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Viability of Community Income Generating Activities (CIGAs): Case of Agricultural Processing CIGAs in the Donga-Mantung Division, North-West Region of Cameroon

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Authors' contribution

This work was carried out in collaboration between both authors. Author GHFF was the lead researcher. He designed the study. Both authors conceived the methodology. Author JBSE organised the data collection. Author GHFF organized the writing exercise of the article and shared it with author JBSE. Both authors read and approved the final manuscript.

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ABSTRACT

This article brings out the analysis of Community Income Generating Activities (CIGAs) for the processing of agricultural products in Donga-Mantung Division, North-West Region of Cameroon. The main objective was to analyze the financial, technical and managerial performances of these CIGAs. More specifically to: (i) identify and characterize CIGAs and the beneficiary Farmers' Organizations (FOs); (ii) verify the pertinence of these CIGAs; (iii) analyze constraints to the viability of these CIGAs; (iv) make critical balance sheets of some support actions to peasant organizations promoting the CIGAs. Data was collected from literature review, field observations, and surveys with FOs and development actors.
The analysed data reveal that: (i) the promoters of those CIGAs are found in all five councils of the Division. They are Common Initiative Groups (CIGs), associations or cooperatives initiated to

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improve the income of the members. The cost per CIGA varies from 770 000 FCFA to 19 400 000FCFA ; (ii) despite their relative contribution to improve revenues of FO, those CIGA are not more pertinent but are effective as regards their objective to improve income; (iii) 40% of the CIGAs are viable in the organizational aspects, 48% in technological aspects, 0% in financial aspects and 48% in environmental aspects; (iv) The main monitoring problems identified are the lack of planning and budgeting of activities, poor keeping of administrative and accounting records. A series of recommendations are made to the government, developers and peasant organizations to ensure the viability of CIGAs. Policy makers should continue funding or subsidizing CIGAs, without which the efforts of the FOs to eliminate poverty will be in vain. Ensure sensitization and follow-up of grants recipients should be at the centre of their activities. Organizations and development programs should multiply the sensitisation actions of FOs for the effective consciousness of their role in improving economic conditions; multiply the support measures for a good grip and sustainability of committed CIGAs; ensure the definition and signature by the FOs, a convention on collective management of equipment received to mitigate the conflicts arising from the management of these equipment; and help in conducting feasibility studies prior to the implementation of CIGAs by FOs. Furthermore, peasant organizations should understand their roles, and involve key actors of economic development in the fight against poverty; put in place specific management committees for CIGAs to facilitate management and monitoring; plan and budget their activities; and finally provide regular financial reports and take stock in order to assess the level of profitability.

Keywords: Viability; community income generating activities; North-West Region; Cameroon.

1. INTRODUCTION

An examination of issues concerning income inequality reveals that a vast majority of the population live below the low income threshold. Globally, 1.3 billion people still live below the extreme poverty line ($ 1.25 a day), nearly a quarter of the planet's inhabitants [1]. This rate is estimated in Africa to about 51.5% [2]. In Cameroon, it was estimated at 40.2% in 2001 and varies considerably across regions, from single to double between urban and rural areas. It has remained virtually unchanged in 2007 despite the implementation of the Strategic Paper for Poverty Reduction (SPPR).

To correct the distortions noted during successive evaluations of the SPPR, Cameroon experienced an economic growth, which has secured successful redistribution of growth policies at the grassroots. Several programs were implemented in Cameroon with the support of development partners, so as to support the government in achieving its objectives. Supporting income generating activities of Farmers' organizations (FOs) permits to set up and manage them collectively. Despite heavy investments allocated by the State and its partners to FOs in order to sustainably improve their income thus making them financially independent as far as their businesses are concerned, field surveys showed:

- The disappearance or even non-existence over time of several income-generating activities initiated by the FOs who received support from these programs;
- The change of activities by some FOs, unable to pursue those formally initiated;
- Very low or irregular production levels;
- Low and irregular income levels.

This situation is common in all regions benefiting from these aids, like the North-West Region which is considered one of the major agricultural areas in Cameroon and even Central Africa.

Faced with this ongoing situation, one may ask:

- Whether funded CIGAs are a true engine for socio-economic development at the individual and group levels?
- What can be the technical, financial or managerial improvements for a CIGA to be viable?
- What may be the determining social aspects for better productivity of these CIGAs?

2. LITTERATURE REVIEW

2.1 Peasant Organizations

Farmers' organizations (FOs) were promoted in Africa since the colonial era, with the aim of providing their members with equal distribution of

services such as production and marketing. After independence, the governments decided to view them as rural development instruments that could be used to facilitate the implementation of their development policy [3]. They took a number of names (groups, associations, common initiatives groups, cooperatives, etc.) and their diversity could only be grasped on certain criteria like gender, origin, composition, function and mode of operation.

The three basic purposes which justify their establishment are the management of community assets, the voluntary organization in the form of a collective enterprise with economic focus as priority and the FOs with responsibilities of representing and negotiating with partners. Their main functions are the management of land, the environment, equipment, supply of inputs, storage, collective production, processing or marketing, group work, financing, advice to producers, representation of producers, etc.

There are three sets of criteria for assessing the viability of Farmers' Organizations [4]: (i) satisfying basic needs; (ii) ownership of collective experience, economic profitability, management, control and conflict management; (iii) access to new members.

Their weaknesses are of various kinds. [5] distinguishes among FOs, weaknesses like identity, cooperative spirit, reproduction of social relationships, the multiplicity of domains of intervention which hinder the effectiveness of FOs, a weak organizational capacity, weak negotiation and planning capacities, weak technical and management capacities, high dependence on external sources of funding, and multiple external interventions.

