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## Challenges and Durability of Local Development Plans for West African Rural Communities Based on a Case Study of Tafi-Todzi Settlements (Volta region, Ghana)

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### **Abstract:**

**Purpose:** This paper presents the results of a study on agricultural systems and economic activities of selected rural communities in the Volta Region (Ghana) and assesses, from a 10-year perspective, the durability and validity of elements of the development programme prepared and implemented in their area.

**Design/Methodology/Approach:** The analysis was conducted on the basis of questionnaires and interviews as well as field work. These were used to prepare the action programme. The fate and issues of the activities was followed up over a period of 10 years.

**Findings:** The communities studied were characterised by very different levels of agricultural production methods: from near-burner economy to modern farmer production. Members of the communities mainly subsisted on agriculture, supported by small-scale economic activities of other types. Of the activities carried out, infrastructure improvement measures survived in their entirety after 10 years. Supported economic initiatives almost entirely disappeared within a few years after the programme.

**Practical Implications:** The effectiveness of economic initiatives is closely dependent on the presence and actions of local leaders/trainers. Infrastructural measures are most likely to have a long-term impact.

**Keywords:** Ghana, region Volta, development issues, global south countries, development aid.

**JEL codes:** D1, O1, Q1, R2.

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## 1. Introduction

One of the main dilemmas of development aid in the Global South is the effectiveness of projects and expenditures. Key questions formulated in the process of setting up local programmes are to what extent the proposed development schemes will work in local conditions and the sustainability of the activities carried out. Assessing how local conditions, once funding ceases, will affect the change initiated is complex (Brown, 2005).

For large projects, access to financial tools is a key aspect of success. Despite the strong growth in the main agricultural export products, the agricultural sector is still characterised by a lack of major technology transfer, extensive agriculture, low mechanisation, a low level of private and public investment, and a lack of agricultural financing structures (Nyarko, 2023).

Compared to other West African countries, Ghana stands out for its internal stability, which has enabled the country's steady, successive development. Unlike its neighbours, in the post-independence period, the country has not been embroiled in long-standing wars or ethnic conflicts (Makowski, 2006).

Nevertheless, the country's development has faced serious economic and cultural problems typical of African countries. Agriculture is still the livelihood of a large part of the traditional communities. With its varying levels of development, non-agricultural economic activities are becoming increasingly important (Nkegbe *et al.*, 2022; 2023). This makes it all the more important to take measures aimed at the development of rural areas and their traditional communities as a means of stemming the rural exodus and supporting the sustainable development of the country as a whole.

This paper presents the results of a study, characterising the social situation and economic model of rural communities in central Ghana, with a focus on agriculture. The research was conducted for a group of 4 rural communities of the Volta region, eastern Ghana.

The research was carried out during the preparation and implementation of a community development programme designed by the Polish Green Network (NGO) and funded by the Polish Ministry of Foreign Affairs between 2006 and 2013.

A set of micro-projects, covered a wide spectrum of activities: from building infrastructure, through supporting the development of local economic initiatives, to training the competences. From the perspective of the 10 years that have passed since the end of the financing of the activities, the scope and durability of the effects achieved are assessed and conclusions are formulated.

## **2. Research Area and Methods**

The study included selected 4 rural communities from the Tafi (Tafi Mador, Tafi Abuipe) and Todzi (Vakpo Todzi, Aneta) groups, located in Kpandu and Hohoe districts, in the Volta region, near the eastern shores of the Volta dam reservoir (Figure 1). The villages studied are located in the extensive depression of the Dayi River valley, which drains into Lake Volta in the southern part of the area. Numerous settlements and groups of scattered houses are located in the plain area of the depression.

The plain is bounded to the east by the range of low hills (White Clay), while to the west are the hills of the Akwapim-Togo range, reaching 700m above the sea. The area became almost completely deforested in the early 1990s as a result of predatory logging (Braimoh, 2006) and now is covered with dense bush. The natural forest has been replaced by secondary plant communities, which are additionally subjected to constant pressure (charcoal burning, firewood collection), making it impossible to successfully restore the forest cover despite reforestation programmes (Gilarowski, 2006).

The climatic conditions and especially the high amount of rainfall evenly delivered throughout the year, make the Volta region very suitable for farming. Maize, which is one of the main crops grown, yields three crops per year and the dry season is short compared to other regions in equatorial Africa. Cultivated fields represent a limited percentage of the area, as a maximum of about 30% of the land suitable for agriculture is traditionally cultivated and the lack of labour and mechanisation.

