CHAPTER VII

CONCLUSION

This concluding chapter is divided into the following sections:
A. Summary of the why and how of the study
B. Summary of findings
C. Integrated Education Models Using Environment and Community Resources

A. SUMMARY OF THE WHY AND HOW OF THE STUDY

This study was triggered by the concern with the irrelevancy of the school system for the social and community needs and its isolation from society. This seems to be an inbuilt defect arising from the nature of the schooling process. This has been observed by great educators and social thinkers in India and abroad. Great men like Dewey, Gandhiji and Tagore did their best to try to relate the school to the community and environmental contexts and needs. But their schemes have met with opposition from traditional educators.

Among Indian states Kerala stands in the forefront in literacy and in many formal education statistics. But it is doubtful whether the schooling statistics can be counted as indices of true education. The type of transaction conducted in the school is highly verbal, rote-memory-loaded, and competition-oriented – with a parallel coaching system reinforcing these values. It is as if schooling is set up in opposition to education which is ‘the drawing out of the best in child and man’, ‘the manifestation already in man’, ‘the superior adjustment of the conscious human being to his physical, social and volitional environment.'
Even from the narrow schooling point of view, the centres of teaching are woefully lacking in aids and appliances which can bring real learning to the ordinary children. The State is short of funds to meet these basic infrastructural needs. Centralised schemes like “Operation Blackboard” are drawn up by ‘experts’ to plan, prepare and supply, nay, thrust some kits and other materials on the schools. But they have not shown visible result in making the school close to concrete realities.

The irony is that the classroom, where the destiny of the nation is expected to be shaped, presents itself as an avatar of poverty (material, intellectual and spiritual), while immeasurable pedagogic wealth lies all around in the community and in the environment untapped, unrecognised. If a teacher only knows how to read the environment pedagogically and use it, the bridging needs which could initiate children into even formal education, and much of the pedagogic needs for general education will be met. The saving made in reducing wastefulness regarding the general education-supporting needs, and meeting basic needs at low or no cost can be diverted to meet the expenditure needed get the specialised equipment which cannot be easily ‘picked’ from the environment. Recently a scheme for activating primary curriculum and making it relevant for the community and sensitive to the environment seemed to emerge. Some teachers and educational workers saw it ‘as a goddess sent from heaven to earth to put the school on its way to reach its destiny through song and dance, through real encounter with the real environment’. Some preferred ‘the tunes which lead children to sleep or weep’ to be sung to pupils transfixed to the ‘desks of druggery and routine’, or direct them to take the ‘route of rote laid through the terrain of the irrelevant’, leading to ruthless competition, in which a small minority somehow survive while the vast majority simply pass through the mill, some without even a certificate, and some armed with it, but really without an education which would fit them to really adjust to the present and the future. Meanwhile artificial adjustments to this world of man-made suffering and exploitation are made
at an enormous cost. Some were content to criticise. A vast majority preferred to stand and watch. This is what their education prepared them to do.

It was felt that in this juncture a committed and discerning study in this area will help (1) to sensitise teachers and educational workers to the pedagogic potential available in the natural and social environment; (2) to identify local resources relevant for transacting various aspects of the curriculum; (3) to facilitate the investigation of the natural and social environment; (4) to help pupils acquire a variety of skills and competencies, even given the constraints of the system in terms of funds and facilities; (5) to help the school transcend the compartmentalised and isolated pedagogic transactions through integrated approaches. In order to achieve this, it was decided (1) to present some case studies — individual and institutional — of effective educational use of the community that could inspire and inform educational workers; (2) to conduct pedagogic analyses relevant for proceeding from holistic experiences to then specific, from application to principles; (3) to develop optimal models for the use of the environment and community resources in education.

The research methods used in this study were largely open, exploratory and qualitative, supplemented with one quantitative survey. Hence the model of starting with a hypothesis or group of initial hypotheses and testing them in the convergent mode was not followed. Hypotheses did come in the course of the research and their testing was built into a continuous research process.

