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Gender-Based Associations and Female Farmers Participation in Science and Technology Projects in Anambra State of Nigeria

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Introduction

The protocols observed in government institutions often lead to delays in decision-making and implementation of plans, no matter how well articulated. The impersonal approach to government duties and the 'top-down' system of policy formulation and implementation also contribute to the failure of even well-articulated government programmes. Anambra State in Nigeria is no exception. Thus, many community-based development projects have become survival/coping strategies for various communities in the state, leading to the birth of Community Development Associations (CDAs). CDAs are organisations of different individuals with varying academic backgrounds and experiences, but with the common objective of developing their town or community through selfless efforts and volunteer services. Occasionally, government projects are implemented through CDAs, and governments rely on CDAs for grassroot coverage of their programmes. Some CDA projects are concerned with science and technology issues in agriculture, such as skills acquisition, genetically modified plant and animal varieties, germ-plasma development and, agro-chemicals. However, with the increasing number of CDAs, a high turnover rate in CDA formation and dissolution has emerged, with CDAs having an average lifespan of only three years. This is a course for concern, considering their societal obligations and challenges.

This high turnover rate may not be unconnected with the informal nature and generally weak organisational structures of CDAs.

On the other hand, the male-female dichotomy in societal roles and obligations has led to the formation of Gender-Based Associations (GBAs) from CDAs. GBAs are single-sex associations, essentially CDAs formed along gender lines. They also constitute a principal feature of the normalisation processes that characterise the ongoing social, political and economic changes in rural and urban societies in Anambra. Since GBAs are closely associated with informal strategies and practices, it is likely that informalisation has potentially critical repercussions for gender advocacy, social equity and policy change (Esman and Uphoff 1984).

Current debate on informalisation, gender networks and social change revolves principally around the potentials and constraints of informal GBAs in promoting participatory development in science and technology, influencing policy change and re-defining gender. Over the years, disillusionment with the failures of top-down development approaches, along with the aggravated crises of state, economy and society, has fuelled demand for the democratisation of development (OAU/ILO 1983; Oakley and Marsden 1984; UNECA 1990). Within this framework, GBAs are expected to perform critical roles in the political economy, including acting as intermediaries to transform social and economic relations, channels to articulate and voice grassroots interests, and platforms to promote power devolution (Bratton 1987; Rahmato 1991). Furthermore, GBAs are envisaged as agencies to advocate and defend the gender space and as instruments to engender political consciousness and nurture participatory and equal development in science and technology (Holmsquist 1980; Chambers 1983; Esman and Uphoff 1984; Cernea 1987; Rahmato 1991).

The logic underlying the linking of GBAs to the larger project of social change and development in science and technology is that, since GBAs apparently bear attributes of legitimacy, autonomy and grassroots patronage, they should be able to expand their influence to serve as significant forces driving the new technological advances in agriculture. This assumption is largely untested in empirical terms and thus remains shrouded in uncertainty. The need to clarify the situation based on empirical evidence is the rationale for this study.

Informalisation and Restructuring

My theoretical framework revolves around the fact that informalisation, gender networks and social change are interrelated concerns associated with social, political and economic restructuring processes, especially since the late 1980s. With the rapid expansion of social and economic informality in the wake of the restructuring phenomena, societies and cultures appear to be experiencing redefinitions and reconstructions of gender notions, leading to new models of social relationships and male-female dichotomies in science and technology. These new social paradigms and gender transformations are embodied in social change processes driven by a number of forces, among which are gender-based associative structures. While these structures may be motivated by social security, group preservation and the coping needs of the different genders, the wave of informalisation strategies and practices

sweeping across society constitutes an additional means for gender-based associations to operationalise gender space and participation in science and technology.

Furthermore, the imperatives of popular participation and the competition for scientific and economic space in present-day societies and cultures invoke different coping responses among various gender-based structures. Hence, an important aspect of gendered science is the interaction between the growth of informality, gender-associative structures and the dynamic of social relationships. The innovative instruments and strategies adopted by gender-based associations vary temporally and spatially according to intervening constraints and incentives defined by the environment. The mechanics of these variations — and the resulting social products (in terms of participatory development in science and technology) — are real questions that demand interrogation.

With the above in mind, a research project was designed to look into these issues. The general objective was to investigate the potential of gender-based associations to enhance participation of female farmers in science and technology projects. The specific objectives were to:

- describe and analyse group formation on gender lines.
- highlight the constraints, incentives and coping strategies that have influenced the surviving GBAs.
- identify and describe science and technology projects in agriculture.
- analyse participation in, and benefits from, science and technology projects in agriculture on the basis of the gender of participants.
- compare the performance and impact of selected GBAs in participatory development in science and technology projects in agriculture.

