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O C I S C A

**INTEGRATING THE ENVIRONMENT IN
EDUCATIONAL PLANNING**

Some proposals for action

By George Fonkeng Epah and Elizabeth Tamajong

ORSTOM

MINREST



Observatoire du Changement et de l'Innovation Sociale au Cameroun
Observatory of Change and Innovation in the Societies of Cameroon

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Elizabeth Tamajong**

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Abstract

Human beings in general, Africans in particular, have always taken the environment for granted. Recent global emphasis on this silent but indispensable partner of man is creating a lot of interest in the need to show some concern over environmental hazards that plague our society and the management of biospheric resources. This study examines the perception of the environment in Cameroon with a view to integrating this concept in the educational planning process of the nation. This is with reference to the strong link that exists between the environment, education and economic development. A positive concern for both natural and human resources is bound to alleviate ignorance and improve man's living conditions. Indeed, responsible educational planning which reflects environmental/biospheric awareness would give more meaning to schooling and is likely to generate a more sustainable development

Keywords : Cameroon, Environment, Educational Planning.

Résumé

De tout temps les êtres humains, en Afrique notamment, ont considérés que l'environnement naturel leur était acquis et ne nécessitait guère d'attention particulière. L'accent mis récemment sur ce silencieux mais indispensable partenaire de l'homme a fait apparaître le risque que génère nos sociétés sur l'environnement de par notre manière de gérer les ressources naturelles. Cette étude examine la façon dont est perçu l'environnement au Cameroun afin d'intégrer ce concept dans le programme d'éducation nationale. Ceci en se basant sur la relation qui existe entre environnement, éducation et développement. Toute intervention positive sur les ressources tant humaines que naturelles se traduirait à la fois par une baisse de l'ignorance et une amélioration de la qualité de la vie. C'est pourquoi une planification de l'éducation visant à faire prendre conscience des problèmes environnementaux et de l'importance des ressources naturelles donnerait un sens supplémentaire à l'éducation et favoriserait l'émergence d'un développement durable.

Mots-clés : Cameroun, Environnement, Planification de l'Éducation.

Preface

The Cahiers of Ocisca is a regular series of working papers which presents the results of the surveys and studies undertaken by the Ocisca Program (Observatory of Change and Innovation in the Societies of Cameroon). All topics are related to the reaction and behavior of the various economic actors in the current context of economic crisis and structural adjustment. The research work on various issues of development such as the household standards of living, poverty and vulnerability, social innovation, the social impact of adjustment measures, the devaluation, the design of socioeconomic policies will be discussed in this series.

The Cahiers are designed to provide a medium for those who want to disseminate the informations collected in the various observatories and analyzed in the laboratories. They include the results of rapid surveys, the scientific analysis of survey data and also individual research work. The objective is to inform the policy-makers, and the main economic actors, of the on-going research work and, when feasible, to propose appropriate solutions for some of the issues that they have to solve.

It is within this framework that this issue of the Cahiers, as a policy paper, focusses for the first time on the issue of environment, with the objective of sensitizing the decision-makers as well as the population of Cameroun as a whole on the need to protect the natural resources and the biospheric reserves.

Recent years have shown everywhere in the World that economic management without at the expense of human and natural resources will jeopardize the long-term development. For this reason the concept of sustainable development was created after the Rio Summit in 1992 to include the protection of the environment in the development process.

In Cameroon the consciousness of the importance of environment has also increased. A series of measures related to the new forest policy have recently been adopted through the Ministry of Environment and Forestry. Efforts for cleaning the towns of Yaounde and Douala are done through the PSU (Programme Social d'Urgence). However many technicians and professionnels in the administration or in the private sector have still a narrow understanding of the concept of environment and what could be its implication in the decision-making process. Moreover the population as a whole is not aware of the challenge brought to the economy in the defence of its natural resources and biospheric reserves. Few education programs involve studies on the environment and very little is done in the general education cursus to sensitize the students on the current situation and the link with their daily behavior.

These are the reasons why the authors propose two series of recommendations for the policy-makers. The first one is the setting-up of a legislation on the environment that would address topics such as the identification of available resources, the forestry and land management, the use of drinking water, energy consumption, pollution fight, etc.. The second one is the integration of environment in the educational planning to sensitize all categories of population on the issue of the protection of the environment. This would include the training of teachers specialized on environmental issues, information for the technicians and decision-makers, the production of textbook, the introduction of environment in the general cursus, etc..