Besides ‘thick description’ of phenomena, analysis was done in a variety of ways. Textbooks associated with the environment-exploratory activity curriculum, teacher’s handbooks, panchayat planning reports, tourist information, scientific papers from the Kerala Science Congress, papers of M.S. Swaminathan Research Foundation: Community Agro Biodiversity
Centre and a variety of other documentary materials were analysed. Situational (contextual) and curricular analyses were also conducted. Observation (participant and non-participant) and interviews at different level of depth and focus were also conducted. In this kind of participant work, in which there could be exchange of roles between the researcher and the 'researched', and in several other aspects where flexibility was needed, qualitative methodology was very helpful.

Case studies of innovations by individuals or institutions which could be exemplars of community resources easily accessible and which could give some special insights about how they can be pedagogically tapped were also made. Fourteen such centres were taken, of which nine were from Alappuzha district (since Alappuzha was the investigator’s place, it was hoped that many cases will pass on to informal experiments for the research.).

Formal experiments with designs suggested in methodology texts were not done. But some of the unobtrusive intervention procedures had the semblance of naturalistic experiments. Some of the work done had the shape of the deeper models of action research suggested by qualitative methodologists like Carr and Kemmis.

Since the activated and environment-oriented primary curriculum was being intensely debated in the culminating base of the research, the working of the scheme itself was treated as an intense case study cum documentary analysis of the textbooks, teachers' handbooks etc., and situational analysis of the curricular transaction. Since the new curriculum which had been in vogue for about seven years was intensely analysed and since it was something on which people could express their attitudes and opinions, it was feasible to conduct a quantitative survey using an attitude scale, and judgement schedule. The attitude scale was administered to a purposive sample of 700 respondents (300 members of
the public, 200 teachers and 200 graduate trainees; the sex-wise distribution was 299 men and 401 women). The scale was of the Likert-type, starting with 38 items; six items did not satisfy the item analysis criterion and so the final effective scale consisted of 32 items only. These were summated and inferences drawn. Since the respondents had to answer every item in a Likert scale the individual items were examined for the extent of agreement by the respondents, grouped into eight categories and inferences drawn.

The judgement scale was answered by 442 graduate teacher trainees. It was actually triggered by the observation of the investigator's students during teaching practice in the academic year 2001-2002 that the pupils of Class 8 (who had undergone the activated environment-oriented curriculum showed more active responses than the pupils in Classes 9 and 10 (who had their education entirely through traditional formal approaches). The judgement schedule had two sets of items. The first set presented nine pupil behaviour items ranging from active to passive, and they were asked to judge whether the pupils of Class 8 displayed 'More' the Same' or 'Less' of each behaviour. Comparisons were done on the basis of the index of 'More' minus 'Less'. The second set of items in the judgement schedule invited the B.Ed, students to compare several teacher/pupil behaviours as they existed when they were high school pupils with what was observed in the pupils who had learned through the new approaches (in high school, Class 8 only).

The results from the qualitative as well as the quantitative approaches were synthesised and models were constructed. Following Cornell, construct making was also recognised as a research method in this study.

Even the quantitative work was subjected to some qualitative follow through, in grouping the full range of attitude scale items into eight groups and analysing people's opinion about it and receptivity to it. Statistical
coefficients of validity and reliability were not calculated. The validation was mostly through consensus and through qualitative validation procedures such as triangulation – inter-method, intra-method, inter-investigator, inter-theory and inter-disciplinary. Other criteria applied were: trustworthiness, transferability, authenticity (including fairness, educative, catalytic, tactical and ontological authenticity.)

B. SUMMARY OF FINDINGS

1. Some of the important findings arising from documentary analysis are:
   (a) The analysis of the panchayat reports yields the possibility of
   • sensitising the pupils, teachers and educational workers to the local boundaries and landmarks, soil types, minerals, crops, livestock, transportation, water supply, irrigation, industry, health and hygiene, civic, religious and cultural institutions, local history; if the new curricular approaches are kept up and still improved these can be used as learning resources in a natural way;
   • using the panchayat maps for understanding map reading and map making;
   • using the statistical information about one's own locality for learning different aspects of mathematics.