We can distinguish three main axes of support to FOs [6]: (i) mastery of technical, accounting, economic tools and methods; (ii) a comprehensive understanding of problems; (iii) daily management (technical, accounting, administrative management, etc.).

2.2 Income Generating Activities

These are micro-projects initiated with the aim of generating additional income, making it possible to improve the economic condition of promoters. For [7] these are lucrative activities carried out on a daily basis to improve the living conditions of their promoters and to promote their financial autonomy. They enable vulnerable people to self-manage, develop saving, avoid idleness and dependence. For others, these activities save them from scourges such as rural exodus, prostitution and homosexuality, worst of all human degradation in order to satisfy their socio-economic needs.

Their establishment is being encouraged by the governments so as to increase the income and the food security level of the population. They take part in the fight against poverty by increasing the financial and organizational capacities of rural communities or the most deprived. They are also found in all economic sectors: primary, secondary and tertiary.

Baumanne [8] distinguished in rural areas services like hairdressing, restaurant, welding, photography, video clubs, mechanics, etc. and production activities like agriculture, sewing, carpentry, soap making, etc.

For [9], a project is characterized by a precise objective, quantified or specified, a time limit, a singularity and a non-permanent ad hoc micro-organization.

OCDE [10] defines the relevance of a project as the extent to which the objectives envisaged correspond to the identified problems and the actual needs of the beneficiaries. It makes it possible to check whether the implementation of the project is justified.

To measure relevance, [11] proposes a set of criteria, including external and internal coherence, institutional added value, coverage, feasibility, utility, organization, etc.

Cordelier [12] distinguishes two types of determinants for the viability of cocoa co-operatives: the environment (opportunities and threats likely to influence the functioning of these cooperatives) and the internal determinants of viability (economic profitability, financial and intellectual autonomy, integration into a network of professional actors, land security, etc.).

According to [13], viability of these cooperatives concerns the political, social, economic, financial and technical fields.

Political viability consists of verifying whether activities can be carried out in conjunction with existing public strategies and policies. The strategy must integrate the cultural aspects and not propose changes or modifications that could endanger a part of the population. Nevertheless,

the existing relations between the social and economic aspects must be taken into account.

Activities should never be offered if their potential to generate income has not been analyzed before. The economic performance or financial results must cover current project expenses, while leaving an income to the beneficiary population.

Income generation depends on certain technical processes that must be adapted to the reality of the area. The proposed techniques must be accessible to the population in terms of training and education, but also from a practical point of view. Technical viability is also used to describe what conforms to the technological and natural characteristics of a project.

Pokrovsky [14] believes that the viability of a project depends on two prerequisites: (i) the objectives and deadlines must be precise and realistic; (ii) the availability of data and indicators to monitor and assess the progress towards a sustainable objective and, if possible, the modalities and qualities of such progress.

For [15], the factors on which the viability of a project depends are the existence of support policies, choice of technology, protection of the environment, respect of socio-cultural aspects, economic and financial factors.

3. METHODOLOGY

The study was conducted by combining data collected from literature and those obtained from field surveys.

The survey sample was randomly selected and stratified among existing CIGAs and a total of twenty-five (25) CIGAs equivalent to 65,78% of the total sample was used.

The data was collected using both an interview guide and a semi-structured questionnaire. Quantitative data was analyzed with “Statistical Package for Social Sciences (SPSS) Version 20 "while qualitative data was analyzed using thematic analysis.

The elements to characterize FOs were: location, name, age and the total number of members. The CIGAs were characterized by: the speculation concerned, objectives, activities, cost, duration and technology used.

Key indicators of the viability of CIGAs and the criteria that helped in verification were the organization set up by the FOs (functioning management committee, holding of meeting with reports, existence of activity reports, percentage of members participation to the management committee meeting), the technology used for the implementation of CIGAs (availability of raw material, energy, spare parts and technicians, and good use of equipment by the members of FOs), financial profitability (profitability and capacity to sustain it) and the physical environment of CIGAs (existence of environmental studies and the measures to alleviate negatives impacts of the CIGAs on the environment).

4. RESULTS AND DISCUSSION

4.1 Characteristics of FOs

Location, age, legal status, purpose, activities, facilities and partners have permitted us to characterize the FOs, in order to understand their organization and functioning.

Table 1. Distribution of FOs according to councils

Council	Number of FOs	Percentage
Ako	10	40%
Missaje	5	20%
Ndu	3	12%
Nkambe	3	12%
Nwa	4	16%

The town of Ako records a majority of FOs, 40% of the total workforce. In contrast, to Nkambe and Ndu councils with low record rates of FOs that is 12% for each of the two municipalities.

Table 2. FOs distribution by age

Age	Number	Percentage
Less than 5 year	5	20,0%
6 to10 year	12	48,0%
11 to 15 year	7	28,0%
16 year and up to	1	4,0%
Total	25	100,0

The location of the FOs is justified in part by the diversity of climatic conditions that favor the development of certain activities in all municipalities; secondly by the existence of a

suitable climate to the development of several promising crops in Ako and a large neighboring market, Nigeria.

The majority of FOs have been functional between 6 to 10 years (48%). It corresponds to the period from 2005 to 2009 which is the period of infringement by Cameroon, the completion point of the Heavily Indebted Poor Countries initiative (HIPC) in 2006. Aware of the poverty of rural producers, their inability to finance themselves and likely role to be played by them through their participation in the increase of the national economy, the rural sector development strategy initiated in 2005 recommended putting at the center of action, these rural producers to help overcome poverty. Several development programs initiated and community initiatives have increased awareness and actions that could justify the strong emergence of FOs observed during this period.