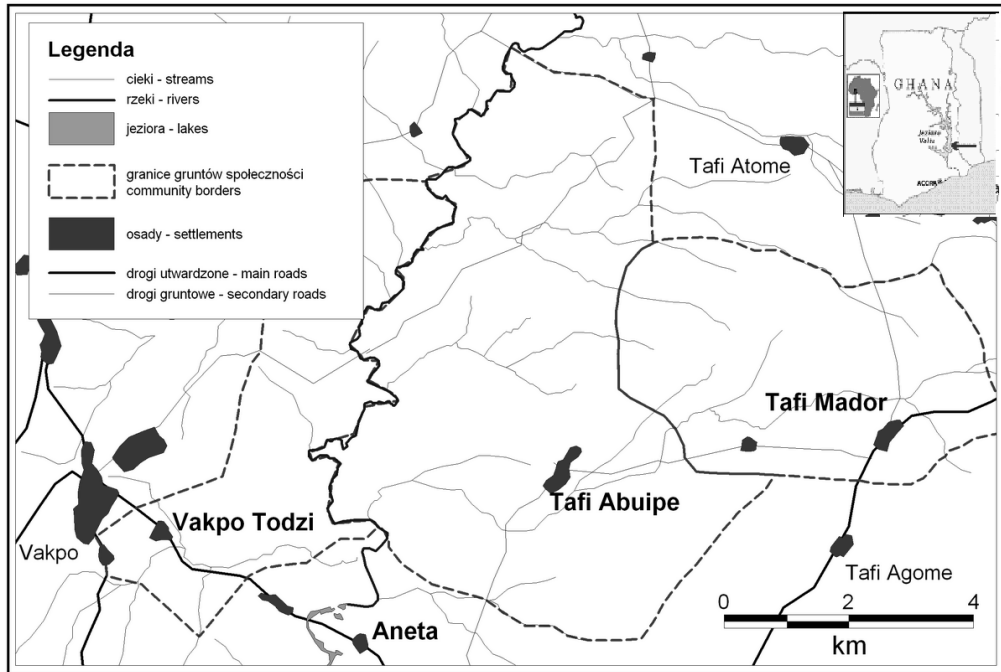
The soils of the study area, due to negligible fertilisation and low intensity of agricultural production, are characterised by rather low amounts of basic mineral nutrients (Przybulewska *et al.*, 2010). Mango plantations were located in the central part of the area (near Tafi Abuipe), with an area of about 60 hectares (2022) and an ever-expanding range. They were established by a corporation producing fruit for export, being one of the major local employers.

As the main objective of the research activity in the region was to prepare a development plan for rural communities, the main research method was a questionnaire of questions that was used during meetings with groups of community leaders. The questionnaire consisted of about 60 questions, divided into social and agricultural sections. The answers were determined by a group consisting of leaders (e.g. youth, women) and traditional authorities.

Representatives of local formal authorities also took part in the interviews. Following the questionnaire survey, fieldwork was carried out within the agricultural fields and the settlements themselves, during which agricultural and other economic activities of the community were documented and surface soil samples were taken. Local development plans prepared by the local government at

the district level were also used in the preparation of the project and meetings were held with district officials responsible for agriculture, environmental issues and coordination of aid projects.

**Figure 1.** Location of the surveyed rural communities (own elaboration)



*Source: Own study.*

### 3. Results and Discussion

Surprisingly large differences in the farming methods were found in the surveyed communities, but these did not clearly translate into differences in the standard of living of the residents. A summary of the most important information about the surveyed communities is presented in Table 1. Multigenerational families share households and cultivate the land together.

On average, families had 6-8 children. Cultivation of the land is the basis of livelihoods, with the farms producing food primarily for subsistence and being non-commercial, usually allocating about 30% of production for sale. Due to the lack of mechanisation of cultivation, families are unable to cultivate more than 1-2 acres (about 1 ha) by hand.

The main crops grown are maize, cassava and yam. In addition, some villages grow oil palm, rice, cacao and aubergines (garden eggs), which the surrounding communities are famous for growing. A common agricultural practice is the custom

of a group of villagers (usually young men) working together in turn in the fields of all members of the group. Both men and women work the land, and there is a distinction between traditional work done exclusively by women or men, e.g., gathering firewood or fetching water is the domain of women. Animal husbandry is clearly ancillary.

