

THE ECONOMIC IMPACTS OF THE CAMEROON-TCHAD PIPELINE PROJECT ON AGRICULTURE IN THE RURAL ZONE OF BIPINDI (CAMEROON)

Paul SOP *, MM KANA SOP** and FONDO SIKOD***

* Corresponding author, Ing. MSc. Ministry of Town planning and Housing, Survey Department, PO Box 716 Yaoundé, Cameroon. E-mail: soppaul@yahoo.fr

** Lecturer, University of Douala Biochemist/Nutritionist. E-mail: kanamod@yahoo.com

*** Senior Lecturer, Economist, University of SOA, Cameroon.

Keywords: Agriculture, land, environment, population, Economy, Pipe line- Tchad-Cameroon

ABSTRACT

The aim of the study is to find out < the Economic Effects of the Chad-Cameroon Pipeline Project on Agriculture in the rural area of BIPINDI (Cameroon) >. We want to study the activities of the neighbouring population which are linked to agriculture. The objective of our research is to study the influence on agricultures economic incomes and the management modalities of unforeseen circumstances related to the pipeline in this Zone from 1995 to 2002. This will help us to determine the living standard of the affected population. It will also help us to analyse the consequences of the project on the education of children and health care. It will finally help us to suggest a method of maximum management impact of the project in the household.

We have selected six villages for our investigation and <Stratified Random Sampling> method was used to select the household affected. We came out with 334 households selected out of 454 censured in 1997 by COTCO (Cameroon oil transportation company) for a percentage of 73.54 %. This data has been analysed on the base of Cost Benefit Analysis Method and also by Project Effect. The result obtained permit us to conclude that there has been reduction of production hence a fall in revenues from agriculture produce.

The consequences of this were seen on reduction of the number of children attending school and increase of number of sick people in hospitals. Consequently we have proposed the optimum management approach concerning this project.

1. INTRODUCTION

The tracing of Pipe line Tchad – Cameroon crosses Cameroon on about 880 km. A line of three meters was defined as itinerary of the project and cultures have been destroyed, during the recognition phase. The final phase will destroy from 30 to 60 m wide on all the tracing. The population is made up of farmers and is going to be seriously affected with the destruction of plant, food crops with harmful effects on boarding populations' socio-economic incomes, leading to foods insecurity, buying power and primary health care. The geographical situation influences the nature of soil and the cultivated areas. Our zones of investigation belong to the tropical rain forest. The villages investigated are situated in the maritime zone. At the ecological level, there are apprehensions on the destruction of flora and fauna, of the ecosystem and of the soil...etc. The fragility of the soil refers to the degree to which the specific property like geomorphologic aspects can be maintained in the project during the execution phase (scheduling, construction, functioning...etc.) The soils of this zone represent a major natural mass that plays an important role in the vital functions for the production of the biomass (in term of production of cultures and vegetation) or of the habitat for the living creatures. It is an immense reservoir of the ecosystem (1).

A reserve of oil has been discovered in DOBA (TCHAD). This country is one of the African countries that doesn't have a

maritime opening. Because of this geographical situation, a syndicate has been created between ESSO (Exploration, and Tchad productions), the Tchadian SHELL society of research and exploration, ELF Hydrocarbon in Tchad and the COTCO (Cameroon oil transportation company) with the Republics of Tchad and Cameroon Consortium to offer a favourable maritime opening for the exportation of Tchadian oil on international markets. The boarding population of the Tchad-Cameroon pipeline on the Cameroon side are farmers and traditionally release on their farms for their survival. Another difficulty is that indigenous farming which is site specific is going to be seriously affected by the pipe line layout. The role of farming in the inhabitants' economy was thus seriously affected. On the other hand, the fields were forbidden for new cultivation by the COTCO. So several households and chiefs of households waited harder for compensations from the phase of the launching of the project for three 4 years ago pipeline. They abandoned their agricultural activities and were reduced to excess consumption of alcohol. This work was carry out to investigate the influence of the project on this boarding populations and their ability to maintain or enhance environmental quality of life, to satisfy their future society needs of food and fibres, and to assure their economic and social well-being.