Table 3. Distribution of the FOs according to their legal status

Type of organisation	Number	Percentage
Common Initiative Group	21	84,0%
Association	1	4,0%
Cooperative	3	12,0%
Total	25	100,0%

CIGs are the most represented with a percentage of 84 and the least represented are associations with a percentage of 4. It can be said on the basis of the laws governing cooperatives that the form of association with social characteristics is easily created as compared to others. CIGs and cooperatives are of an economic nature but the creation of cooperatives is more difficult than that of a CIG. The simplicity of CIG and its economic nature could justify the sharp rise observed at their level. The association form would not benefit them much because of its social nature imposed by law.

The most represented group is between 6 to 10 members equivalent to 44% of the FOs in the sample. This low number of members could be justified first by the fact that small groups (low numbers) are easily managed, secondly by the difficulty in convincing some people to integrate groups for community activities. This difficulty seems to come from ignorance or as trust problems created by regular abuses orchestrated by some local leaders. They do not hesitate to grab the group's interest, putting group members at their service.

Table 4. Distribution of the FOs according to the number of members

Number of members per FOs	Frequency of FOs	Percentage
Less than 5	2	8,0%
6 to 10	11	44,0%
11 to 15	4	16,0%
16 to 20	4	16,0%
Up to 20	4	16,0%
Total	25	100,0%

We mentioned a total of 371 members belonging to 25 FOs under study with an average of 14.84 (15) members per group. These FOs are composed of both men and women. Amongst which 50.13% are men and 49.87% are women with a difference of only 0.26% between them. This insignificant difference between men and women can be explained in most cases by the fact that many people registered as couples.

With a focus on men, we found that their number is mostly represented by 28% of the FOs. Whereas for women, the modalities that had the maximum of FOs are 4 and 5 and represent 20% of the FOs. The strong representation of the modality 4 for both women and men would be linked to small groups that come from the ease of couples who agreed to form them. The greater the size of the groups, the more the agreement between the couples diminishes in favor of the other members without taking into account their links.

The examination of objectives relative to the creation of FOs revealed that while some FOs remained accurate in their objective, others were more unclear. The objective for the fight against poverty is one that includes a maximum number of FOs (48%). This may come from the media coverage of debates and steps taken in recent years by both national and international organizations being aware of the high level of poverty among the inhabitants of the world in general, and Africa in particular. On the other hand, increase in living conditions is the least represented (4%). We still observed that, despite the diversity of objectives and lack of some accuracy, these are mainly related to economic concerns. They converge towards people who want to improve their economic situation. The

support from many development programs implemented in the zone is most often oriented towards organized groups, these FOs have thus been set up to access support / funding in order to easily reach their objectives through the activities to be carried out.

Table 5. Distribution of the FOs according to the objectives

Objective	Number	Percentage
Fight against poverty	1	48,0%
Saving	2	8,0%
Increase agricultural production	6	24,0%
Increase living conditions	1	4,0%
Group marketing	4	16,0%
Total	25	100,0%

Table 6. Distribution of FOs according to their activities

Activities	Number	Percentage
Processing and marketing	19	76,0%
Production and marketing	5	20,0%
Production of fish	1	4,0%
Total	25	100,0%

Three types of activities are identified: Production, processing and marketing. Since these activities are initiated in order to generate income, the first two (production, and processing) are linked to the third (marketing). Processing is the activity that brings together a great majority of FOs (80%). It is related to the processing of palm nuts into palm oil, crushing of palm nuts, processing of cassava into "*gari*", agricultural products such as corn and soybeans into animal feed, powdered tea leaves for breakfast. This strong orientation of FOs towards processing is first of all justified by the need to improve the conservation of agricultural products and secondly by the value added to these products, which when marketed in the raw state does not procure significant benefits.

Amongst FOs we observed a variety of equipment. Considering the nature and importance of such equipment we realize that they are agricultural production equipment (shovels, sprayers and tridents), transportation equipment (wheelbarrows, and hand carts), drying / storage equipment (sheets, drying ovens, grills), processing equipment (grinders, graters, oil presses, cassava presses, tea chippers, rice millers and polishers, maize crushers, oil clarificators, baking pans, etc.), storage facilities (shelters, casks) and marketing equipment (scales). These devices are associated with functions performed by the FOs. They are acquired either with the FO's own funds and mostly for production equipment, or with the support of development partners in the form of donations or grants.

An analysis of the partnership with FOs makes us understand that the Ministry of Agriculture and Rural Development (MINADER), the Ministry of Livestock, Fisheries and Animal Husbandry (MINEPIA), the Rural Development Program in the North-West Region (PDR-NW), the National Agricultural Extension and Research Program (PNVRA), the National Community-Driven Programme (PNDP) and the program for the Improvement of the Competitiveness of Family Agro-pastoral Farms (ACEFA), are few institutions that help FOs in the implementation of their activities. Most of these institutions are implemented with the support of partners like the European Union (RDP-NW), the World Bank (PNDP), the French Cooperation (ACEFA) and other donors. Depending on the opportunities presented, some POs worked with one or more partners. The most interesting partnerships (in terms of number of FOs impacted) are those with the PDR-NW with 24%. Sometimes, certain FOs were found with MINADER (20%), ICAE in addition to MINADER (16%). The lack of coordination in the interventions of these institutions with FOs often led to the repetition of the same support. In contrast, partnerships with AERP and NPPD were less represented with 1% and 2% respectively. Apart from partnerships with the RDP-NW and ICAE which were formalized by the signing of a partnership agreement with the FOs concerned, the partnership with the other institutions was informal. The partnership with RDP-NW aimed to improve incomes of CIGAs promoters in a sustainable manner. They developed activities to achieve this objective, like provision of good quality planting seeds, materials or equipment, technical support and counselling, at the functioning and managerial levels, depending on the results of the diagnosis. The overall cost of its support should represent 90% of the total cost of CIGAs whereas the expected minimum contribution of the FOs is 10% of the total cost.