In a country which efforts are presently all oriented towards the renewal with growth and social development, the integration of environmental issues has become a necessity. It would improve the quality of life and, moreover, transform the emerging growth into a sustainable development that will be for the benefit of the future generation.

Jean-Luc Dubois
Ocisca Manager

Table of contents

Introduction

I. The Context

1. Objective of the Study
2. Definitions
3. The Cameroon Experience

II. Perception of Environmental Issues

1. Perception by Politicians
2. Perception by Academicians and Educational Institutions
3. Perception by the General Public

III. Educationnal Planning for Better Management of Biospheric Reserves

1. Guidelines for Planners
2. Teacher Training
3. Curriculum Content and Method

IV. Recommandations for Action

1. Policy-Makers and Environmental Issues
2. Policy-Makers and Educationnal Planning
3. Developing Public Awareness

Conclusion

References

Introduction

"The deprivations of your society are many, the poverty, ignorance and diseases of your own society peep at you through the keyholes of your residence, your libraries and your lecture rooms"

(Kenneth D Kaunda, 1971).

The above statement made since 1971 by a former President of Zambia is today haunting many third world nations particularly with reference to environmental issues.

The concept of environment, seen from a general perspective comprises all biological, physical (natural) and socio-cultural factors having an impact on living organisms and man's activities (Akam, 1989). Its perception as a new thought to be incorporated in education and development strategies and as a mobilising factor of the population to participate in projects aimed at protecting and ameliorating natural resources is very advanced and meaningful in Europe and North America. Increased interest manifested by industrialised nations in the degradation of the environment gave birth to the notion of "Sustainable Development" (Report of the World Commission on Environment and Development in CIDA, 1987).

Thus the analysis of the perception of the Environment in all societies is today a necessary step for the conception and application of policies in this domain. It is from this angle that this paper seeks to consider the environment and biospheric resources as needs which should be intergrated in the educational planning machinery of Cameroon. That is to say the, present school curriculum lacks that necessary responsive attitude towards environmental issues which should render it relevant.

Emphasis on the adaptation of education to the realities of society is not new to Africa. The Phelps-Stokes Commission which visited Africa in 1922 and 1925 produced a report which stressed on the importance of adapting education to the conditions of life in a particular environment. The conference of African states on the Development of Education in Africa, held at Addis Ababa, in 1961 also insisted on the relevance of education to man's environment. Many educational conferences in recent years have made reference to functional and realistic education; indeed, this topic was much in debate during the last National Education Forum of the 17th to 22nd of May, 1995, in Yaounde which recommended a total reform of the educational system with educational relevancy as a main concern.

It is an indication that this need has today become more pressing particularly, when the country is faced with severe and perhaps, unprecedented economic and educational crises. Also significant with reference to the above is the profound link that exists between education, environment and economic development.

Besides, in contemporary perspective many African nations are plagued by an unprecedented environmental crisis; in some areas, there is severe soil erosion; forests are disappearing as a result of abusive timber exploitation, deserts are spreading and water resources are threatened. In the cities of Cameroon, rubbish disposal is a problem with serious health and/or environmental consequences. Educational planning as a motor for change and development has the task of appreciating the significance of these crises and foreseeing the consequences on the education system.

What is disturbing in the case of Cameroon, with reference to the above, is that these crisis are occurring in a youth-centred society. In the last nation-wide Population Census (1987), results showed that those below 20 years represent 53.6% of a total population of 10.4 millions; with a growth rate of 2.9% (which should be more today), there is every indication of an expanding population. These figures have considerable significance on educational planning that makes emphasis on the environment in view of the management of biospheric reserves in Cameroon. The need for greater awareness of the environment and biospheric management which revolves on a reassessment of the curriculum or school programme is immense and compelling.

I. THE CONTEXT

1. Objective of the Study

The objectives of this paper are threefold:

- (i) To examine the perception of the environment in Cameroon;
- (ii) It attempts an integration of the environment in the process of educational planning to create an awareness on the need to manage one fact depleting biospheric;
- (iii) It finally intends to sensitise Cameroonians in general on the environmental hazards that plague our society.