2 OBJECTIVES

The main objectives of this work were:

- 1) to study the influence in households that have been affected by a variation of cultivated surfaces, productions and incomes from agricultural product sold during the period from 1995 to 1997 before the project and 1997 to 2002 after the project, in order to determine indications that can permit us to appreciate their standard of living,
- 2) to analyse the consequences of the tracing of the pipeline on children education, and health care of affected household.
- 3) to finally propose a method of optimal management of agro - economic effects of project at the level of these households.

3. HYPOTHESE OF WORK

The population of the rural zone are mostly farmers and have agriculture as the only source of incomes. The households in the villages affected by the pipeline project in the subdivision of BIPINDI need to readjust their activities to improve their incomes and the development of the region.

The indemnities paid should help them to reinvest in other activities

4. METHODOLOGY

For the realisation of this work we are going to use the method of << stratified random sampling >> for the selection of households to be interviewed, we are going to use Cost Benefit Analysis method and the Study of the Project Effects on the land. We have selected six villages affected by the project in Bipindi Sub-Division. We came out with the following data of 334 households out of 454 censused in 1997 which, had a percentage of 73.54 %. This data has been analysed on the base of Cost Benefit Analysis Method and also by Project Effect. The present assessment of socio-economic impacts of the pipeline project on the boarding households is going to address the influence of the agricultural activities from 1995 to 2002 with the attendance in schools health care. Some three plants, Cassava + Living Crops (LC) Palm tree and Cacao as indicators following some criterias of which the most important are: 1) the frequency of the crops and their availability in the markets; 2) their cultivation as regular sources of household incomes; 3) living crops must be consumed more in the zone. The instrument used here was the questionnaire initiated to determine the different types of crops which are the sources of household incomes in the zone of investigation. Investigations in these villages have been done during a period of two months, from 6 of September to October 27th, 2002.

5. RESULTS AND DISCUSSIONS

The following data give the variation of cultivated areas between 1995 and 1997 and between 1997 and 2002.

Selected responding household are listed in table 1

Table 1: Number of households studied

Villages	Households	Total	Selected	Percentage
BISSIANG		72	52	72. 22%
BANDEWOURI		34	31	91. 18%
NTDOUA		24	21	87. 5%
GRAND-ZAMBI		53	39	73. 58%
LAMBI		87	67	77. 58%
BIDJOUKA		184	124	67. 39%
TOTAL		454	334	73. 57%

5.1 – Variations of cultivated areas

Graphs 1 and 2 on cultivated areas show us the behaviours of households before and after identification of the itinerary of the pipeline project. We can observe the impairment of cultivated areas of cocoa from 5.98 % to 5.09 % and the cassava +LC from 34.73 % to 32.34 % from 1997 to 2002. The increase of palm tree area is due to the activity of youth who create new farm area.

Figure 1: Variation of cultivated areas from 1995 To 1997

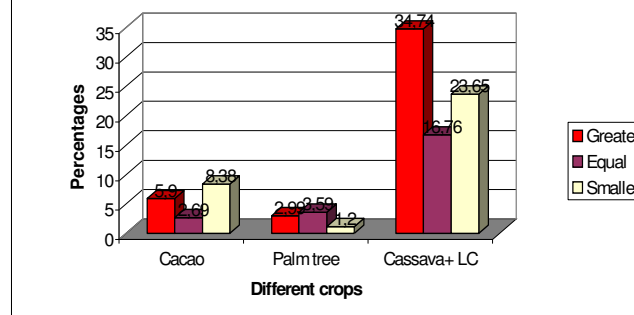
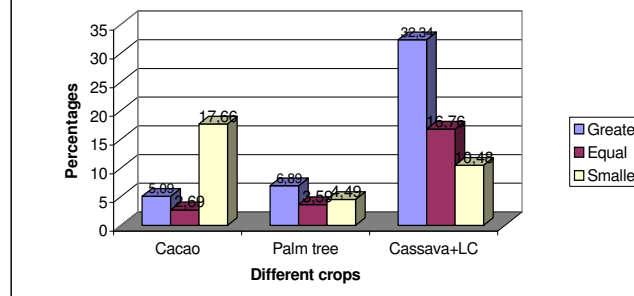


