



Our Land, Our Life (Hamari Dharti, Hamara Jeevan)

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The environmental education subject 'Our Land, Our Life' is being taught in the schools of Uttarakhand in a formal way. The teaching of this subject was started on an experimental basis in 1987 in Gandhi Inter College, Panuwanaola of Almora District. It is now being taught in the 6th, 7th and 8th classes in more than 1000 schools of Uttarakhand, as an optional subject in place of agriculture, craft and home science. It is for the first time that NGOs (Uttarakhand Sevanidhi, Gandhi Inter College Panuwanaola and Mirtola Ashram), Central and State governments have jointly developed a curriculum based on the topic of the local environment. Later it was incorporated into mainstream education. During this journey, the curriculum has been revised four times based on the suggestions of experts and the experiences of the teachers and the students. It has also been made suitable for the field districts.

Initially it was an additional subject in the 9th and 10th classes in the 39 schools of the hill region, later modified for 6th to 10th classes based on the suggestions of the education depts. of Central and State Governments and also the subject experts of NCERT and introduced in the 6th, 7th and 8th classes in the schools of the hill districts.

Subject Matter

In this subject, based on the village ecosystem, sustainability, carrying capability and the whole village ecosystem is studied as a unifying concept. Included in this are the study of the ground, construction of the map of the village, measurement techniques and the mathematics involved in it, village history, growing tree seedlings, natural flora of Uttarakhand, soil formation, water carrying capacity, spring flow measurement and domestic water consumption, measurement of rainfall and analysis of data, crop, firewood, animal

bedding, grass, compost measurement along with village support area rehabilitation, growing saplings of tomatoes, organic farming, and principles of good land measurement. These have been covered in the 37 chapters for class 6th to 8th. Reading material is also provided. It is also required to carry out some practical exercises in a few nearby villages. Some exercises can be done within the school itself. Students have to work in teams.

Environmental Teaching - Some experiences

Prior to joining the field of environmental education, I did not have much experience in teacher-training. I came into environmental education for working teachers after joining 'Uttarakhand Seva Nidhi' nineteen years back. Before this, my experience consisted of research studies in various fields like primary education, environment and development. After participating in movements on forest and environment issues as a student, I took part in the environmental camps organised by Shri Chandi Prasadji where I learnt the rudiments of environmental issues. Of course my childhood was spent in a rural setting so I have a feel for it. By participating in the various study projects I got an opportunity to understand the local lives in more than 500 villages in the various parts of Uttarakhand. In the beginning, I could not find myself agreeing to the curriculum of 'Our Land, Our Life' It took some time for me to understand the perceptions of free grazing, and degradation of the land due to overexploitation and deforestation. Earlier, as per my previous experiences, I tended to side with the village community. But when I learnt the correlation between events, such as the grass (lands) and the trees getting destroyed due to the prevailing grazing practices and how fodder collection activities denuded the trees, my preconceptions quickly changed. But some questions remained, like why children should work

in the fields and whether there is enough land for everybody. The arguments of M G Jackson and Madhav Ashish Maharaj, whom I met while on a visit to the Mirtola Ashram, were that those children who go through this curriculum will do a better job when they grow up to become doctors, engineers or teachers. They would prove to be good planners if they opt for administrative job. Those who are unable to continue their studies or get suitable employment, can lead a fulfilling life in their villages using the skills learnt here. The wisdom which I gained while working with the teachers, children and the community, gave me an ability to understand the environmental problems at the levels of the cities, metropolitan cities and also at the global level. For the last eleven years it has been a pleasant experience learning with the teachers during teachers' training, discussing with the children in the class as well as outside the class and holding continuous dialogue with the teachers.

Interaction between teachers, students and the community

Teacher in the role of a catalyst

Looking back at my experiences with the environment education, I have found that the teachers, students and the community keep enhancing the level of understanding of each other in this process of learning. Initially, when the teachers came for their training, their views about air, water and sound pollution, global warming, tree planting and wild life preservation got formed as per what was taught in the class and as given in the book. After going through the curriculum, the teachers asked questions about the problems they faced, for instance, the village being far away, there being no wall around the school, non -availability of water, one period being too little for practical work, villagers not cooperating etc. In spite of all these difficulties, the teachers in most of the schools took the initiative to find alternatives. They entered into dialogue with the villagers while conducting routine teaching and practical work. This process of teaching helped them in being more creative. It also helped in creating interest in their job of teaching. Inspired by this, they have now donned the role of a motivator.