Each of the three senatorial zones of Anambra state formed a sampling zone. Using a multi-stage purposive selection technique, five community development associations, including three GBAs, which have functioned for a minimum of five years were selected for the study:

- Women Ministries of the Anglican Diocese on the Niger (female members only)
- Akwa Multipurpose Cooperative Farmers' Association (male and female members)
- Ancient 'Otu-Odu' (Ivory) Society (females only)
- Ancient 'Agbalanze' Society Onitsha (men only)
- Anambra Self-Help Organisation (females only).

In a broad sense, these associations function as non-governmental extension agents for government and research institutes.

Focus group discussions and interviews with members and leaders of each of the selected associations were the main data collection instruments. Two focus group

discussions were held with each of the associations, and their leaders were separately interviewed. One focus group discussion each was held with participants and trainees in the associations' projects; this was in addition to a detailed inspection of facilities in the associations' workshops, centres or green/breeding houses. Since the data collected were essentially qualitative in nature, they were simply described. The responses regarding perceptions of, and attitudes towards, gender and community development associations in Anambra state can be summarised as follows.

Group Formation on Gender and Non-Gender Lines

The focus group discussions revealed that many groups were formed based on the sex of individual members. This gave rise to a proliferation of single-sex groups in the various communities. Group formation on gender lines can be traced to the ancient traditions of the Igbos (the major ethnic group in southeastern Nigeria) in which specific gender roles are delineated, and where the culture of male superiority and dominance is inculcated in the socialisation processes. Hence, women and girls are regarded as weak, inferior and depen- dent creatures. This distinctive gender stereotype is naturally transferred to group formations. Thus, female groups were formed to play supportive roles and implement decisions taken by men. Even in mixed-sex associations, within-group gender activities are organised. For instance, in many churches, even though membership is non-gender based, activities are carried out under separate men's, women's, boys' and girls' associations. The same ideology is portrayed in community-based associations such as age grades and community development unions. In contemporary society, where women have proved their mettle, this gender stereotype has generated a lot of conflict and clamour for gender space. Many gender-based associations now target the uplifting of women and enhancement of their participation in modern scientific techniques. In agriculture, for example, traditional food crops are classified as female crops, while cash crops are regarded as male crops. And because of the higher cash returns involved, men dominate mechanised and scientific operations in agriculture. This is typified by one of the mixed-gender associations studied, which had a large plantain/banana plantation for both the male and female members. However, with the introduction of the hybrid plantain/banana strain, a relatively a capital-intensive project, it was observed that the association guaranteed the male participants soft loans to adopt the new technology while their female counterparts had only indirect access to the loans. Female farmers had to be guaranteed through their husbands, sons or brothers. This development led to the formation of a female farmers' association, which guaranteed loans for its own members. The women farmers' association also helped members to procure fertilisers, insecticides and pesticides at subsidised rates. However, the capital base of the female farmers' association was relatively small, and this limited its ability to support the members in large-scale farming. The same limitation invariably weakened the potential of female GBAs.

Group formations along gender lines were found to predominate in the study area, mostly based on inherited traditions, but occasionally formed to fight gender

discrimination. Where mixed-sex groups exist, activities are ultimately carried out along gender lines. This has perpetuated the practice of encouraging girls and women to adopt software technologies, while their male counterparts are socialised into hardware technologies.

Agricultural Science and Technology Projects in Gender-Based Associations

The major science and technology projects in agriculture being handled or managed by the selected GBAs are agro-based skill acquisition centres, information communication centres, improved/hybrid crop plantation projects and agro-service centres. These projects are generally geared towards the enhancement of livelihood and poverty eradication.

All the CDAs except Akwa Multipurpose Farmers' Association have skill acquisition centres that generally train both sexes in the different skills available. However, it was observed that the female participants are trained mainly in cloth weaving, soap/pomade making and word processing, while their male counterparts are trained in hardware technologies such as welding, machine fabrication and engine repairs. This corroborated the findings of Kitetu (1998) regarding physics classroom discourse practices and the construction of gendered identities in a Kenyan secondary school. The officials of the GBAs regarded the dichotomy in areas of specialisation as natural, and there was no effort to encourage the girls to learn 'hard' technologies. Indeed, the few girls that expressed an interest were indirectly discouraged.