This contribution is usually mobilized in kind (in the form of manpower, infrastructure ...). The partnership with ICAE is similar to that of RDP-NW, with the only difference being that it requires FO, to open a savings account in which must be deposited at least 15% of the cost of its CIGA. MINADER and MINEPIA in their governing powers, pass from time to time without obligation, to provide guidance support to FOs.

Table 7. Distribution of FOs according to partners

Partners	Number	Percentage
MINADER	4	16,0%
PDR-NW	6	24,0%
NPPD	2	8,0%
MINADER-MINEPIA	3	12,0%
MINADER-PDR.NW	5	20,0%
MINADER-PDR.NW-ACEFA	4	16,0%
PNVRA	1	4,0%
Total	25	100,0%

4.2 Characteristics of CIGAs

The implementation period, agro-pastoral speculation concerned the objectives, the technology, the cost and the beneficiaries are the factors used to characterize the CIGAs.

Table 8. Distribution of CIGAs according to age

Age of CIGA (Year)	Number of FOs	Percentage
1-5	18	72,0%
6-10	0	0,0%
11-15	6	24,0%
16-20	1	4,0%
Total	25	100,0%

The distribution of CIGAs based on their implementation period shows that 72% of CIGAs are less than five (5) years of age. The high rate of these CIGAs could be justified by the arrival in 2010 of two major development programs namely the PDR- NW and ICAE. The RDP- NW ended in 2015 while ICAE continues to intervene in the area. 24% of CIGAs had an implementation period that ranged from 11 to 15 years. Their implementation was from the period 2000 to 2004 which was the period of strong preparation / awareness of the FOs and the start of the "Grass field Participatory and Decentralized Rural Development Project (GPDRDP)." These programs had the advantage that FOs obtained finance in the form of grants for the implementation of their CIGA.

The CIGAs concerned with these are those related to the six major agro-speculations of oil palm, cassava, maize, rice, fish and tea.

Table 9. Distribution of CIGAs according to speculations

Speculations	Number	Percentage
Oil palm	15	60,0%
Cassava	5	20,0%
Maize	2	8,0%
Rice	1	4,0%
Fish (feed)	1	4,0%
Tea	1	4,0%
Total	25	100,0%

The speculation highly represented is the oil palm which includes 60% of CIGAs, followed by cassava (20%). The high rate of oil palm and cassava CIGAs would be that these crops are very promising both in the local market and in neighboring Nigeria. This would have allowed most of the POs to be established in areas favorable to their development, to diversify their sources of income. Moreover, the fact that transformation is crucial for oil palm and cassava and their processing equipment are expensive in the market, would have led promoters to catch many opportunities offered by the development programs to acquire them.

Table 10. Distribution of CIGAs according to objectives

Objective	Number	Percentage
Maximise profit	19	76,0%
Improve marketing	3	12,0%
Facilitate transformation	3	12,0%
Total	25	100,0%

Beyond the general objectives justifying the creation of FOs, there are other objectives related to their implementation. These are: profit maximization by transforming production before marketing (for cassava processed into “gari”) or using equipment to improve the extraction rate (case of oil palm); improve sales by producing more than before or diversifying the sources of income; and facilitate transformation by simply using technology and methods which optimizes efforts and save time. By bringing these three goals, we realized that the major reasons justifying the implementation of FOs are

economic. The main objective sought by each of them is the most effective means to improve their income from activities already carried out. For now, they think that getting improved incomes would be easy by facilitating and enhancing production through the use of simple and appropriate technology.

Examination of technology use has permitted us to identify the existence of a variety of equipments. They vary depending on the nature of the processing units. As said before, they were acquired with the support of development partners. Based on their nature and functions for which the equipment was purchased, we can say that they correspond to the different processing units for which they are intended. However, while some have a complete kit allowing them to effectively reach their production goals, others are limited by the lack of some equipment parts. This is the case with clarificators and crushers absent in 10 palm nut processing units. Yet their presence would allow one to produce quality oil and also to valorize by-products such as palm kernels from the nuts. The absence of such additional equipment could be due to either ignorance of the FOs or financial difficulties regularly faced. It is important to note that these facilities are mostly made by local artisans in Cameroon.

An analysis of the CIGA's costs permitted us to understand that it varies from one type of CIGA to another. It is only the investment costs. They do not include the operating costs. The different values of acquisitions that helped us assess cost were determined based on the interviews with beneficiaries. Some local artisans like "Selung Engineering" and development partner (PDR-NW), were also consulted to enable us make a comparison with the market selling price. However they were considered in this study as the actual purchase price of the equipment. The highest average cost is that of the tea processing unit which amounts to 19.4 million FCFA. In contrast, the lowest cost is that of corn grinning unit that is 770 000 FCFA. Moreover oil palm processing and palm kernel crushing have the highest overall cost (33,713,000 FCFA). This cost represents 51.87% of the total support allocated to all CIGAs. The lowest overall cost amounts to 1.54 million CFA francs, representing 2.37% of the total support allocated to all CIGAs. The high cost of tea processing unit could be link to the fact that such equipment are not easily found in the market. Before implementation of this CIGA, the Cameroon Development Corporation (CDC) and Cameroon Tea Estates (CTE) were the only companies that transformed by modern means tea in Cameroon. With the difficulties in acquiring these equipment, farmers sold their tea leaves to those companies who dictated their price because they had a monopoly on the market. The FO "Ndu tea cooperative society" composed of peasant producers of tea in the municipality of Ndu caught the opportunity offered by the PDR-NW to leave the yoke of the CTE.

