can be directly linked to a disastrous event. The struggle for transparency in Governance through the Right to Information Act which came into effect on 12 October 2005 was triggered by a large section/part of society which lobbied for it. This Act, which allows every citizen to question the Government, politicians and Government officials, is now accepted as one of the most effective instruments of Indian modern democracy that has evolved in recent times. People can now question the Ministry of Human Resource Development (MHRD) for a modernised education system. But they are not demanding for ESD yet.

Establishing ESD as 'modern education' to meet recent and expected global challenges is going to be a slow process. To succeed India needs a people's movement that can push Government into action to transform the education process itself into focusing on education that fosters and centralises sustainability.

If India wants to modernize its school system, the country has to reconcile two opposing goals: On the one hand, there is the 'single world' concept with its Millennium Development Goals. On the other hand, India has to focus on the local development. The country has lots of different cultures, languages and religions as well as diverse biogeographic regions, numerous villages and counties. All this needs to be addressed while keeping one national interest.

India is rapidly changing into an emerging economy. Addressing the effects of economic growth, the creation of a new lifestyle and its long term ill-effects on some sectors of society is perhaps the greatest challenge that education faces today. This needs to be considered as ESD deals with a change in behaviour towards sustainable lifestyles. This, however, differs in the context of urban, rural and wilderness dwellers. It is overlaid by the different approaches required for the very rich and the very poor who now live in close proximity to each other in urban penthouses and neighbourhood slums. Preserving national integration in this diversity of educational needs is the most crucial need of a 'modern education' approach in India.

Changing currently used EE to ESD practices is itself plagued by the fact that the present EE initiatives have been bogged down by a diffused infusion approach. Teachers, students and parents think EE is an unimportant aspect of education as it is not a formal subject. It has no separate classes, no separate curriculum, no separate textbooks and no separate examination. At most, it is considered as some vague, non-formal educational activity. This unfocused approach which is unlike any of the other formal educationally important subjects has left EE outside mainstream school education. Converting this to ESD is impossible. ESD will require a new approach where action-oriented learning is practiced as an important life skill, and is introduced as a unified core subject. This will require formal training for teachers, and reorient education to address sustainability and alter teacher education which can contribute to that process. This will essentially require a specific textbook based on a single subject approach that is focused on providing thinking on a new way of life, and a formal examination system, in order for it to be taken seriously by teachers and students.

Currently, teachers are not oriented towards appreciating issues emanating from unsustainable economic development. They therefore cannot visualise the ill effects of rapid unsustainable economic growth. They can, however, realise that poverty is leading to an increasing level of disparity and growing tensions between the 'haves' and 'have nots'. Even here, they do not see this as a result of unsustainable development fostered by globalisation, urbanisation and consumerism. Thus, all three

pillars of sustainability require urgent strengthening as being essential needs of a new educational policy. The school as a whole must now be looked at as an example of a sustainable society. This requires the involvement of school managements, principals, teachers, students and the local community. Building consensus for a new subject that is linked to bring a better quality of life for all through sustainable life skills is synonymous with the needs of a modern educational initiative in India, in this critical situation.

The Bharati Vidyapeeth Institute of Environment Education and Research (BVIEER) has addressed teacher education to approach these needs of education by using a variety of innovative approaches. Teachers have asked for simple ways to appreciate the differences between acts that are unsustainable versus those that further sustainability. The Institute developed a matrix, which addresses issues such as water, natural resources, health, pollution, housing, mobility and other lifestyle indicators in economic, social and environmental terms. It shows how in the students' daily life these 'quality of life' indicators are part and parcel of learning from their own surroundings. The teacher has an additional task of linking these to global, national and highly local specific needs.

The discovery of what is beautiful and intriguing in nature fascinates young people. But students are often depressed and frustrated about how little they can 'do' towards actual changes that they can contribute to 'care for the Earth'. Teachers in India are not adequately trained as nature interpreters. This limits excursions to boring aspects of 'What is this? This is an -------'. A major turn off! However, if this is depicted as 'Look at this enormous, uncountable, undiscovered diversity of life,' it becomes appealing. A feeling of 'I want to discover!' is what spurs on their enthusiasm for life. This returns us to the older paradigm of using nature as an educator. Students who grow up with nature also develop empathy for nature and a feeling for sustainability. If a teacher can't sufficiently involve urban students in natural surroundings, they can bring nature into the classroom. For example, terrariums, fish tanks, breeding butterflies, watching bird behaviour out of the window and discussing their behaviour, feeding habits, roosting and breeding behaviour can be used in every school in the classroom itself or in the school compound.

Finally, lessons can feature threats to biodiversity and what one can do make sustainable life actionable - which is an expected end outcome of modern education. It is the initial steps of 'discovery' in nature that turn people into conservation-conscious individuals in the lifelong process of learning from nature.

Modern education is thus centred on ESD, where taking action that is sustainable creates a deeper understanding of the links between global, national and local interests.

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