Clear differences in crop production were found between villages, dictated mainly by tradition. The Tafi Mador community, the most traditional in terms of farming methods, was at the same time characterised by the greatest diversity of production, due to the need to meet their own needs with articles produced on their own farm.

The farms of the settlers in Aneta, on the other hand, were of the most commercial nature, where the inhabitants, probably due to the need to pay rents resulting from land rent, are most interested in commercialisation, specialisation and increasing yields and farm acreage.

This community was the only one where machinery and synthetic fertilisers were used extensively. Pesticides were used sporadically everywhere. Mainly these were herbicides used to reduce the weed infestation of crops. A spatial characteristic of the crops is their fragmentation and dispersion in the field. Small fragments of cultivated fields of no more than half a hectare are scattered among bush and fallow areas, which, as a result of the very rapid growth of vegetation, are absorbed by the bush practically in a single season.

The most difficult time in the lives of the region's inhabitants is the dry season and the period immediately following it, before the first crops are harvested, due to nutrition based on the farm's own production. This problem is compounded by the lack of traditions and developed methods for storing crops (Chrispeels and Maarten, 2002). In the period after the end of the project (after 2013), farming methods did not decrease significantly, but a reduction in the dependence of feeding on own production and a greater variety of activities undertaken by local people was clearly noticeable.

#### **4. Implementation and Sustainability of the Development Programme**

The development of the country and the challenges of modern times are forcing the inhabitants of traditional communities to shift to more commodity-based methods of farming and diversify their sources of income. The main reason for forcing the transition to a commodity economy is the need to use money for needs mainly related to education and health care, whereas until recently such needs for residents of rural communities were significantly less.

The community development plan drawn up on the basis of the research outlined above, in consultation with the local municipality, placed particular emphasis on the development of small-scale infrastructure and pilot economic activities combined

with an educational programme (Polish Green Network, 2009). The following activities were envisaged:

- Organise pilot pineapple farms. The farms, with an initial area of 2 acres, were run by groups of farmers (cooperatives) participating in the training and gradually developed. They were also intended to be a seedling resource for members' private farms and for plantation development. Pineapple farming is an investment with a high rate of return but an initial financial outlay beyond the capacity of even a group of farmers.
- Diversifying sources of income by organising training and helping to start small businesses through the organisation of groups or cooperatives (e.g. batik production, beekeeping, tailoring).
- Improving access to education through the construction of a primary school in Tafi Mador.
- Improving drinking water supply through the rehabilitation or construction of wells.
- Anti-malaria prevention - distribution of mosquito nets and anti-malaria education.
- Improving the sanitation of settlements, piloting waste management solutions.
- Training for farmers in commercial farming methods: fertilisation, plant protection products, organic farming.

**Table 1.** Characteristics of the rural communities surveyed (own elaboration)

	Aneta	Vakpo Todzi	Tafi Abuipe	Tafi Mador
Population	750	800	650	900
Area [km <sup>2</sup> ]	no data	15.05	36.76	18.72
Form of land ownership	lease from the Vakpo clans	clans	clans	clans
Number of clans	2	4	many	7
Forms of income-generating activity other than farming	weaving, fishing, office work	weaving, trading, carving, animal husbandry, small-scale gastronomy, office work	weaving, fruit plantation work, trade	palm oil extraction, trading, weaving and carving,
Water supply	paid water pipe, river	several wells	3 wells	1 well, in the dry season only

				stream
Main crops	maize, cassava, vegetables	cassava, maize, oil palm, yam	yam, maize, cassava	cassava, maize, yam, cocoa yam, rice, vegetables, cocoa, oil palm, aubergines
Rotation systems	diversified and advanced	none or basic	none, in cultivation up to 1/3 of land	none, in cultivation up to 1/3 of land
Fertilisation	all use intensively	only in maize cultivation	only the richest, occasionally	only the richest, occasionally
Pesticides	different types, pesticides and herbicides	herbicides only	rzadko herbicydy	none
Crop storage	not stored, 60% for sale	yam and maize, sale of about 30% of production	yam and maize, sale of about 30% of production	yam and maize, sale of about 10% of production
Breeding	goats, sheep, poultry	goats, poultry, pigs	goats, sheep, poultry	goats, sheep, poultry
Sources of seed	bought, district agriculture office	district agricultural office, own	own	own
Mechanisation of cultivation	widespread use of tractors	mechanical ploughing	none	none
Average farm size [acres]	5	1-2	1-2	0.5-1

*Source: Own study.*

Over the eight years of the programme implementation, all the intended measures were successfully implemented, but their usefulness, economic impact and especially the sustainability of their effects proved to be highly variable. The factors that led to this variation were mostly social and partly economic.