Table 11. Distribution of CIGAs according to the numbers of beneficiaries

Beneficiaries	Frequency of FOs	Percentage
Less than 5	2	8,0%
6 to 10	11	44,0%
11 to 15	4	16,0%
16 to 20	4	16,0%
Up to 20	4	16,0%
Total	25	100,0

The term direct beneficiary of CIGA means all persons eligible to benefit from the results of its implementation. These advantages or benefits are sometimes financial incentives paid from incomes generated from the implementation of CIGA, at the beginning of the school year, the end of year, or benefits given to members to transform their agricultural products at low cost compared to that required by non-members. The first condition for these benefits is to be a regularly registered member of the FO or adopted for the circumstance. Next, make a financial contribution or in kind for the implementation of CIGA.

The number of beneficiaries range from 5 to 56 members. 52% of these FOs have a maximum of 10 beneficiaries. These beneficiaries include both men and women who are found in almost all of the CIGAs. Overall, each category (male, female) represents 50% of the total number of beneficiaries. This balance could come from the opportunity that each wants to participate in the resolution of family problems (health, education, development, etc.). The fact that development programs provide more opportunities for organized groups to create wealth and improve income for their members could also make it easier for men and their wives to get together to run a CIGA. Moreover, the dynamism and perseverance of women in farming activities would also encourage men to be strongly involved.

4.3 Pertinence of CIGAs

72% of FOs claim that CIGAs implemented to improve their incomes, are not part of their priority needs. The main reason is that they are more appropriate than those currently being implemented. These are the production of food crops, vegetables and some cash crops, which in a relatively short time provide significant revenue. The reasons why they have not been implemented is because of lack of funding, the late discovery of profitability, ignorance and lack of technical knowledge especially for vegetables. This situation can be explained by the fact that, with the inability of FOs to improve on its revenue from personal financial resources, they have complied with occasional opportunities offered by development programs in their area. Seeing the neighboring FOs benefit from a specific material sometimes leads others to seek the same support without taking the time to see if this support is in its priority needs. Sometimes in some FOs, the leader who is most often the intellectual of the group imposes his needs to the FOs without checking if it also responds to the priority of the others. He thus writes the request for support on behalf of the group and submits to partners without consulting the group. According to what is above, we can say that the CIGAs currently implemented by FOs involved in this study are not the most relevant despite their more or less important contribution to improve their incomes.

4.4 Effectiveness of CIGAs

The information on the income of successive years of production were not given by the FOs to better appreciate the increases in income. Based on interviews with them, 92% of FOs claimed to have witnessed real improvement in their income. However, 76% believe that increase in income is noted both at group level and individual level. In terms of sustainability, 68% of FOs who have recorded a revenue enhancement think this increase is likely to be sustainable. 32% do not believe it because of the poor performance of the machines, the frequency of breakdowns, poor management of the revenue generated by the executive office, etc. On the basis of the above, it can be said that the CIGAs implemented by FOs are effective in achieving the objective of improving incomes.

4.5 Sustainability of CIGAs

Taking into account the influence that certain external factors may have on CIGAs; we relied on a few dimensions to analyze their viability. Among the targeted dimensions we have the organizational set-up by the FOs, the technology used for the implementation of CIGAs, financial profitability and the physical environment of the CIGAs.

4.5.1 Organizational sustainability

The analysis of the organizational dimension of CIGAs relied on the existence of a CIGA Management Committee, holding of regular monitoring CIGAs meetings, the level of member's participation in these meetings and existence of meeting reports. A survey to check these criteria were conducted on the FOs.

The interviews showed that 84% of FOs have implemented a management committee of CIGAs. The composition and procedure of implementation of these management committees vary amongst FOs. The selection of members is democratic, that is by the General Assembly or guided by competencies observed within the group; sometimes they are imposed by delegates based on his beliefs or interests. In a majority of FOs, it can be seen that the delegates occupy double responsibility positions as chairman of the management committee too and sometimes even the members of the executive board are members of the management committee. We run the risk to witness in this cases mismanagement of CIGAs that is to say without transparency, this can result to the abandonment of CIGA in the hands of the executive members. The lack of management committees in some CIGAs could be justified either by the ignorance of members who have no knowledge of the importance of the committee or by the ineffectiveness of the FO. Some people often use the names of fictitious groups as a means to acquire grants for personal purposes. The fact that the delegate of FOs accumulates positions with the President of the Management Committee may explain this situation.

56% of the committees meet regularly and only 40% produce reports of these meetings. The lack of management committee meetings at certain CIGAs could be justified by the exploitation of the CIGAs for selfish reasons by delegates or a small group of leaders. The frequency of meetings of the Management Committee depends on the FO and sometimes weekly, monthly, quarterly, or only late in the season. The low frequency of meetings observed in some management committees could be justified either

by the lack of rigor of some committees where members may not be available to the CIGAs to benefit from their individual activities, or by a lack of transparency due to fear to justify the management of funds for the implementation of CIGA. FOs have appreciated the participation of members in management committee meetings, using a grid of four levels of assessment (very good, good, average and low). Thus, according to their assessment, 8% of management committees experienced very good participation of members, 32% good attendance; 8% average and 52% low participation of members.