   (b) Analysis of the district handbooks suggests ways of extending to the district and state levels what was learnt from the panchayat reports for the local level – geographical features, soil, minerals, irrigation, agriculture, flora, industry, archaeology and history, cultural centres, places of worship, folk arts, recreation. Thus then scope can be widened, the interconnections made more intricate, the symbolisms can be made more complex and abstract.

   (c) The attractive pamphlets and other projections of the District Tourism Promotion Councils combine education and entertainment in interesting
ways. Their pictures are aesthetically pleasing and intellectually stimulating. The Thesis is illustrated with some of their best photographs and captions such as "Vitamin Sea", "No artificial colours, no added flavour" etc. – to depict the natural beauty of Kerala.

(d) Analysis of the Proceedings of the Kerala Science Congress (January 2002), especially in the areas of land and water management, life sciences, agricultural science, environmental science, science and technology, science and society shows the involvement of the scientists in their andrologic phase – teaching the adult members of the community which can be extrapolated to pedagogy, provides examples of interdisciplinary scientific investigation, and presents up-to-date applications of several scientific concepts and principles. The M.S. Swaminathan Research Foundation: Community Agro Biodiversity Centre reveals revolutionary ways in which not only biodiversity, but also cultural diversity reaching up to the tribes can be tapped out to ensure preservation of natural and cultural wealth, and also economic/educative productivity.

(e) The analysis of the environment-investigatory curriculum provided some extremely interesting findings.

- The environment study texts of classes 3 and 4 (Minnaminni) are extremely good in extending invitations to explore the environment, various habitations and the community in several ways. Various ways are adopted to animate the lesson and make it joyful and productive. Even observation by night is made possible in the community camps. Going to the higher classes, the depth is progressively increased, content focus also is increased. Investigations at varying depths are offered. Group investigation too is encouraged. Community concern is reflected in many illustrations and titles – about the soil, about water etc. Integrated and interdisciplinary approaches also come in freely.
The Handbook gives excellent guidelines to help the teacher to transact the environment-oriented curriculum effectively. It shows the farmer and other functionaries in the village as resource persons in science and social studies. It gives suggestions for improvisation, for optimising the benefit accruing from lessons inside and outside the classroom. It also gives cautionary notes.

Observations and interviews showed that a good number of teachers have really understood the spirit of the scheme and transact the curriculum in child-friendly environment-exploratory ways. As in March 2001, when the last intense observation was done, the contribution of the committed teacher, trainers and programme officers had made the school a joyful, cooperative workplace. There were also many teachers who did not put in their best to realise the spirit of the new curriculum.

2. Several community resource agencies like the Krishi Vigyan Kendras, Centres of Scientific Research etc. are well-known. This investigation has tried to bring out some agencies that are not so well-known. This is not to underestimate the importance of the well-known institutions. In fact some of them are touched and ways of using them have been discussed. But it would add novelty to bring out some ordinary cases which are not usually though of as educational resources. This not exhaust the type of such unrecognised resources, but once the way of looking at ordinary situations and individuals as resources/resource persons, the reader will be able to identify more such resources/resource persons.

Fourteen Cases were studied in the expectation that they may throw some insights about identifying pedagogic resources even in ordinary circumstances. They are:

1. Chākara (mud bank) : ethno science of the fishing community
2. Tapping the rich resources of the socially weaker sections (the utlādans)
3. Kunchan Smārakam at Ambalapuzha: nurturing the tulal art form
4. The itinerant pesticide promoter
5. Dayal’s experimental plot
6. Kuriakose’s ecosystem – a case cum experiment
7. Fisheries Vocational Higher Secondary School – participant observation
8. Map reading from the panchayat report stimulus
9. Polio Home, Trivandrum
10. Mitraniketan, Trivandrum: an education-centred community
11. Farm Information Bureau
12. Centre for Science in Society CSiS, CUSAT campus, Cochin
13. Kerala Sastra Sahitya Parishat
14. The Investigator’s Home Garden: Towards a Habitat Centre.