The training lasted between two and three years, and graduates were awarded diploma certificates in their areas of specialisation. The GBAs then assist graduates by guaranteeing them for soft loans to set up their own businesses and supervising their projects until 75 percent of the loan is repaid. This buttresses the use of the social capital of an organisation in community development. For example the Anambra State Self Help Organisation gave out the sum of N1.5m annually as micro-credit to its clientele. Some of the trainers in the skill acquisition centres are foreigners or expatriates who are specialists in different skills. The trainers provide the technical skills, while the institutions supply the personnel and the environment. The quality of the training personnel and the managerial ability of the GBA operators enhance the potentials of these GBAs to successfully execute their projects.

An example of a crop plantation project carried out by a GBA was furnished by the Akwa Multi-purpose Cooperative Farmers Association This was a large extension outfit established by with technical and funding assistance from the International Institute for Tropical Agriculture (IITA). The linkage to international institutions increases the potential ability of CBAs to assist their clients. The major aim of this project was to extend improved skills in plantation agriculture. Through this project, hybrid plantain, cassava, maize and banana strains resistant to the devastating black sigatoka and mosaic diseases are disseminated to participating male and female farmers. The farmers were thus encouraged and taught the breeding meth-

ods and the post-harvest processes. The products are processed into wines, chips, flour, pastries, etc. On completion of the training, the certified participants are given guaranteed soft loans from government and some international agencies, like USAID, to establish their own farms. Some of the observed gender issues in the plantation project were as follows:

- There were more male participants in the breeding and marketing sections of the project.
- The female participants specialised mostly in the post-harvest processing of the products into chips, flour and pastries.
- Alhough the loans were guaranteed for all the successful candidates, more males than females benefited. However, the few female participants that benefited kept to the terms of the loans and hence had lower default rates than their male counterparts.

Another common type of CBA/GBA project involves agro-service centres. These centres have equipment for sale and warehouses for compounding, packaging and storing agrochemicals for sale at subsidised rates to their members and other farmers. The female GBAs that established agro-service centres did so mainly to stock farm inputs, especially fertilizers, for sale to female farmers who normally have poor access to these inputs.

The selected GBAs successfully handled their chosen projects for an average of three years, and their strength was drawn from the commitment and dedication of the members and the management cadre. Some of the GBAs are owned and managed by the church, while retired top civil servants manage others.

Incentives and Constraints

The major constraints highlighted by the gender-based associations were:

- lack of funds to start new projects and complete existing ones**.** The female GBAs were worse hit by this problem because they found it relatively more difficult to obtain loans directly, since they lacked collateral. This affected the relative potential of female GBAs to carry out their scheduled responsibilities, and occasionally led to the collapse of some of them.
- volatility of both micro-economic and macro-economic variables in the economy: Inflation, interest rates, taxes and import/export regulations in Nigeria generally, and Anambra state in particular, fluctuate arbitrarily, and this interferes with the planning and execution of projects.
- corruption and changing value systems*:* Although all the associations are development-oriented, there seemed to be elements of selfishness and self-aggrandisement on the part of the some key functionaries. This led to corrupt practices that weakened the association. The phenomenon was traced to changing societal values in which the emphasis on self-enrichment overrides many group objectives. The problem was found to affect the male GBAs

more than the female GBAs. More male GBAs had cases of sharp practices and embezzlement of funds in court. Even the few surviving ones were threatened by power tussles in different dimensions.

- lack of political will and government support: Although the government of Anambra state was involved in a gigantic poverty eradication programme through one of the GBAs studied, and was using another association as an agricultural extension outfit, it had not been honouring its part of the agreement for these projects. Women Ministries International had to get a loan to complete its bakery factory (a skill acquisition centre) after many years of trying to persuade the government to provide the promised funds. The same thing applied to the farmer's association that was being used to extend the propagation of hybrid plantain and banana products. They had to construct their own breeding houses, although these were supposed to have been built by government. In addition, government was supposed to assist in guaranteeing 75 percent of the loans given to the beneficiaries of these projects under the Agricultural Credit Guarantee fund, but this agreement has usually been 'honoured in breach'.

The ability to survive these and other constraints had been a major source of strength for these associations. Thus, despite the above constraints, many GBAs have stood the test of time, and their survival strategies hinge on a number of incentives from within and, occasionally, from outside the associations.

Some GBAs have often attracted external funding from international donor organisations such as USAID and the World Bank. For instance, the Akwa Multipurpose Farmers' Association and the Anambra State Self Help Organisation received technical and funding assistance from IITA to establish their plantain/banana plantation and extend the required technical skills to participating farmers. Also, wealthy and influential members of the communities have instituted various forms of scholarships and foundations for youth and women's development through some of these gender-based associations. For instance, the Ikem Ozobia Foundation, aimed at ameliorating the sufferings of the poor, is partly operated through the Ancient 'Out-Odu' Society of Onitsha, a gender-based association.

