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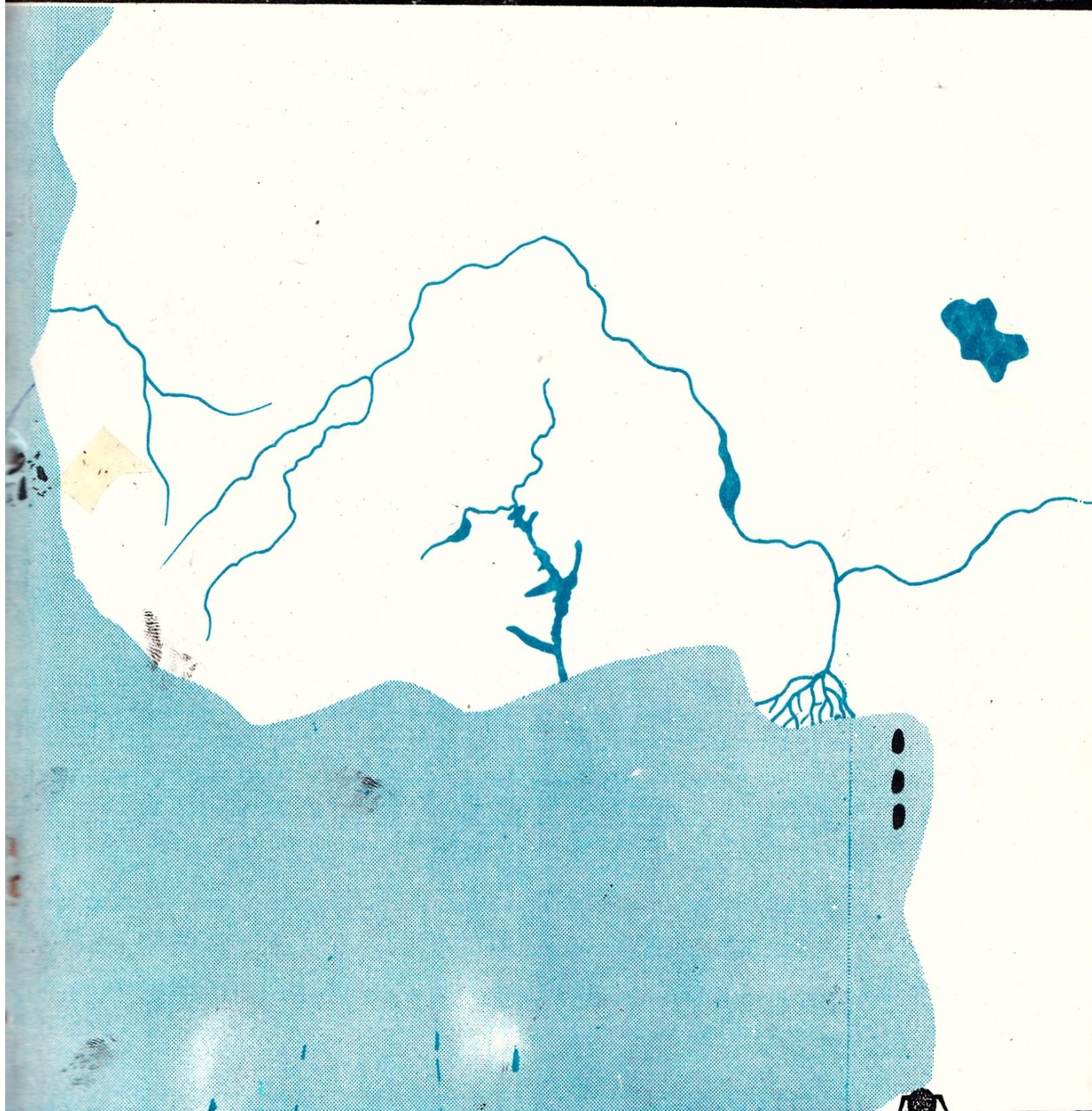
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## **BLUEPRINTING SUSTAINABLE DEVELOPMENT FOR LOCAL COMMUNITIES AS A FUNCTION OF THE "GREEN CURRICULUM"**