2. Definition

The World Commission on Environment and Development (WECD), the brain child of the General Assembly of the United Nations considers the environment as "all external forces, objects and conditions that affect the individual as opposed to what he is born with" (Luma, 1983). On the other hand, the biosphere is defined as the regions of the earth's crust and atmosphere occupied by living organisms. These two concepts are seen as basically synonymous since they refer to man's relationship with his natural milieu. Hence the interdependence between man and his environment or natural milieu calls for man's concern over his silent but indispensable partner.

Educational planning as defined by Beeby (1967) is "the exercising of foresight in determining the policies, priorities and costs of an educational system having due regard for economic and political realities for the needs of the society and the pupils served by the system". The above makes emphasis on the economic, political and social implications of educational planning as a vehicle for change. This implicitly demands an awareness of the environmental problems and the management of biospheric reserves of a nation with reference to educational content. Indeed, the environment is embodied in education and therefore, one of the ways in which education in Cameroon may influence economic growth is by changing the perception of the environment in which education is embodied. Thus, Scanlon and James (1968) see education as "the principal means disposed to a society for influencing its future value system and its stock of knowledge and skills".

3. The Cameroon Experience

In recent years there has been an overt concern about the environment either in political discourse, the legislature or as an integral part of social, economic and developmental studies. These tend to portray that the nation and its citizens do not live in sheer disregard for the environment or biosphere. There is concern about pollution in big towns like Douala and Yaounde, as well as disenchantment at the stinking and overflowing rubbish heaps found along our streets which are a source of diseases. In the sectors involved in the fight against desertification, one sees an awareness on environmental hazards. There are also projects like the supply of potable water to rural and urban areas, the fight against soil erosion, public hygiene and salubrity campaigns and concern for pollution, delinquency, crimes etc.

However, despite all these real concerns the environment is yet to be fully integrated in the development process of the country. Indeed, much of the awareness is being done by mostly non-governmental organisations (NGOs) partly depending on international fundings like the World Wild Life Fund (WWF), Africa 2000, etc..

II. PERCEPTION OF ENVIRONMENTAL ISSUES

1. Perception by Politicians

By politicians, we refer here to ministers, senior civil servants, policy-makers and parliamentarians. Between 1960 and 1980, there was hardly any mention in political milieu of aspects purely environmental (Motaze, 1989). This was because after independence the main preoccupation of the government was understandably, agriculture, education, industrialisation and the opening up of the country to the outside world. Perhaps, the only visible or audible environmental issue during this period was the Green Revolution campaigns of the 1970s.

By 1980s however, planners and policy makers began taking an interest in environmental issues with reference to the "Operation Sahel Vert" of the Ministry of Agriculture and concern over the pollution of better hygienic conditions and the creation of recreational grounds. In 1986 there progressive degradation of the environment with galloping population growth, rural exodus, unemployment were viewed as challenges of the 6th five year development plan. This plan made mention of "a stive to maintain an ecological balance between the various regions of the country by combating the advance of the desert, to the over-working of the earths crust and uncontrolled deforestation in order to preserve our flora fauna". It also made reference to plans of mastering urban developments, building new homes and improving house conditions, extending water supply to rural areas as a means of improving the living-conditions of the people.

In recent years, one has the impression that there has been a more serious concern over the environment by politicians and decision makers. Apparently conscious of the strategic importance of its environment, Cameroon has adopted a series of measures through the newly created Ministry of Environment and Forestry and other organs which aim not only to guarantee rational, sustained and lasting exploitation and concern thereof, but to preserve the environment and biodiversity. The new forest policy (Cameroon's forest, 1995, and the law n° 04/05 of the 20 January, 1994) for example, is essential to the regulation of forestry exploitation, wildlife and fishery besides the promotion of economic activities in rural areas. The concern in the above policy is "to embrace the major preoccupation of society vis-a-vis the

preservation of nature, to take into account new internationally established environment and development as well as to take into account the measures advocated".

From policy perspective therefore, one realises somehow that Cameroon deems the preservation and conservation of its immense forest resources as well as its contribution in the maintenance of climatic equilibrium an obligation. There are legislations which range from fire prevention and control to more healthy rubbish disposals intending to fit in the new context of sustained development of biospheric resources (natural) and the participation of the population in the management of these. All these are seriously, not enough when it is considered that technicians/professionals in the ministries such as architects, urbanists, town planners, educationists, cartographers, forestry experts etc. have but a narrow understanding or consciousness of the concept of the environment. The Ministry of Education is aware of environmental issues but has yet to introduce it in school programmes. Briefly, much of this concern is on paper and although the political will maybe there particularly, in terms of rhetorics one sees the government more concerned with fighting the economic crisis (or pretending to) at the expense of environmental degradation. Furthermore, it should be emphasised that no amount of policy making or convention can work without the involvement of the people directly concerned.