Figure 2: Variation of cultivated areas from 1997 to 2002

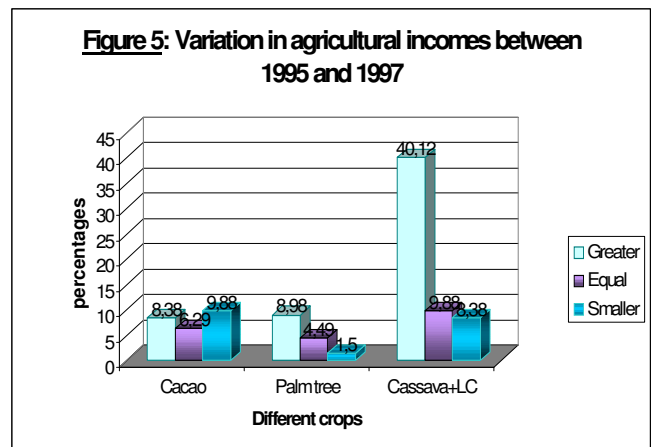
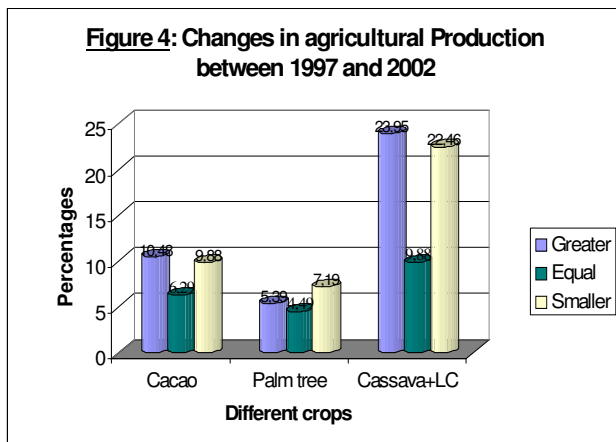
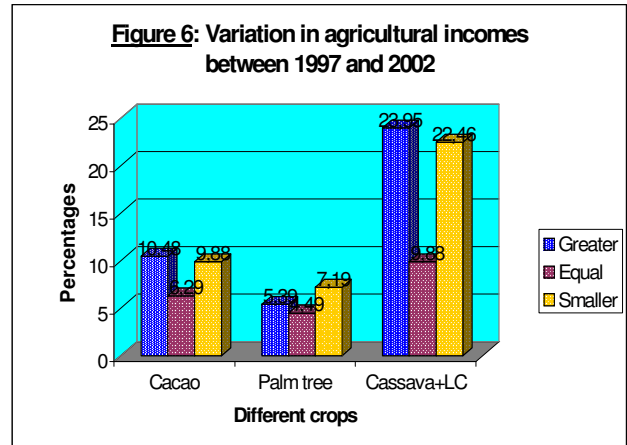
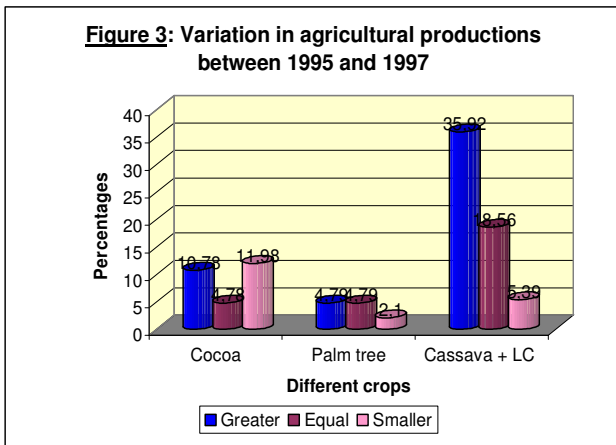