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### **ABSTRACT**

*The radical "green curriculum" holds the ace of environmental education and sustainable development in local communities. This can only be realized if the basic sustainability principles (activity, complexity, currency, democracy, diversity, interdisciplinarity, longevity, locality participation, potentiality, totality and universality) are observed. Contextual analysis, needs assessment, goals, objectives, policies, plans and budgets, projects, monitoring, impact assessment all based on functional interrelationship of ecology and economy constitute the sustainable development blueprint for local communities. Inadequacies likely to militate against effective sustainability can be addressed through the radical curriculum and people-oriented programmes based on integration of the ecology with the economy, especially if planning and execution of development projects are done with, rather than for, the community.*

### **INTRODUCTION**

The environment and sustainable development are two key areas that have attracted the global attention, action and funding since the United Nations Stockholm Conference of June 5-16, 1972 on Human Environment. Its follow-up at Tbilisi in the Georgian Republic in 1977, among others, resulted in recognizing environmental education ("the green curriculum" as an integral part of the education process, which should focus on solving practical problems, building up a strong sense of values, encouraging public well-being and ascertaining global survival of species. The United Nations Conference on Environment and Development (UNCED) of June 3 - 14, 1992 at Rio de Janeiro in its Agenda 21 and its twenty-seven point Rio Declaration, re-emphasized among others, capacity building for sustainable development because "human beings are at the centre of concerns for sustainable development" (UNCED, 1992: i, 8).

The role of local communities is also well recognised and endorsed by the UNCED (1992) which provides that by 1996 all local authorities should have completed a consultative process with their populations to achieve a consensus on a "local Agenda 21" for the community. This is because the problems and solutions so addressed by Agenda 21 have their roots in local activities. Consequently, their co-operation and participation do determine the level of success in the solution of the identified environmental and developmental problems. According to UNCED (1992, iii, 24:)

*local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and subnational environmental policies... They play a vital role in educating, mobilizing and responding to the public to promote sustainable development.*

The above role dovetails into the Fourth Schedule 1 (h) of the Constitution of the Federal Republic of Nigeria (1979).

It is in consideration of the above functions vis-a-vis the objectives of curriculum design that this presentation intends to:

- \* justify the basic principles for promoting sustainable development through the "green curriculum".
- \* propose a blueprint for promoting sustainable development in local communities,
- \* identify possible constraints against effective promotion of environmental awareness and sustainable development practices in local communities; and
- \* suggest feasible solutions to the identified constraints.



## 2. PROMOTING SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL EDUCATION

Environmental education is otherwise referred to as the "green curriculum". According to Inyang-Abia and Usang (1992 : 3), it is :

*an area of study and a life-long process concerned with the motivation and evolution of intellectual capabilities, skills, attitudes and commitments necessary for positively modifying human interaction with the biosphere in such a way that through developments in science, culture and technology, natural resources can be sustainably utilized and conserved at minimal cost for maximum benefit to the present and future generations.*

Sustainable development, on the other hand, involves all strategies for managing the available resources and assets for increasing wealth and well-being. It rejects policies and practices that deplete the productive capacity of resources and which leave the future generations poorer or at a great risk. It is defined as the type of development that seeks to meet the needs of the present without compromising those of the future. It ensures that the exploitation of resources, investment, institutional changes and technological developments are harmonious with and enhancing to current and future human needs and aspirations (Aina & Salau, 1992). Sustainable development is only possible when there is adequate environmental awareness which comes through environmental education and the "green curriculum".