2. Perception by the Academicians and the Educational Institutions

Research programmes and studies of scientific institutes (Universities, Professional Higher Schools and Research bodies) reveal that they do not make specific references to environmental/biospheric issues. However, environmental studies are seen to be linked to programmes/courses related to ecology, biology, botany, agronomy, geography, law, economics etc. The Faculty of Science, in the University of Yaounde I, as well as other faculties have been carrying out studies/courses on the environment since 1977, besides providing options which take into consideration career/professional aspirations. This would also apply to the other Universities in the country. At the Advanced School for Mass Communication (ASMAC), courses exist on the environment for scientific journalists. In short, the various Universities in the country and other professional schools are making environmental studies a major course option or otherwise.

The first purely environmental programmes at institutional level were developed between 1985 and 1986 by the defunct National Commission on Man and Biosphere (MAB). The execution of this programme unfortunately encountered enormous difficulties because of the poor perception of this concept in the scientific milieu of Cameroon besides some financial problems, which eventually led to its closure in 1990. It is nevertheless, worth mentioning the positive role played today, by the WWF which has within its structure in Cameroon a programme on Education and Environment while the activities of Africa 2000 is much appreciated.

At the level of primary and secondary schools, educational planners have included lessons like nature study and hygiene to which a link with the environment can be established. But this is not done with the consciousness or rather the amplitude of environmental awareness in the world today. That is to say, it is inadequate, not specific and not elaborate as far as environmental/biospheric issues are concerned.

3. Perception by the General Public

This would include the rural and urban dwellers. For the rural dwellers, the environment is mainly agricultural land, fishing and hunting. It also refers to the villagers, the family and the community including reproductive infrastructures such as water, energy etc. The environment is also sacred area in some parts of the rural areas such as shrines, ancestor's grave, preserved areas for medicinal plants etc.

City dwellers perceive the environment in a rather more complex form to include pubs, telephone booths, the police, administration, supermarkets, rubbish disposal, parks, noise, dust, mud, traffic jam, congestion, etc. This view is encouraged by the media and reflects mainly resources and the good things of life that this group of persons can procure. There are programmes like the Programme Social d'Urgence (PSU) and Fonds Spécial de Développement (FSD) involved in the cleaning of streets and rubbish disposal in Yaounde town while others are concerned with the conversion of rubbish into compost etc.

In the newspapers reference is mainly made to fauna and forest, hydraulic and salubility, housing, delinquance and crime. These are also echoed on the radio and television programmes. All these notwithstanding, the common man on the street still needs a lot of awarness on the environment: if he cannot dispose of his rubbish safely, if his streets are dusty or muddy, if he cannot control the cutting of wood for cooking and he is not introduced to safer farming techniques then all the above efforts are having very little impact. Indeed there is more to be desired of a government which the man on the street considers very unpopular as far as the environment is concerned and cannot teach them anything in that regard. It is more complicated when that government apparently promotes irresponsible timber exploitation and is practically insensitive to poverty and/or environmental related issues like housing, water, electricity and all sort of population problems.

From the above review, one understands that the environment as perceived by the international community is a recent concept and still has a long way to go as a social priority in the country. We are living witnesses to environmental crisis in Cameroon, not only in the rural areas but in urban areas as well. It is evidenced by soil erosion, deforestation of genetic and wild life resources, mismanagement of water resources, climatic changes and rapid population growth.

All this is happening regardless of fine policies (or rhetorics) and legislature from politicians. To an extent it may imply a complicity of the powers that be with foreign partners or inadequate efforts, (coupled with the economic crisis) in environmental awareness. This is unfortunate because environmental/biospheric management are new priorities which must enter into the development strategies of this country. Believe it or not, environment problems in Cameroon constitute not only a major threat to human health but also a threat to the natural environment and eventually the economy the basis of human existence. What is important here, is a legitimate concern and not merely responding to international actions to attract sympathy. From this perspective, its is stated with strong emphasis that the environment/biospheric resource management are concerns which must be integrated in the educational planning machinery of Cameroon.