5.2 – Variations of agricultural production

On graph 3 and 4, the percentages of cocoa production was greater (10.78 %) from 1995 to 1997 and smaller (8.98 %) from 1997 to 2002. The trend is the same for cassava. We can conclude that there was reduction of agricultural production of the households due to the project. The delimitation of the route of the project was not precise and the households were advised to abandon the area concerned because the width of pipeline was estimated from 30 to 60 meter and was very difficult to appreciate by the farmers. The production of palm trees increases from 4.19 % in 1995-1997 to 9.28 % in 1997-2002 because in 1995-1997 the young plants were not in their production phase. The cassava+LC production has decreased simultaneously like cocoa. This shows that cocoa is the main cash product in that zone, and cassava+LC the main food crops. We also remark that high production of cassava+LC was due to the instability of the cocoa prices in the international market, and cassava+LC can be easily sold in the local market and provide money for socio-economic security of the households.

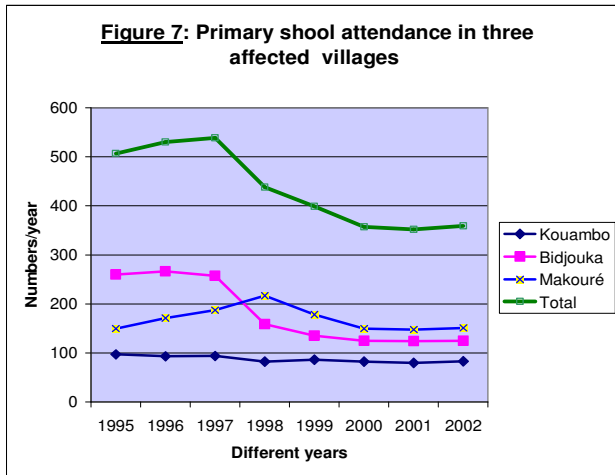
5.3 – Variations in agricultural incomes

Graphs 5 and 6 show that the cocoa incomes from cocoa were smaller (8.38 %) in 1995-1997 and higher (10.48 %) in 1997-2002. This is due to the high cocoa prices in the international market in 1999-2002. The impairment of the palm oil production is due to the supply and low demand in the local market. The income from cassava + LC decreased from 42.12 % in 1995-1997 to 23.95 % in 1997-2002. We can estimate that this reduction of incomes from cassava is due to consumption or the reduction of cultivated areas.

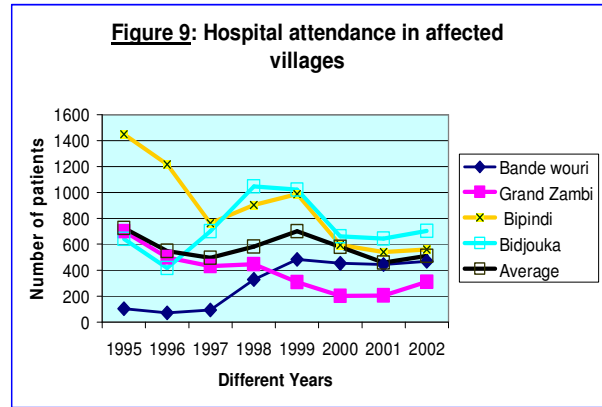
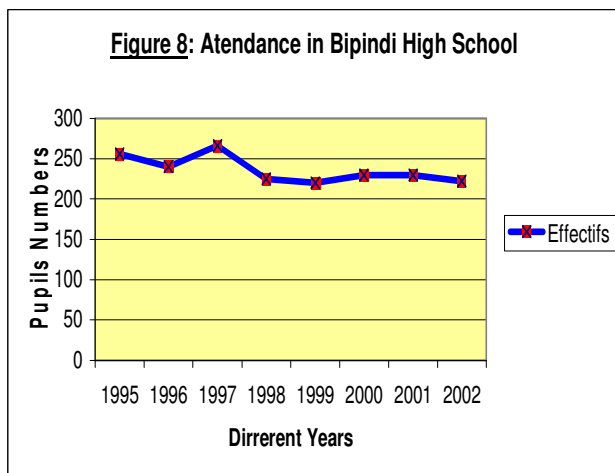


5.4 – Influences of the project on the population

The reduction of agricultural incomes affected households and the number of children attending schools decreased as shown on graph 7 and 8. This is very dangerous in the rural zone where the population revenues are link to agriculture.