To promote environmental education, the foundation of environmental awareness and sustainable development, requires proper understanding of the green concepts and judicious application of the following twelve principles (IUCN, UNEP & WWF 1991; UNESCO & UNEP: 1989)

i. **Activity:** Activity is the soul of learning and living. Everyone must be active in promoting environmental education and sustainable development. All must give/receive the necessary environmental awareness, identify current and potential environmental problems, promptly report such problems and prevent, where possible, their escalation. The activity curriculum model must be incorporated to meet the demands of this principle.

ii. **Complexity:** This principle emphasizes that environmental and developmental problems and their solutions are usually complex. This implies that a single cause can lead to multiple problems which require complex solutions. It also implies that a single approach or solution is inadequate for either the environmental or the curricular problems.

The eclectic curriculum model takes care of complex activities which must be dynamic and relevant. Its implication is that it is necessary to mix cure and prevention strategies together. Consequently, the earlier the causes are prevented and the cure given, the better. For example, lack of environmental awareness in a community can be a major cause of unsustainable growth without development. Problems affecting health, wealth, comfort, economy, safety, among others are obvious consequences. Therefore a good dosage of sustained environmental education from primary to tertiary level can have salutary effects.

iii. **Currency:** Current developmental and environmental problems should not be allowed to degenerate into more difficult ones. They should be used to predict the future problems and given immediate mitigation attention; current causes and symptoms of degradation should attract immediate action. The curriculum designer must therefore incorporate innovative strategies to keep the curriculum abreast of new developments.

iv. **Democracy:** Democratic values must be actively pursued. Planning with rather than for the learners and the people should be encouraged so as to whip up adequate participation in goal setting, input sourcing, decision-making, project execution and evaluation. Everyone is a stake-holder in environmental matters and must show adequate concern. The curriculum itself must encourage the teaching of democratic values and be biocentric in outlook.

v. **Diversity:** Different approaches, diverse learning environments and varied developmental activities are necessary to meet the individual differences and local variations. Decentralization of some developmental projects and activities, delegation of functions, power and authority and proper consultations with the people are absolutely necessary for sustainable development. The environmental aspect of each subject and discipline must be adequately emphasized in the curriculum.

vi. **Interdisciplinarity:** Interdependence within subject matter, units, departments, ministries, states, regions, nations, organizations, among others is very necessary. Nobody and no single subject can single-handedly cope with all the demands of environmental problems nor sustainable developmental needs. At the curriculum planning and design stages all subjects must adequately reflect their environmental implications and sustainable development-values.



vii. **Longevity:** Environmental awareness and sustainable development are life-long processes. They usually outlive any single individual. Their associated activities must therefore be continuous and systematic. Both formal and non-formal education must incorporate environmental education and sustainable development in their curricula at all levels.

viii. **Locality:** The principle of locality emphasizes that by continuously studying and protecting the peculiar local environment sustainable development activities can be optimized. The global environment can therefore be better understood, better valued and better sustained. Health, families, wealth and welfare can consequently be taken better care of. Local relevance of the curriculum content on environmental matters cannot be over-emphasized nor can local action and examples be less meaningfully utilized in the "green curriculum".

ix. **Participation:** Everyone must be an active participant in environmental awareness and sustainable development matters. We must develop a sense of value, responsibility and urgency about problems of ecology and the economy while seeking solutions to such problems through the "green curriculum". Curriculum design is a team function; the teamness in participation must be obvious.

x. **Potentiality:** Every environmental and sustainable developmental issue, problem and solution has potential impact on the human through the cultural, educational, physical and socio-political environment. Such potential consequences must be fully anticipated and adequate steps taken on maximise their benefits and/or mitigate their consequential disasters through wide educational and managerial options. The curriculum content must be potentially rich enough to have multiple learning effects.

xi. **Totality:** All aspects of the environment and development are interwoven. The natural (air, water, land, plants, animals, life, etc.) and the non-natural (cultural, technological, social, political, economic, moral, aesthetic, etc.) must be considered together, not in isolation. There is no development without an environment. Likewise the "green curriculum" must develop the total individual: mentally, physically and spiritually to be functional to the fullest possible capacity.

xii. **Universality:** Developmental and environmental problems respect neither generational, political, racial, religious, status nor cultural boundaries. They are universal. They consequently require global co-operation and action but the local variations must be

acknowledged. They require global thinking based on local action. Curriculum emphasis on the universal values including supremacy of nature, truth, beauty and the global commons is important.