Of these the first eight and the last were drawn from the investigator’s district, Alappuzha. The first three represent the knowledge of the ordinary people, particularly the downtrodden group; the first (chākara) brings out the ethno science of the fisherfolk and the second, that of the tribe ullādams who originally lived in the deep forests, but later settled down in the open lowland near Alappuzha; Kunchan Nambyar satirizes the upper classes, criticizes injustices and repeatedly refers in his plays to the intellect hidden among the downtrodden groups; the art form that he built brings out the local kinaesthetic and intellectual riches of the ordinary folk; teaching on this model in the Kunchan Smārakam is richer culturally and pedagogically than the truncated offering of the same matter in the formal Malayalam classroom. The itinerant pesticide promoter (whom the investigator met and interviewed near her own locality) is a modern representative of the wandering teacher bridging the knowledge and needs of the former with modern needs. Kuriakose and Dayal have already transformed their own gardens through various indigenous and modern inputs and converted them into education centres. They have been an inspiration to the investigator who has already developed her own home garden and environs as a pedagogical
analysis centre and may hopefully develop it into a habitat education centre. Participant observation cum naturalistic experiment conducted at the Government Fisheries Vocational Higher secondary School, Arthunkal, showed fishermen’s children entering these schools not in order to modernise and improve their traditional occupation and get the real benefits that are available, but to escape from it using a school certificate which could help them to get other jobs. The resources of the fishermen community, easily available, have not been taken by the school. Another experiment done in the district was in teaching map reading effortlessly to pupils who had reached high school classes without acquiring basic geographicacy by just using the Panchayat map and important land marks as starting points.

The Polio Home, Trivandrum is a model of a highly qualified marine biologist devoting his life for the cause of the polio-affected children, giving them a rich education in spite of their physical disability and spreading the gospels of rehabilitation as well as prevention. Mitraniketan, also from Trivandrum District, is a model of community-centred education in an education-centred community brings the gospel of organising local community for development, adding modern inputs from India and abroad, and developing leadership among youth for improving their own community.

The Centre for Science in Society in CUSAT campus is another model of a highly qualified giving his time after retirement by organising excellence in science education on a voluntary self-financing basis. The Farm Science Bureau is a model of bringing modern knowledge in agriculture and related sciences through a multiplicity of media. Kerala Sastra Sahitya Parishat is perhaps unique in the whole the country in spreading the modern science among the people in popular language through street jathas, plays, talks, discussions, small booklets. It organises animating programmes for school children. It has helped to eradicate illiteracy not
only among the masses, but also the invisible illiteracy cultivated by the school. It has conscientised people against exploitation and injustice. Most of the progressive reforms in education in Kerala including the new curriculum reforms were initiated by the Parishat. The Integrated Rural Technology centre organised by it promoted energy management and education and several other innovations. It may be a model for the secular learning community.

Enormous amount of useful developmental materials were received from M.S. Swaminathan Community Agro Biodiversity Centre at Wayanadu. At the time of writing the Conclusion, materials from the Palmyra Development Society at Marthandam was also received. Since investigator could not visit the above institutions, they are not listed among the cases. But the information from the Bio Diversity Centre has been incorporated into this study in other forms. The Palmyra Development Society is an excellent community organization to tap out the wealth from Palmyra centred crafts. Several modern inputs are also added. The Palmyra Society at Marthandam have several ideas to contribute to developing coconut centred crafts in Kerala on a small development-oriented integrated community basis.

3. Some experimental constructs and informal experiments were conducted or observed in this study. Many experiments imperceptibly came out of the cases (e.g., in the visit to the Fisheries Higher Secondary School, in the pedagogical interaction of students at different levels in the investigator's home and garden the observations and scientific investigations of students gave rise to pedagogical experiments of a naturalistic type. These experiments could not be classified into any of the designs suggested in scientific research methods. A problem would have arisen, it would have been analysed, hypotheses might have been formed and tested. The steps in the process might not have been delineated clearly. Only reflection at the end of the process might show that it was a
naturalistic experiment. Such things continually happen in the life of a person who continually acts and thinks. Much of good investigational/environmental learning may be of this type. When the process is reflected and acted upon in further cycles, it may be recognised as action research which may be classified under one or more of the action research types recognised by modern qualitative research methodologists. These are not explicitly reported in his Report, though they may be implicit in statements of cases and analyses. However it may be worth reporting two of the experimental constructs of the sustained curricular type.