III. EDUCATIONAL PLANNING FOR A BETTER MANAGEMENT OF BIOSPHERIC RESERVES

Looking at the definition of educational planning as the exercise of foresight in determining a country's future requirements through its educational system one is bound to admit that for a better awareness of environmental hazards and management of biospheric reserves in Cameroon emphasis has to be made on educational content. Economic and social development are invariably linked to environmental and biospheric reserves management. In this same guise economic development cannot be dissociated from educational planning.

A report of WCED "Our Common Future" insists on the necessity to integrate the environment in the process of development. This think-tank eventually came up with the notion "sustainable development." There is sustainable development only when the existing needs of a nation are satisfied without compromising the possibility of satisfying the needs of future generation. Sustainable development articulates on three strategic imperatives, to wit: (i) the reduction of population growth rates, (ii) preservation and growth of resource bases, and (iii) reduction in the consumption of energy while taking cognisance of economic and environmental specificities in decision-making.

According to WCED, sustainable development requires politically, a democratic regime, economically, a system capable of producing excesses and administratively, a system and endowed with self-correcting and flexible mechanics. One would add educationally, a system that takes into consideration the environmental realities of its society. That is to say, there must be relevance in the content of education with an environmental bias as far as schools are concerned.

The extent to which environmental needs are met and biospheric reserves managed depends greatly on the manner in which the educational system fulfils its role. In this light, educational planning should seek to establish a comprehensive statement on environmental policy with priority given to basic environmental research, training, and education and the establishment of environmental legislation and institutions. It should be emphasized that education is to development as the environment is to education. The three are closely linked.

1. Guidelines for Planners

As far as overall economic social and cultural planning is concerned, the integration of the environment and the management of biospheric resources in the schooling process would focus on the following areas viz: agriculture, fishing, forestry and energy (natural resource development), health and human habitat (human resources development), etc.

Educational planning, to cause realistic change in the perception of the environment and the management of biospheric reserves by the overall educational programme would of necessity address two key sectors namely; teacher training and curriculum content, at almost every level.

2. Teacher Training

Organising the supply of teachers through a timely series to train and retrain them goes to the heart of educational planning. In this process, critical reference is made to both the

quality and quantity with due respect to the total number of students for a given period associated with the existing structure or with meeting objectives or needs of the society.

A vital point to note is the attention of planners to two questions: first, what is to be taught? and the second, what are the essential and minimum qualifications in the defined levels and types of education which are required for the success of the teaching process and the production of the required manpower. The first question as far as this study is concerned is associated with the engineering of educational change; in relation to changing curriculum method and content in response to the environmental/biospheric needs of the society. Since this is a rather new concept particularly, for educational planning in Cameroon, it will require intensive research, taking into consideration the creation of new planning relationships comprising the Ministries of National Education, Agriculture, Environment, Mines, Energy and Water resources, Health, Scientific and Technical Research, Tourism, etc., for the necessary environmental understanding with regard to changes to be achieved in teaching and training.

The second question takes us to the extent that the supply of teachers (qualified) should determine the type of environmental skills and schools required. There is need in this case to train specialist teachers (for all levels of the school system) for environmental and biospheric studies and if possible, create special schools or syllabuses at the post-primary level like the forestry school at Mbalmayo. These teachers will be estimated and evaluated in relation to the environment with due consideration given to demographic growth, government policies, natural and human resources in relation to opportunities for education by sex, level, type and employment opportunities. One overriding concern in this process would be the relevance of syllabuses to the realities of our society.

3. Curriculum Content and Method

It is now more than ever, time to question the existing educational structures and what goes on in them. This is with the reference to the impact of the economic crisis and the fact that more than 70 percent (Cameroon Tribune, 1991) of the population is employed in the agricultural sector (farming, cattle rearing, fishing and hunting) while over 95 percent of the total population have an agricultural background. There is no gainsaying that education, economic development and the environment (soil, forest, seas, rivers, housing, health, etc.) are inter-related and unless they articulate within the context of societal realities, we are bound to remain for a long time the charity and ridicule of Western nations. It is indeed, important that all levels of education contain some environmental consciousness. The ultimate aim should be a rational exploitation of biospheric reserves and protection of the environment both for the present and future generations.