The first two categories (40%) experienced a massive participation of the members are the FOs that bring together the four verified criteria, that is to say where we find a management committee, the regular holding of meetings, meeting reports and a strong member participation in meetings. In view of the foregoing, it can be said that 40% of CIGAs are viable organizationally. Lack of organizational viability of other CIGAs could be justified by the lack of cohesion within the group due to the presence of conflicts of interest often generated by some charismatic leaders who want to divide the group to command, either to the ignorance of members who don't know and understand the importance of the group. It could also be justified by the lack of sufficient information on the rights and duties of members as provided in the constitution. These constitutions are not often accessible to members who are afraid to work for nothing, or these members prefer to dissociate further weakening the group.

4.5.2 Technological sustainability

An issue in the analysis of the technological dimension of the CIGAs, we had to verify through an interview with beneficiaries their mastery of the use of equipment, availability of raw materials, the source of energy, spare parts, and the presence of a technician. 84% of promoters knew how to use their equipment. That knowledge is justified by the training received with the support of a partner or sought by the group with some manufacturers. 16% of beneficiaries who do not master the use of their machines had neither the luck of being helped by a partner or the idea to approach the manufacturers to handle them without machine risk. They use their common sense to operate it, thus the resulting high frequency of failures related to poor use. 92% of the diesel machines use gasoline against 8% who use fuel. These energy sources are available locally in 56% of the cases. The other 44% of FOs are forced to move to district headquarters to get them; making it more expensive. Set aside the displacement costs when required, the average cost of a litre of diesel fuel is 700 FCFA and that of gasoline 600 FCFA in this area. It is important to note that the gasoline used is the non-standard type fraudulently brought across the Cameroonian borders from Nigeria. The average price of the engine oil used is 1300 FCFA per litre.

The raw materials needed for the operation of machines depend on the nature of the units and are palm kernels and oil palm, cassava, maize and tea leaves. 60% of CIGAs had much raw material available, while 8% of CIGAs had an average availability and 28% low availability. The most available raw materials were maize, cassava and tea. They come from both individual farms of members of the FOs and surrounding populations. Meanwhile the availability of palm nuts faced two major problems, namely: climate requirements that do not allow palm to grow around the division consequently existence of low operating ranges; and high output change with the seasons. In the dry season many palms quickly reach maturity due to favorable climatic conditions and thus promote a greater use of machinery. While in the rainy season this production drops dramatically almost forcing the breakdown of some machines. The low use of machinery observed at certain CIGAs prevents the FOs of profitable activity; which significantly affect its viability.

Repair of machinery requires the availability of spare parts and the presence of a service technician. Replacement parts are those basic parts that easily wear out and whose absence or defect prevents normal operation of the machine. It is observed that they are available for 16% of CIGAs. And the other 84% are obliged to travel a considerable distance to acquire them. This movement increases the cost of spare parts and significantly affects the durability of machines and therefore the CIGAs.

The problem of availability of spare parts also arises at the level of the technician. In 48% of cases, technicians are available locally as against 52% in the remaining cases who have to travel to meet a technician. Repairing machines in case of failure becomes difficult and highly demanding.

As said above on the technological viability of CIGAs, the availability of raw materials, energy, spare parts and technicians is a real problem for some CIGAs. The attempts to solve these problems by some FOs require additional huge costs which constitute a real obstacle to the viability of almost 52% of CIGAs. The remaining 48% CIGAs can be considered viable technologically.

4.5.3 Financial sustainability

Based on interviews with the FOs and the review of their documents, financial information for assessing the profitability of each CIGA were collected. Information about the cost and lifespan of equipment were used to calculate their annual allocation in depreciation. Costs related to operating expenses and annual revenues were also collected to determine the actual operating account. This tool allowed us to evaluate the profitability of a CIGA. It takes into account all aspects of expenses (salaries, consumables, etc.) and products. It determines the operating result, therefore, whether the activity was beneficial or not.

Of the 15 palm nuts processing units, 7 or 47% have a positive annual net income, and are therefore profitable. 8 or 53% have a negative annual net income and are therefore non-profitable. The lack of annual costs and income observed from three (3) CIGAs means that they were stopped for some time. This cessation of activity came from machine breakdowns and the inability of beneficiaries to mobilize funds to overcome these failures. No member wanted to contribute to the repair of machinery. This may be justified either by the mismanagement of funds generated by these machines when they were working, or by poor organization of the beneficiaries for taking charge of the repairs. This led to the interruption of these activities to the detriment of their viability. The annual average charges of CIGAs summed 320,434 FCFA and the annual average income 434,002 FCFA; which gives an average annual net income per CIGA of 113,568 FCFA. Individual net gain is 9962 FCFA (annually). This income is insignificant compared to the poverty threshold required by the African Development Bank which is $ 2 per person per day or about 1000 FCFA per person per day or more 365 000 FCFA per person per year. In conclusion, the palm oil extraction units are not financially viable.

4.5.4 Environmental sustainability

Environmental sustainability has been assessed on the verification of the existence of a prior environmental assessment, identification of negative effects of the CIGAs on the environment, and verification of the implementation of mitigation measures to those effects.

4.5.4.1 Initial environmental studies

An environmental study for the establishment of CIGAs wasn't made anywhere. Proceeding in this way, we could reach a situation where the implementation of CIGAs causes enormous damage to the environment thus preventing the functioning and expansion of these CIGAs.