Following the analysis of various types of documents representing typical community life (panchayat reports, district handbooks, tourism pamphlets etc. in Chapter V A), two sections were presented in the thesis present specific investigational constructs which would reveal the incipient experimental outlook underlying much of the analysis. This will be clarified in 3 (a) and (b) which follow.

(a) Chapter V B is devoted to History made living with Archaeology and other sources. Though Archaeology and History are subheads under which the district handbooks are structured, the exemplars of facts constrained in the documents were simply presented briefly with reference to the other heads. History and archaeology alone were separated out in the hope that at least partial constructs for the investigational teaching of history could emerge from the exercise. The write-ups and photographs in the district handbooks themselves had a nucleus of those constructs. The attractive photographs and research write-ups available from tourism sources fortified the invitations to historical inquiry.

- Edakkal Cave at Ambalavayal, Wayanad, is well covered both in the district handbook and in the tourism materials. It is a tourist attraction of great magnificence. But it is much more. For those
whose historical eye has opened or is ready to open it is a primary source of the first magnitude. Though primary sources are the firm bases of history, they get illuminated to a great extent by the use of good secondary sources. The write-up about the interpretation of the symbols and the underlying theories written by Prof. Rajan Gurukkal would completely change the view many people have about the scope of Kerala history, and about the romance hidden in it. [In fact this investigator visited these caves some years ago and admired its awesome beauty, but was totally blind to its historical majesty till Gurukkal’s article was read. A reader may choose to question some parts of Gurukkal’s theory. Historical criticism will then come naturally. Some of the theories suggested by Gurukkal also lay the foundation for an understanding of historiography. Since the new curriculum introduces children to social investigation, and even to historical investigation to some extent, the insights triggered by these sources could surely enrich curricular transactions.

- Kannur District Handbook has presented photographs of Fort St. Anjelo built by the Portuguese in 1505 and the Thalassery Fort erected by the British in 1683. Tippu’s Fort (referred in Palakkad District Handbook) is another monument that can trigger historical investigation. It would be interesting to take pupils on study visits to such forts and develop projects on Fort-triggered history.

- Wayanad is another place full of historical relics (published in district handbook and in tourism publications). In Wayanad the relics seen in field visits can be reinforced by those seen in Museums. But some of the most important relics for Wayanad are found in the archaeological museums in Kozhikode, so thoughtfully organised by Dr. Ayyappan and others.

- It must be recorded here that the analyses of historical and other sources were appreciated by educator-scholars in Kannur,
Wayanad and Palakkad. So it would be possible at some stage to have follow-up projects in these places validating these analyses.

(b) Chapter V C presents A Tryout in Alappuzha of applications of the (documentary) analysis. The investigator organised informal educational ‘wanderings’ through different parts of Alappuzha district with younger persons with a quest to learn and drew out the learning items embedded a wide variety of sources ranging from geology, geography, biology, physics, chemistry, industry, fisheries, environmental issues, history, religion and culture

4. The attitude survey showed that on the whole the respondents showed a favourable attitude towards the environment-exploring child-friendly pedagogy. The scores obtained in the attitude scale makes an almost perfect normal distribution by several tests. The mean score of the 32-item scale is 127.8, much above the neutral point of 96. In fact it almost touches 128 (32 x 4) which represents the point of ‘Agree’ with favourable items (or ‘Disagree’ with unfavourable items). Comparison of the attitudes of men and women showed that men have a significantly more favourable attitude than women to this environment-oriented pedagogy (Mean$_{men}$=129.9, Mean$_{women}$=126.2; $t=3.01$, $P<0.01$). But absolutistic interpretation of such findings should be avoided.

The degree of responses to individual items groups under eight heads and analysed show very important insights in terms of (a) integrated approaches (b) use of local environment (c) community links: principle and practice (d) sensitization to resources outside the public instruction system: folk sources, extensive centres and report at local and higher levels (e) the problem of merging the small community in the larger community in the interest of national integration and standard curriculum (f) project/problem approach versus systematic teaching of skills. (g) the expert versus situation analysis in curriculum formation (h) problem
approach versus systematic teaching. The results arrived through individual item analysis was confirmed by the direct observation of the working of schools with the new curriculum.