### 3. THE BLUEPRINT

A blueprint is a preliminary sketch, plan, guide or model based on proven principles, established rules or dependable conclusions derived from experience. The systematic blueprint proposed below cuts across the principles presented above. It more importantly considers the peculiar environmental and developmental problems of local communities although basically designed to have universal applicability.

Any social, economic, technological or cultural developmental plan that does not adequately integrate the ecology cannot be sustainable. That means the ecology and the economy must be complementary to produce functional sustainable development projects. Figure 1 graphically illustrates the concept that sustainable development is the functional integration of both the economy and the ecology, the ecosystem and the ecosystem. It is on the basis of this integrated approach to sustainable development that a blueprint for its promotion is proposed as shown on Figure 2.

Generally speaking, figure 2 provides for the following stages:

i. **Contextual analysis:** Analyse critically and objectively the locale or community of the project. This results in identification of the felt needs, conflicts, constraints and assets including the geographic analysis of the context or community. This cannot be successfully done without particular attention to the ecological factors and the environmental impact assessment (EIA) of proposed project. That phase is also monitored and evaluated to ensure the highest possible standard.

b. **Needs assessment:** Sustainable projects must address the felt needs of the people and the community e.g. water, road, electricity, health, education, transportation. These must be properly assessed and prioritized with the community and the people rather than for them. Very close co-operation at this stage is very crucial, so also are regular monitoring and evaluation of the assessed needs to ensure sustainability with the context.

c. **Goals:** The expected long term goals and aims of the socio-economic development project must address the identified felt needs of the people based on the ecological factors and the evaluation results. The community, the experts and the sponsors must jointly identify the goals.



Fig 1

Fig. 1 Integrated Approach to Sustainable Development.

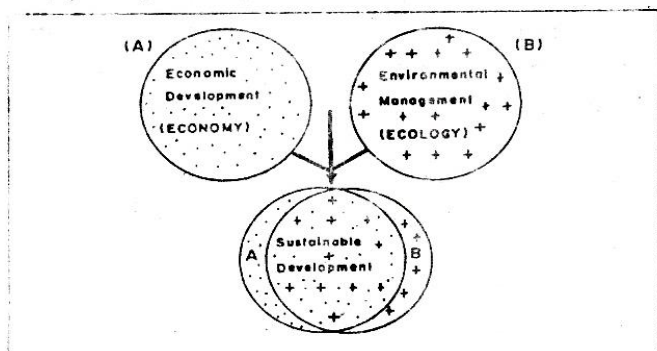
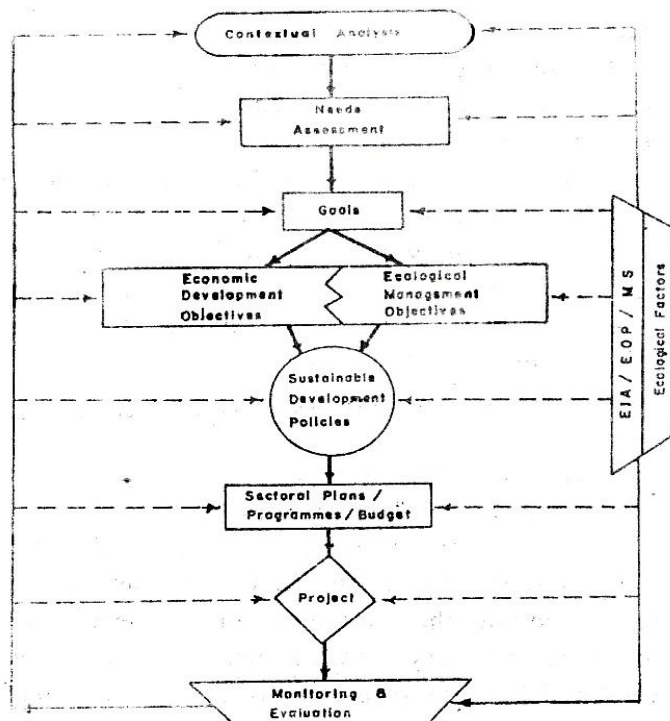