4.5.4.2 Effects of CIGAs on the environment

80% of CIGAs (20 of 25) have an adverse effect on the environment. These are the 15 CIGAs of palm nut processing units and 5 CIGAs of cassava processing units.

The CIGAs of palm processing units require high consumption of water resources and are usually located near water sources thus receive carefree sludge and dirty water. They are however used for drinking by the local population. These CIGAs also generate fibers and nuts which do not only invade the space but also considerably attract mosquitoes.

The CIGAs related to cassava also, generate dirty water that pollutes the environment and attracts mosquitoes. Beyond the waste generated by the implementation of these CIGAs there is also the sound effect of engines that could eventually cause deafness to permanent users of these machines. These effects are also observed with CIGAs which generate waste.

The implementation of CIGAs in these conditions could cause more problems than it solves and negatively affect the viability of CIGAs if measures are not taken to manage waste.

4.5.4.3 Environmental management measures

In terms of managing the adverse effects caused by the implementation of CIGAs, measures are taken at 48% of CIGAs. Thus the fibers and the shells of nuts are used as an energy source for cooking nuts. These shells and sludge are often used as feed for pigs. For liquid waste, no

measure has been taken so far to mitigate their effects on the environment.

4.5.5 Investment cost and the viability of CIGAs per council

The organizational, technological and environmental viability rates of the CIGAs are higher in Ako Council compared to the other councils. The lowest rates are observed in Nwa. This situation can be linked to the nature of the CIGAs and the interest that the POs have to implement them. Ako Council benefit from the highest investment cost of CIGAs and Nkambe Council the lowest. The situation is due to the fact that Palm oil CIGAs are expensive and mostly located in that area.

The viability of the CIGAs per Council cannot be justified by the investment costs registered in a Council. We can observe that Ako and Nkambe have almost the same investment cost but the viability of CIGAs in these two councils is not the same. The nature of CIGA, the technology and the environmental conditions vary from one council to another and can explain to a certain extend the variation in the viability of CIGAs from one council to another. It could be necessary to investigate if with CIGAs of the same nature, the amount invested per council can have an influence on the viability of CIGAs per area.

5. CRITICAL REVIEW OF ACCOMPANYING MEASURES

An issue in this field to identify the actual problems experienced by the FOs in the implementation of CIGAs, the support required to solve them, accompanying actions already received and compared with accompanying actions identified.

5.1 Accompanying Problems

Accompanying problems experienced by the different CIGAs are felt at several levels of implementation: at the organization of promoters, the technology used, financial and environmental levels.

From this Table 13, there are five (5) major problems obstructing the organization of the implementation of CIGAs. Of all these problems, the lack of planning activities and budgeting is the most common in the FOs and the palm nut processing units are the main victims.

Table 12. Investment cost and the viability of CIGAs per council

Viability	Viability rate of CIGA per council					Total
	AKO	MISSAJE	NDU	NKAMBE	NWA	
Organisational	20%	8%	4%	4%	4%	40%
Financial	0%	0%	0%	0%	0%	0%
Technological	24%	8%	4%	8%	4%	48%
Environmental	24%	8%	8%	4%	4%	48%
Investment cost per Council in FCFA	24 043 000	5 826 000	22 964 500	4 540 000	7 614 000	64 387 500

Table 13. Distribution of FOs according to organizational problems of CIGAs

Nature of identified problem	Number per type of CIGA						Total	Percentage compare to total CIGAs
	Oil palm	Cassava	Maize	Animal feed	Rice	Tea		
Conflicts	5	1	0	1	1	0	8	32%
Lack of planning of activities	7	3	0	1	1	0	12	48%
Lack of budgeting of running cost	7	3	0	1	1	1	13	52%
Low participation in meetings	4	2	0	1	1	0	8	32%
Difficulty to mobilize funds for repair of machines	5	3	0	1	1	0	10	40%

This comes from the ignorance of members of FOs and the lack of training or coaching on planning and budgeting process of an activity before or during the implementation of their CIGAs. It prevents the effective monitoring and evaluation of the implementation of CIGAs and limits their chances of success.

Alongside this, is the low participation of members at meetings, consequently, difficulties in raising funds to repair common failures. The fact that members do not attend meetings does not give them the opportunity to understand the project, its benefits and challenges. They can well understand the need to make a contribution of any kind whatsoever for the smooth running of the project. This difficulty in raising funds also comes from poor CIGAs resource management in the absence of planning and budgeting.

At the technological level, there are four major problems that have a negative impact on the viability of CIGAs. Improper use and maintenance of machinery which causes regular breakdowns, lack of technicians and spare parts which often leads to the abandonment of machines by recipients, and the poor performance of some machines that do not permit users get the best returns. The most dominant problems are difficulty to have technicians and the weak performance of the machines. Almost 60% of CIGAs are concerned and this greatly affects their viability.

Financially, we have three (3) major problems namely poor bookkeeping that does not allow clear traceability of the inputs and expenses relating to the implementation of CIGAs, lack of balance sheets to assess the profitability of operations, and poor revenue management obvious from insufficient financial management reports.

The most common problem is that of poor bookkeeping. It concerns 60% of CIGAs. Palm nut processing units are the most affected by this problem. It is justified by a lack of training of FOs on keeping accounting records and significantly affects the financial viability of CIGAs.