The analysis of the responses to the judgement schedule also shows that after the environment-oriented curriculum has come into effect pupil behaviour in terms of activity orientation, sensitivity to surroundings, identifying community resources for classroom learning, healthy interaction, and taking responsibility have increased; submissiveness and quiet behaviour in class has decreased.

The judgement scale responses also show that compared to the state of affairs when the trainees were in school and now, the pedagogically traditional behaviours have decreased, and progressive practices have increased.

5. Following the practice of qualitative research most of the hypotheses were generated during the investigation and tested. Observation of more than 300 classroom settings, supported by collateral studies showed that the typical classroom presents a picture of passive accumulation of knowledge; facts are passed on in the name of education; there is no active transaction of the curriculum; the school is isolated from the community.

Documentary analysis as well as observations throughout the period of research showed that the community is full of rich resources, which could be tapped and used to realise educational objectives. Informal experiments conducted by the investigator as well data from collateral studies showed that when pupils learn through active exploration of the environment and community resources they will find learning more interesting and meaningful.
Observation of several classrooms which had been transformed as a result of the new curriculum reform at the primary stage showed that children learning through group work had free interaction with one another. They thus developed many social skills such as cooperation, communication with peers, correcting and being corrected by peers, learning from pupils coming from home cultures different from one's own etc. It their exploration of the environment outside the school and interactions with adult embers in the locality they learnt several new social skills: communicating with unknown adults, approaching government functionaries (in the post office, police station, primary health centre etc.), looking upon workers in the village (such as farmers, carpenters) as nonformal teachers, reacting boldly to questions put by visitors to school, writing letters to various public officials and elected members of local bodes and state administration etc.

While some teachers transacted the new curriculum in an intelligent and committed way, some other teachers were not willing to put forth the effort needed to transact community-oriented Integrated curriculum. Even among the willing teachers, some have yet to acquire the skills needed for this complex task. Teaching children through exploration of the environmental and the community calls for intricate educational guidance skills. It is very different from the skill of standing in front of a class and talking.

In the traditional teaching method following the textbook, the content is teacher-controlled. It comes logically and systematically (from the adult point of view). In environment-oriented teaching the content may come in unsystematic order, the complex may come before the simple etc. But because the experiences are vital and interesting children have no difficulty in understanding and retaining the learning. This is one of the reasons why some adults oppose the scheme, because it does not conform to the set adult logic of the book. But this may be the most
natural method for children to acquire learning. But it is possible to help children to form their own structures out of the live experiences they got from the environment. It was possible to read the principles taught by great educators and psychologists in the experiences observed in activity pedagogy.

C. INTEGRATED EDUCATION MODELS USING ENVIRONMENT AND COMMUNITY RESOURCES

The experience of conducting this study suggested hundreds of models for teaching, learning and living. Only a few important ones are listed here:

1. *Unity in diversity*: Many people who oppose environment and community centred education believe in a uniformistic point of view. Such people exist even among highly qualified educationists. But the progressive point of view has been validated in systems as diverse as the erstwhile Soviet Union and United States of America. By reaching people at the grass root level and starting with their home culture it is possible to strengthen even the national system at the final stages. Forcing children at very early stage into the common culture results in a high amount of wastage and alienation which is not noticed by traditional educators. Distinguished scientists of the M.S. Swaminathan Foundation for Community Agro Bio Diversity are actually going out of the way to identify tribal children who dropped out from schools as investigators for preservation of rare medicinal and other plants. The children also get literary education with the help of computers and scientists who are co-researchers with them. The scientists in the Centre also believe that preserving cultural diversity is as important as bio diversity. Managing unity in diversity might involve a little more complex social engineering than managing uniformity. But in the long run it would be a great benefit to the individuals and to the nation.
2. *Learning from below*: In the traditional system, there is one-way traffic. The pupils learn from the teacher. The teacher is dictated to by the educational administrators. The political bosses dictate to the educational administrators. Established educational research and extension councils claim to diffuse wisdom to the ordinary teachers. But in progressive system, there is mutual learning and two-way traffic, in teaching and in administration. In the environment-oriented pedagogy only the man on he ground knows what he is talking about.