fig 2

Fig. 2 A Model for Promoting Sustainable Development



**d. Objectives:** The goals must be broken down into meaningful, observable and measurable objectives taking into consideration the specific activities that will be done, the acceptable standard of achievement, the conditions under which the specific activities must be achieved and by whom. For example:

*Within the first 100 days, five kilometres of standard tarred inter-communal road will be constructed to link towns A and B without destroying any areas of special biodiversity interest, a major settlement, watershed or stream.*

The specified developmental objectives must adequately reflect and be dovetailed into the ecological objectives. The objectives now become central to the rest of the developmental effort and plans. Clear specification of the objectives in meaningful terms is crucial to the development.

**e. Sustainable Development Policies:** On the basis of the stated objectives suitable policies already designed and put in place (such as the National Policy on the Environment (FRN, 1986), Environmental Impact Assessment Decree No, 86 (FRN, 1992) or the National Policy on Population (FRN, 1988) must be recalled. Where relevant national policies do not exist then expert assistance may be necessary. Institutional strengthening, capacity building and management operational strategies must be clearly spelt out to benefit both the economy and the ecology. The environmental impact of the policies must be evaluated to reflect the ecological factors. The developmental policies must be environmentally over-viewed and evaluated.

**f. Sectorial Plans, Programmes and Budgets:** The relevant sectors such as energy, water, agriculture, education, housing, health, among others must be budgeted for and programmed vis-a-vis the environmental considerations. They must be monitored and evaluated using the EIA or the environmental overview of project (EOP) based on the management strategy (MS) and the ecological factors.

**g. Projects:** Various projects (road, electricity, water, health, agricultural, education, etc.) may have development objectives with societal benefits for small groups of privileged people. But sustainable development projects must satisfy maximum benefit for all. They must be linked to the basic needs of the generality of people. For example, cleaner and safer environment, welfare, improved health, cultural values, poverty reduction, conservation of global commons, among others have universal values.



The impact assessment of such projects is very important. The mitigation strategies must be fully adopted to reduce negative impacts.

**b. Monitoring and Evaluation:** The project execution strategies, objectives, inputs, expected and unanticipated effects must be continually monitored and objectively evaluated. The derived feedback are then integrated into the programme for future improvement, based on ecological factors. Benefits of the projects to local community must be clearly quantified and popularized for continued community support.

**i. Environmental Impact Assessment (EIA) Environmental Overview of Project (EOP) and Management Strategies (MS):** The major environmental management tools such as those specified here along with checklists and auditing reports must subsume all developmental processes according to the United Nations Development Programme (UNDP, 1992). This and the previous stage (monitoring and evaluation) involve information functions which are intrinsic to every other stage in the entire model. They form an integral part of every stage, indicating that monitoring and evaluation are not the end of the development effort, rather they influence every stage within the blueprint.

**j. Ecological Factors:** The basis of the entire sustainable development process are the ecological factors including physical, climatic, soil, water and air components, among others. The entire sustainable development process and all the relevant instruments are designed to ensure ecological balance and sustainability.

#### 4. SOME MAJOR OBSTACLES AND RELEVANT SUGGESTIONS

The main obstacles to effective implementation of the "green curriculum" and sustainable development can be summarized among others as lack or inadequacies of:

- a. training and basic information;
- b. relevant planning;
- c. rational use allocation;
- d. conservation at policy making level;
- e. institutional capacity;
- f. technical capacity;
- g. legislative support;
- h. public support;
- i. political and economic stability;
- j. financial resources;
- k. wholesome traditional practises;

- l. environmental awareness programmes;
- m. rural and women empowerment; and
- n. ethical considerations.