Shri Keshar Singh Mankoti, who was a teacher in the Junior High School, Artola, Almora, told us that

when he first went, none of the windows had shutters on them. He contacted the villagers, convened a meeting of the guardians and also started activities of growing flowers and getting the building repaired. He created and staged plays in the villages depicting the village history and showing the real reasons of wild animals straying into the villages. The village community was all praise for him and offered their full support. He found a simple way to explain the concept of the 'height above mean sea level', which was later included in the curriculum. Recognising his dedication to education, he was honoured with the President's award. Though retired, he still remains active in the village.

About 27 years back, Shri Narendra Kumar Bahuguna was teaching Environment Education in the Government Inter College Chhinka, District Chamoli, where he got an opportunity to take environmental education outside the school to the village. As a teacher and headmaster, he made the school a centre for environmental activities. On his call for participation, villagers from many villages used to flock to the school. With the participation of the community, he undertook a major tree planting operation in the villages of Malari and Gamshali located in the border areas. With the participation of the womenfolk he set up an example to plant thousands of trees in the school and also save many trees. After this he continued to remain active as Principal in GIC (Government Inter College) Langsi, Gairsain. Even as a headmaster he participated along with the students in the practical work in the villages. To meet the water scarcity problem of GIC Gairsain, he got a polythene water tank made. He has been motivating the teachers, headmasters and principals as District Inspector of schools. At present he is a Joint Director of Schools in Uttarakhand.

Sabendra Singh, a teacher in Varnigad, District Uttarkashi, says, 'Before joining the teacher's training, I wanted to do something creative, but did not find any opportunity for it. I could only participate in one or two cultural programmes in a year. After getting trained in the subject Hamari Dharti Hamara Jeevan, I got the vision and chance to become active. When people come to the school and praise my work, my self-confidence gets a great boost.'

Our traditional society holds quite a few sound social and moral values about education and natural resources. But there are also quite a few bad customs, evils and superstitions. Due to these it becomes difficult to find the real cause of the problems. Therefore, to examine the prevailing beliefs in a meaningful way and to encourage meaningful things while creating disbelief about the evils and superstitions also come within the purview of the education. A teacher is an integral part of the society. As he has himself been a part of the society through many generations, how could he remain untouched by the good and bad customs, virtues and evils prevailing in it? But wherever the teachers have applied a process of enquiry and investigation, their views and perceptions have changed. This new found confidence is a signal for change.

Shri Madan Singh Devli, a teacher in the higher secondary school at Petshal told us, 'Before teaching environmental education, like other folk, I also believed in superstitions and untouchability and attributed scarcity of water and drying up of water resources to some of these. Such ideas were firmly entrenched in my mind. I never gave it a thought or got a chance to check their veracity. I continued to carry a belief that if menstruating women or women who are in confinement take bath or draw water from a water source, the very act would cause the water flow to diminish or the source to get dried up. But during the process of teaching and experimenting with this subject I came to know the real reasons of water sources getting less or getting dry and all my previous perceptions got changed without my realizing it.'

Manual work has not been given any importance in our society. Education has further alienated it. Due to this the guardians have an opinion that education can be imparted only within the class and only through books. Finding the teachers and the students coming towards the village during the school hours, the villagers questioned the teachers why they were bringing the students to the village instead of engaging them in the class. Such questions gave the teachers an opportunity to engage in meaningful discussions with the villagers. A campaign for change had begun.

Those days, the school term used to begin in July, with examinations finishing in the first fortnight of

May, with the schools closed in June. I do not remember the day but it was in May. I was to visit an environment fair in Junior High School, Kama village. After crossing the fertile fields of Gagas valley I came to Kama village from where I walked uphill for about a kilometre to reach the school where the fair had started. A small ground of the school was fully packed with men, women and school children who had come from the nearby villages. A play was being enacted on the stage. It was based on the reading material of the 8th class depicting Mahila Mangal Dal of Tangsa village, with a theme involving usage, management and sharing of the benefits of the community resources. In this it was shown that how women of Tangsa Village came together to plant trees, protected its forests and reared milch cows in the common village land which had been completely eroded and had suffered massive landslides. At the time of drought they even distributed fodder to the other villages. The village community was deeply moved by this presentation.