Table 14. Distribution of FOs according to technological problems of CIGAs

Nature of problem identified	Number per type of CIGA						Total	Percentage compare to total CIGAs
	Oil palm	Cassava	Maize	Animal feed	Rice	Tea		
Bad management of machines	2	0	0	0	0	0	2	8%
Difficulty to access technicians	3	2	1	1	0	0	7	28%
Difficulty to access spare parts	2	1	0	0	1	0	4	16%
Low performance of machines	7	0	0	0	0	1	8	32%

Table 15. Distribution of FOs according to financial problems of CIGAs

Nature of identified problem	Number per type of CIGA						Total	Percentage compare to total CIGAs
	Oil palm	Cassava	Maize	Animal feed	Rice	Tea		
Poor handling of accounting documents	8	2	2	1	1	1	15	60%
Lack of balance sheet	5	2	2	1	1	0	11	44%
Poor management of income	6	0	0	1	1	0	8	32%

Two major problems affect the environmental sustainability of CIGAs:

- The soil and water pollution caused by liquid waste generated by palm nuts and cassava processing units. It affects 80% of CIGAs.
- The absence of measures to mitigate this pollution.

Overall, the sustainability of CIGAs in these four dimensions is affected by 16 major problems. 40% are organizational problems, 26.7% are technological problems, 20% are financial and management problems and 13.3% are environmental problems. Palm nut processing units are those with the most problems. Urgent solutions must be considered to save these CIGAs.

5.2 Accompanying Actions to Consider for Successful CIGAs

To mitigate these problems, some accompanying actions have been identified with the help of members of different promoter groups.

These actions include training, advisory support, awareness and equipment diagnosis. Some of these FOs have already received some support actions summarized in Table 18.

Table 18 shows that, with the help of PDR-NW, 40% of the FOs received support in the implementation of their CIGAs management committee, 24% received training in the use and maintenance of their machinery, accounting record keeping and received technical diagnosis of their machinery in order to improve their

Table 16. Distribution of FOs according to environmental problems of CIGAs

Nature of identified problem	Number per type of CIGAs						Total	Percentage compare to total CIGAs
	Oil palm	Cassava	Maize	Animal feed	Rice	Tea		
Soil and water pollution	15	5	0	0	0	0	20	80%
Lack of mitigation measures	10	2	0	0	0	0	0	12%

Table 17. Accompanying needs to the problems identified

Nature of problems identified	Accompanying needs
Organizational level	
Conflicts	Training of leaders on conflict management
Lack of planning and budgeting of activities	Training on planning and budgeting of activities
Low participation in meetings	Sensitization
Difficulties to mobilize funds for repairs of machines	Sensitization
Technological level	
Bad management of machines	Training on the management of machines
Difficulty to access technicians and spare parts	Mobilization of contacts and address of technicians and sellers of spare parts
Low performance of machines	Diagnosis of machines and improvement of performance
Financial level	
Poor handling of accounting documents	Training on record keeping
Bad management of revenue	Training on management of revenue
Environnemental level	
Soil and water pollution	Training on natural ressources management
Lack of mitigation measures	Training on mitigation measures

Table 18. Accompanying actions received

Accompanying actions received	Numbers of FOs beneficiairies	Percentage compare to total	Partner
Organizational level			
Support to put in place management committees	10	40%	PDR-NW
Advice	5	20%	MINADER
Technological level			
Training on management of machines	6	24%	PDR-NW
Diagnosis of equipments	6	24%	PDR-NW
Financial level			
Training on record keeping	6	24%	PDR-NW

performance. With the support of MINADER, 20% of the FOs received advisory support at the organizational level. Comparing the number of support received to the needs expressed, there is a big gap. About 60% of support is still needed in all groups constituting our target. Regarding the support provided, 60% of the FOs still need to organize their management committees, 80% have not received organizational support, 76% need to be trained on the use and maintenance of their machines and the handling of administrative and account documents. To be more specific, the support needs strongly felt by FOs for proper management of their CIGAs at levels of planning and budgeting of activities, keeping financial and administrative documents, is where training and support advice must be made.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

CIGAs are not the most relevant despite their more or less important contribution to improving incomes of the FOs. They are still effective on the income improvement target. At the organizational level 40% of CIGAs are viable, technologically 48% of CIGAs are viable, but financially none of the CIGAs is viable. The money for their financing would produce more gain if they had been saved in a CAMCCUL network savings account where the interest rate is 0.8% per month. In environmental aspect, 48% of CIGAs can be considered viable. 16 accompanying problems have been identified around the implementation of the various CIGAs. 40% of these are organizational problems, 26.7% are technological problems, 20% are financial management problems, and 13.3% of environmental problems. The most critical problems amongst them are organizational problems.

Some insignificant support actions were made by the PDR-NW and MINADER. But much remains to be done both at the FOs and their CIGAs.

6.2 Recommendations

Considering the results and conclusions, we can make the following suggestions:

6.2.1 To policy makers

- To continue to fund CIGAs through subsidies without which the efforts of the FOs to get out of their poverty will be in vain;
- To raise awareness and support for grant recipients should be at the centre.

6.2.2 To organizations and development programs

- To multiply the FO's awareness on actions for the effective realization of their role in improving their economic conditions;
- To multiply the support initiatives for a good grip and sustainability of committed CIGAs;
- To ensure the definition and signature by the FOs of a convention of collective management of the equipments received in order to mitigate the conflicts arising from the management of these equipments;
- To help in conducting feasibility studies prior to the implementation of CIGAs by FOs.

6.2.3 To farmers' organizations

- To understand their roles as key actors of economic development and the fight against poverty;

- To put in place specific management committees for CIGAs to facilitate management and monitoring
- To plan and budget their activities;
- To regularly maintain accounts and take stock in order to assess the level of profitability.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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