The lack and inadequacies listed above have conspired to result in a vicious cycle whereby the cause results in an effect which reinforces the cause. Lack of "green curriculum" gives rise to inadequate environmental education which results in lack of environmental awareness, poverty, "green inertia" and unsustainable economic development which in turn combine to reinforce the original causes: lack of "green curriculum", inadequate environmental education. And because environmental problems as well as their solutions are interrelated, the following proposals are made.

**i. "Green Curriculum" and Sustained Environmental education programmes:** Provision of properly greened, radical but functionally relevant curriculum to take care of both formal and non-formal environmental education programmes, which adequately integrate ecological and developmental concerns at all levels, is the beginning of sustainable development for local communities. Through formal courses and conservation/environmental clubs more environmental awareness can be created as a basis for sustainable development. Schools and communities who form such clubs can have some support from local NGOs, the government and some international agencies. "green curriculum" is very necessary to address the problems associated with debilitating poverty, empowerment, ignorance, superstition, child abuse, crime and culture of waste, among others.

**ii. Polluter-Pay-Principle:** This long established principle advocates that people, organisations, factories and establishments that pollute the environment in whatever form should be taxed adequately to get funds for cleaning up the rubbish. This can be an important source of income for the community involved.

The pay-to-throw scheme in opulent areas and zones also applies here. Land fill tax can also be charged. Refundable deposits can be charged on some solid wastes such as car batteries and motor tyres which toxic level makes it especially important to be disposed of safely. This must be emphasized in the curriculum too.

**iii. Cross-Sectorial Policies:** Educational and developmental policies which integrate ecology and economy, emphasize anticipatory sustainable development, commit every sector, define their ecological demands and action plans clearly, encourage maintenance culture and are people-oriented can facilitate sustainability.



The "green curriculum" must emphasize the need for cross-sectorial policies.

**iv. Environmental Planning and Rational use Allocation:** Ecosystem evaluation for all policies, programmes and projects, especially when it touches on dry belts, watersheds, areas of biodiversity, global commons, threatened/endangered species and wetlands, require serious attention. The environmental effects of human activities must be adequately assessed through proper identification, prediction and interpretation. They must be fully documented and communicated to the community using meaningful codes and symbols. These must reflect both the environment and development.

**v. Capacity building and empowerment:** Through legislation, organisation, training, research, democratic values, attention to the indigenous peoples, the underprivileged (the poor, women and children) better capacity can be built for environmental sustainability. Support can also be increased through sustained environmental education for the market woman, legislators, development practitioners, industrialists, trade unionists, media practitioners, traders, professionals, community leaders and school children. Increasing use of the local community cultural affiliations, the development associations, religious bodies and community councils can also have positive results. The green campaign must reach out to every sector of the society.

**vi. Sustainable rural development programmes:** Community-based organisations (CBOs), improved traditional environmental practices, sustained non-formal and integrated educational programmes, integrated development projects and provision of basic amenities can co-operate to reduce rural poverty, provide better environmental awareness and encourage family planning, all of which can promote sustainable development.

#### SUMMARY AND CONCLUSION:

A blueprint for promoting sustainable development for local communities starts with the provision and adoption of the radical "green curriculum" through sustained environmental education which is the key to environmental awareness. The principles of activity, complexity, currency, democracy, diversity, interdisciplinarity, longevity, locality, participation, potentiality, totality and universality have been proposed. The blueprint requires contextual analysis, needs assessment, goals, objectives, policies, plans and budgets, projects monitoring, impact assessment all based on ecological factors and economic considerations.

The problem of lack and inadequacies can be addressed through radical curriculum of environmental education and people-oriented policies which integrate ecology with economy; without the environment there can be no development.

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