a) Primary Education

It should be imaginatively oriented to community life with a rural bias applied with a view to giving meaning and relevance to syllabuses. This curriculum should instil in pupils a liking for country life and lay solid foundation for the understanding of the agricultural process besides, hygiene and nature study. This will enrich their understanding and foster an inquiry of the environment in which they are bound to find themselves in later life.

b) Secondary Education

It should incorporate in it a change mechanism which is diversified and aimed at catering for all aptitudes and abilities (academic, vocational/professional and recreational studies) which awaken a consciousness of environmental issues of agriculture, health and sanitation. An awareness of environmental hazards resulting from pollution, desertification, deforestation is also important at this level. The service of guidance and counselling should exist at this level to advice on opportunities which are available in local studies and self-employment rather than think in terms of a public service that is already saturated, redundant and begging for compression.

c) Higher Education

Universities, professional schools and research institutes should be given the challenge of training young men capable of relating intimately with the environment. The full exploitation of all aspects of science and technology together with an exploration of the relevant local technologies for the better management of biospheric resources such as agricultural advancement, forest management, health and human habitat improvement. All research projects relating to the environment/biosphere should attempt special emphasis on practical application for the welfare of the nation.

IV. RECOMMENDATIONS FOR ACTION

1. Policy-Makers and Environmental Issues

For greater awareness, the Ministry of Environment and Forestry, in collaboration with other Ministries, should initiate legislation on environment/biosphere with particular emphasis on the following:

- a) Resource identification,
- b) Forestry management to protect the environment,
- c) Conservation and land management policy,
- d) Improvement of drinking water and sanitation,
- e) Improvement of energy consumption and distribution,
- f) Pollution fight and the protection of natural resource base,
- g) Redesertification campaign to establish the ecological and social balance through activities such as stabilising the vegetation cover, restoring food balance, promoting renewable energy and timber resources.

2. Policy-Makers and Educational Planning

Educational planning should seek to establish a comprehensive statement that will take account of the following:

- a) The training of specialist teachers on environment/biosphere,
- b) The amelioration of the environmental contents of schools curricula for greater relevance, and, if possible, the institution of specific environmental studies in our schools without any bias towards the new techniques and development taking place in the developed world,
- c) The training of technicians, administrators and planners on the environmental-education link,
- d) The production of textbooks addressed to environmental issues,
- e) The examination syllabuses, or the newly created 1994 General Certificate of Education Board should take all the above into consideration,
- f) The attempts to seek advice from organisations such as WCED which is already advanced on environmental studies; there should be some collaboration with WWF and other NGOs with experience on environmental and biospheric management.

All these would hopefully, lead to a better understanding and management of our biospheric resources, both renewable and non-renewable, of conservation, of damage control and rehabilitation. Indeed, the promotion of environmental awareness support for institution-building and for environmental groups and agencies and finally, the finding of baseline data gathering should be adopted as a major policy thrust.

3. Developing Public Awareness

The public must be made to appreciate educational achievements and government policies on environmental management. This can be done through increase sensitisation campaigns. The media should play an important role in this concern since they have a huge impact on the public.

Conclusion

The need to plan our educational system with an environmental bias is likely to make development more sustainable in this country. The primary objective of such an idea is to alleviate hunger, malnutrition, poverty and to contribute towards greater health security in this nation. This will surely create jobs/employments and give people more meaning to their lives. Critical to this, is the preservation of the resource base upon which agriculture is established, including the preservation and conservation of energy. Furthermore, the importance of making schools and other related institutions responsive to health hazards from irresponsible rubbish disposal, air and water pollution, noise, diseases, pests and insects cannot be overemphasised.

Indeed natural and human resource development should form an integral part of the politics of education planning in cameroon rather than the rhetorics we have been having. This is with reference to the narrow link that exists between education, development and the environment as a basis for man's survival and existence. Good education will protect and enhance the environment, while healthy and positive concern for the environment will give way to sustainable development. Educational planning that takes the environment into consideration with respect to relevance is bound to alleviate fears of ignorance, poverty, pollution and despair in our society.

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Liste des Cahiers parus ou programmés

Cahier N°1, "Le programme OCISCA: cadre théorique et orientations de recherche" par l'équipe d'animation d'Ocisca (en préparation).

Cahier N°2, "Du passé re-composé au futur improbable: les observatoires ruraux d'Ocisca comme mode opératoire d'une recherche impliquée" par Georges Courade, Mars 94, Ocisca, Yaounde, 31 p.

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