The most lasting and measurable effect was the investments in improving small-scale rural infrastructure: the construction of a school and the improvement of the water supply. Of particular importance was the construction of 2 new facilities in Tafi Mador, facing notorious water shortages. In all communities, a system was organised to maintain the sustainability of the investments, e.g., a decision was taken to introduce minimum water charges to create a fund for future renovations. This task was usually entrusted to a few trusted members of the community. An equally successful idea was preventive anti-malaria measures.

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The activities here overlapped with and complemented a major government campaign. The use of mosquito nets became somehow "fashionable" thanks to the information campaign and the project's hand-outs filled in the gaps left by the earlier population supply action, so that in effect there were several mosquito nets per family (household) to protect both children and adults.

Activities aimed at expanding sources of income have had a mixed effect. As a result of workshops led by local trainers, two cooperatives were formed to produce batik materials and sew products using them (bags, clothing) and two beekeeping cooperatives.

The groups have set up management structures, established their own bank accounts and established rules for group management and business. The batik co-operatives proved to be a difficult venture due to strong competition from mass clothing manufacturers and especially the influx of cheap, imported materials with more varied designs, not bad quality and significantly lower prices.

The production of fabric and the sewing of garments from it were not able to make a profit in the local market. It also turned out that the tastes of the population preferred cheaper, more colourful garments made especially from materials of Indian origin. The co-operative's products, on the other hand, proved attractive to tourists and there was some success in attempts to sell them to tourist stands in Accra and in their informal 'export' by European volunteers to their country of origin.

An important developmental contribution, on the other hand, was the first contact group members had with the nuances of running a business. Often the help of a trainer or coordinator proved indispensable in such situations. Paradoxically, the assistance of a European volunteer proved to be indispensable in contacts with local authorities, administration and bank staff, when the presence of a foreigner visibly accelerated the handling of the matter.

The activity of the beekeepers' groups was definitely more successful. Their product sold excellently on the local market and the handling and organisation of production was easier and less time-consuming compared to the garment business. It also proved to be an excellent complement to typical farm work. Initially, groups used simple, less skill-intensive Kenian Topbar hives, only to switch to more efficient and more fully serviceable frame hives after a few seasons.

The most important activity concerning agriculture was the organisation of two pilot pineapple plantations. The project intended these to be a viable commercial venture, but also to introduce local farmers to the ins and outs of modern agriculture. A very important element was to enlist a local farmer who had been successfully growing pineapples for several years as a trainer. The example of a local leader with considerable agricultural knowledge and known for his growing farm was more valuable than any training and workshops.



Over the course of the project, the plantations went through a full economic cycle: from establishment, fruit production, seedling production, expansion of the area to the sale of fruit and surplus seedlings.

After the project support ceased, both plantations survived for several years, but in a completely different state and stage of development. Production activities unfortunately ceased, mainly as a result of the death of a local trainer, demonstrating the crucial importance of leaders coming from the supported communities.

Other agriculture-related activities were educational and it is difficult to assess their direct effect. Certainly, a significant benefit was to prepare farmers to use plant protection products safely and effectively. They are appearing more and more in agricultural practice and until now have been used in a very dangerous way. After the workshop, farmers started to use protective clothing and to pay attention to the preparation and dosage of products.

#### **4. Conclusions**

Surveys conducted and interviews with residents revealed a strong variation in the level of development of agriculture, which is the primary economic activity of community members, and their dependence on the efficiency of this activity. Neighbouring communities, despite frequent contact between their residents, used both farming methods with varying levels of development and different economic strategies - from almost exclusively subsistence production and a high diversity of crops, to the beginnings of a farm economy.

The region has also seen symptoms of the commercialisation of agriculture in the form of specialised pineapple and mango cultivation by individual farmers, producer groups as well as large corporations. This makes it all the more important in this situation to provide swift assistance precisely to communities accustomed to traditional forms of production, which are in the weakest position in the development 'race' that is beginning.

Weak in terms of sustainability, the majority of economic activities have had an effect, but their tangible benefit has certainly been the gaining of experience in economic activity. Beekeeping initiatives proved to have the best sustainability. Purely educational initiatives remain difficult to assess their usefulness.

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