The agricultural incomes enable these households to pay hospital expenses and to purchase their drugs in pharmacies. The graphs show that, the number of patients attending health centres has increased between 1995 – 1997 and decreased between 1998 – 2002. We can say that between 1998-1999, households were exposed to illnesses and after that time, they were conscious of their health states and could have adjusted to the new situation, reviewing their methods of care, emphasising traditional practices of care which are common in that zone. It doesn't changes anything on their state of poverty. Otherwise the increase of the price of cocoa in the international market between 1998-1999 could have contributed slightly to the improvement of their situation



6. DISCUSSIONS

Our zones of investigation belong to the tropical rain forest. Agricultural sustainability and judicious use of soil and water resources in the humid tropics are major global issues of modern times because of the interplay among human population, socio-economic and political factors, and natural resources of the fragile ecoregion. Mismanagement of soil resources and inefficient, resource-based agricultural systems are causing serious degradation of the ecoregion and perpetuating food deficit, malnutrition, and poor standard of living. Large spaces of green forest are devastated, impairing agricultural ability (2). If improved scientific methods of forest conversion, land uses and agricultural systems are not adopted in the near future, gross disturbances of the affected areas can lead to irreversible degradation of soil and the environment (3). The consequence of lack of agricultural sustainability is poverty. The human poverty approach focuses on a lack of access to education, income, and longevity.

The state of poverty was indicated by the low attendance in schools and hospitals in the affected villages. This is closely related to the social exclusion and participatory approaches. The social exclusion approach focuses on the lack of resources required to participate in activities and enjoy living standards that are customary or widely accepted in a society. The participatory approach looks for local definitions and perceptions of poverty and often serves to broaden the social exclusion approach by identifying exclusion concepts that have evolved in the community in question (4).

7. CONCLUSIONS

The consequences of the project are the low incomes and agricultural production in these communities which has led to the on reduction of the number of children attending schools and increase of number of sick people in hospitals. Consequently we have proposed the optimum management approach concerning this project. This approach can contribute as a beginning of solution to the problem raised above.

8. RECOMMANDATIONS

- The government must put in place a good structure of management and information system analysis;
- COTCO must undertake some complementary actions to improve the living conditions of these populations (the construction of complementary social infrastructures);
- Help of COTCO for the reinsertion of households touched by the expropriation should be accompanied by a follow-up plan and technical support;
- Help from the governments and research institutions, at both the national and international levels, should give top priority to research in agronomy, agricultural mechanisation, animal husbandry, agro- forestry, and socio- agro economics;
- The population should be exhorted to follow information on the agricultural vulgarisation in the radio, the television and in newspapers as much as possible;

9. PERSPECTIVES

We can continue this research on the populations boarding the pipeline in the sahelian zones in the north Cameroon which has different economic activities, after investigation in these zones, we can propose solutions for the growth of the economic activities. After the present work, advises will be given to parties concerned with by the project to vulgarise the results of research by massive education and the communication of information to improve incomes and to correct the health of the population in order to reduce poverty in that area .

10. REFERENCES

1. M PANIZZA 1995. Introduction to researcher methodology and environmental assessment in: M.Marchetti eds. Pp13-26.
2. Oldeman, L. R. 1994. The global extent of soil degradation. In Soil resilience and sustainable land use, ed. D. J. Greenland and T. Szaboles. Wallingford, U.K.: Commonwealth Agricultural Bureau International. Pp. 99-118
3. Lal, R., J. Kimble, E. Levine, and B.A. Stewart 1994. (eds), Soils and Global Change. Chelsea, Mich.: Lewis Publishers, (in press).
4. Miller J, Marek T. 1996. Class Action: Improving School Performance in the Developing World through Better Health and Nutrition. Washington, DC: World Bank.