After the play was over, some of the women came over to meet the headmaster. They asked the headmaster, who was himself a teacher of environment science, whether whatever was depicted in the play had really taken place. The headmaster confirmed it and asked them to meet him later to discuss it. After this incident I happened to visit this school again only after two years. After discussions in the class with the children, the teacher Shri Trilok Singh reminded me of my last visit when a few women, after watching the play about the Tangsa Mahila Mandal, had come to seek some information. These women were from the village Idasera which was adjacent to his village. He then narrated the story.

These women told him that Idasera has a flat and fertile land. For the purpose of irrigation an old traditional canal of village Kama was extended to Idasera Village. After some time there was a dispute. Consequently they were legally advised to take their turn to use it on alternate days. Idasera was a bigger village thereby the needs of a very few families only could be met by this arrangement, while Kama was a smaller village so most of the days of the month the water was being wasted. Due to this, Idasera residents were not interested in maintaining it. Next they wanted to know whether

what was done in Tangsa village could be done here also. He told them to go ahead and try it and also offered his assistance if needed.

After a few days of the environmental fair, the women of Idasera met and constituted a mahila mangal dal. They invited one person from each family for the maintenance and cleaning of the canal, decided the days for the maintenance work and made the village panchayat repair the canal. Next they collected Rs.10 per family and created a fund. In the meantime the mahila sinchai mandal took a significant step. They held a dialogue with the villagers of Kama who had the first and equal right over it. They requested the Kama villagers to use the canal to complete their irrigation needs first and allow the villagers of Idasera to use all the water for the remaining days. This was agreed to by the Kama villagers. Now the villagers of Kama use the water for 3-4 days and the Idasera villagers get to use it for the remaining days of the month. This has also helped in improving relations.

Joy of Learning outside the Class

Children always like to learn from outdoor activities, to observe their surroundings and draw a map of the village on the ground. They like to learn about the village history, know about the grass, wood, crops, land and water and also enjoy measuring the sources of water. They also like to connect whatever has been read in the book with their surroundings and to raise questions and find their answers together with the other children.

Students of the Pre -Secondary School, Chaikhan made a plan to collect seeds to prepare saplings of trees. Next day, the children of Singaroli brought the seeds, but the children of Lamkot reported that in their village they did not get any seeds from the banj trees. The process of sowing the seeds was begun using the seeds brought by the children of Singaroli. When the possibility of growing the seeds was being discussed, a girl from Lamkot asked, 'Why don't the banj trees of our village give seeds?'

Then one of the students pointed out that there were no seeds even on the trees surrounding the

school. All of them started to look for the reasons. The teacher took up the topic 'How do the plants and trees die?' in the class and made the students discuss the dangers of overcutting of the trees. A questionnaire was prepared for the children of Singaroli and Lamkot for them to interview their village elders about the history of the growth of the forest in their villages. Questions about the practices of fodder gathering were also included. Annual growth in the branches of the trees was also measured. Lessons and experiments were conducted on trees and their food. Investigations were carried out for a month with the help of the teachers and the villagers. It was found that if the tree branches are cut repeatedly exceeding the annual growth, further growth of the trees and grasses stops and they stop yielding seeds. Natural renewal also stops and in the long run, the trees and grasses die completely. A discussion was held to chalk out a plan to study the effect of rains in such places during the rainy season.

Shri Upadhyay, a teacher of Devalkhet Bageswar Junior High School told us that initially he was finding it difficult to teach the concept of altitude in the 6th class geography lesson. 'I was unable to figure out how to make the students grasp the concept of the altitude. Just after 3 days, I found a teacher of environmental science discussing the same concept with the students outside the class. Naturally I became curious. I found that the teacher had kept a large piece of stone in a wide vessel and had filled it up with water up to more than half its height. He explained the concept of treating the sea level as zero. Reckoning the level of water in the vessel as zero sea level and the stone as mountain/hill, he explained the altitudes of various places using scales. The next day I found that the students had fully grasped the concept of the altitude.'

Apart from this the teachers also shared their experiences of how they got helped in making the students understand many of the concepts in social sciences, science and mathematics.

References:

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