In the DPEP management as observed in 2000-2001, there was free interaction between the pupils and the teacher. The pupils learn not only from the teacher but also from local artisans and farmers, though in terms of formal education they are not qualified. In attempting innovative teaching the resourceful teacher sometimes questions the trainer or the inspecting officer. Many resourceful teachers have been raised to the level of trainers. The trainers learn from good teachers, in addition to training them on what they know. This system of mutuality and education through dialogue materialised during the peak period of DPEP. This kind of spirit must pervade the entire education system – both the teaching and administration “if the destiny of India is to be shaped in her classrooms”.

3. *Community learning and producing*: In the peak phases of DPEP, the innovating school had close relation to the community. This spirit extended even into remote tribal areas where Multigrade Learning Centres help to establish contact with the local groups who earlier would run away at the sight of people from the plains. In ordinary villages and even in the towns the community resources
were drawn into the schools. Some parents came and helped in teaching and providing infrastructure facilities.

The community Agro Bio Diversity Centre, Wayanadu also believes in this approach. The Palmyra Society at Marthandom combines production and learning. The basic education scheme failed because the ordinary teacher was expected to be economically productive and do correlated teaching. On the other hand in the Palmyra Society, the community is able to combine learning and production. Mitranikethan also attempted this with some success. The concept of community and the concept of production are likely to change in the technology oriented information society. If the educational systems are not sensitive to it, it will be deproductive, economically and educationally.

4. **Curricular Dialectics:** In educational debate much heat is produced because the traditionalists think only of the subject and forget the child. Some activity enthusiasts think mainly of the child and the activity but forget the subject. But more than seven decades ago Dewey showed that the child activity represents the initial stage and the subject (condensation of the mature experience of the race) represents the final phase. Unless a person is able to see both these forces and how they interact, he cannot be a good teacher or educator. Environment-oriented education throws up several such dielectrics.

5. **Invisible pedagogy:** In the traditional classroom the teacher standing in front of the class is in focus and he is the centre of the attention. He doles out information. He teaches, or rather tells; it is doubtful whether pupils learn. On the other hand, in environment oriental education, the focus will be on students learning. This is the focal point of education as accepted by modern educationists.
The learning process is primarily an interaction between the pupil and the environment. It may be the natural environment, the social environment or the designed environment in the classroom. The teacher is only a catalyst, helping the reaction to proceed; he is a gardener, helping the plant to grow. To master this pedagogy is very difficult. Basil Bernstein calls it invisible pedagogy. The pedagogic principles coming from Rousseau, Pestalozzi, Montessori, Dewey, Piaget and Bruner confirm this.

6. **Triangulations:** Dialectics usually consist of two poles but occasionally there are triangulations involving three poles. Of these, the triangle of cognitive-affective-psychomotor is well known in educational circles; but beyond presenting it in the introductory lecture on evaluation very little is done about it.

The new approach will bring several other triangles such as:
- Child-Subject-Community
- Science-Technology-Community
- Homo-Ludens, Faber, Sapiens (Man-Playing, Making, Knowing) etc

Environment/ community-oriented education throws plenty of such opportunities to work in dialectics and with triangulations. To begin with it may seem difficult, but with some intelligent and committed effort it can be mastered. Once this is done education in the real social context will lead us to prosperity.

7. **Hierarchies and expanding Circles:** In the educational system, people are accustomed to hierarchies: Director - Deputy Director – District Education Officer – Assistant Education Officer – Headmaster - Teacher. Conceptually also some talk about Gagné's hierarchy, but very little is done about it by way of application.
The concept of expanding circles is more relevant than hierarchies in environmental and community oriented education. It starts with the local environment or small local community and develops outwards into block, district, state, national and global levels in ever increasing circles.

Thus the good things done at the grassroots in the small community would expand and help to improve the whole world through good education.