Generally, the projects executed through these gender-based associations lead to the construction of permanent buildings and workshops and the acquisition of modern equipment, which in the long run galvanises and strengthens the associations. Thus, as the president of the Women Ministries put it, 'with these gigantic projects, equipments and installations, we cannot afford to collapse; we have stood the test of time and the sky is our limit'. And according to the Chairperson of the Otu-Odu society:

> Our strength is in God and our coping strategy is sincere and transparent community service; we inherited our association as a strong group from our parents, and we shall hand it over as a stronger group to our children. Even government is depending on us for the execution and implementation of their policies and that shows our

commitment to sincere service; and trust from both the government and the people—we have come to stay.

Performance of Gender Based Associations in Science and Technology Projects

A comparative assessment of the male and female trainees in the science and technology projects organised by the selected GBAs showed that:

- more females (76 percent) than males (24 percent) enrolled in project activities. Some activities, e.g., metal fabrication, machine maintenance, vulcanising, cash crop production and mechanized post-harvest processes have 93 percent male representation, while weaving, sewing, soap/pomade making and word-processing have 94 percent female participation.
- the males, though fewer in number overall, scored higher marks than the females. Even in the soap/pomade class, which has mostly female participants, a boy scored the highest mark. The trainers attributed the better performance of boys to higher intelligence.
- more females than males completed their programmes. This was attributed to societal pressures and unguided ambition. The quest to make money fast led more males to look for greener pastures in other spheres of life or to establish their own business without completing the training programme.
- more females than males adopted and practised the science and technology innovations learned during the training programme. This is despite the observed higher performance of males relative to females in the training programme. The adoption categories used were 'early adopters', 'late adopters' and 'non-adopters'. Females dominated the first two categories, while males dominated the third. The trainers attributed this to unguided ambition on the part of the male graduates. According to them, the quest to make quick money made most male graduates introduce 'shortcuts' in the skills they acquired and hence get classified as non-adopters of the skills. This however does not mean that the boys do not practice the acquired skills in the long run; it was rather a measurement problem of the adoption index used, which counted as adopters only those that strictly followed the sequence of application of skill. It may also be a methodological problem of measurement, possibly linked to the trainers having to report on the successful outcome of the training to the funders, rather than a reality of using the acquired skills. If so, this represents a capacity gap on the part of the trainers and calls for capacity strengthening.
- More females than males kept to the terms of their loans. About 80 percent of the loans guaranteed for the female graduates have been repaid compared to 32 percent of the loans for males.
- the female GBAs used more science and technology innovations than their male counterparts. However, the male GBAs also had other community

development projects such as electrification, road construction and supply of pipe borne water to their rural communities, which the female GBAs appeared to de-emphasise. Each GBA had its own areas of emphasis and worked towards a defined goal, but their ability to achieve their goals varied with their financial and technical capabilities and also their national and international linkages.

Summary and Conclusion

GBAs are community-based, non-governmental organisations or voluntary networks formed for the purpose of community development. They are generally committed to the development of their communities through self-help projects. The strengths of GBAs hinge on their inherent power of networking, as highlighted in various studies of the power of social networks, which note, among other things, that the attributes of individuals are less important than their relationships and ties with other actors within the network.

The present study shows that some GBAs in Anambra State in Nigeria have specific tasks, while others concentrate on perceived areas of need such as agricultural development. Also, many of the GBAs have weak organisational structures that reduce their networking effectiveness. Some are not even registered with the Corporate Affairs Commission of Nigeria. However, despite these weaknesses, they have grassroot support and patronage. The government recognises them and some government policies are implemented through them. For instance, part of the National Poverty Eradication Policy (NAPEP) is implemented through Women Ministries International.

Female GBAs should be particularly encouraged because of their relative better performance and their efforts to enhance the status of women, who are usually discriminated against in science and technology development issues. Finally, although GBAs are good conduits for the extension of scientific innovations to farmers and implementation of many community development projects, they need to be further strengthened for sustainable development.

References

Bratton, M., 1987, 'Drought, Food and Social Organisations of Small Farmers in Zimbabwe', in M. Glartz, ed. *Drought and Hunger in Africa,* Cambridge: Cambridge University Press.

Chambers, R., 1983, *Rural Development: Putting the Last First,* London: Longman.

Cernea, M., 1987, 'Farmer Organisations and Institution Building for Sustainable Development', in *Regional Development Dialogue*, Vol. 8, no. 2, pp. 1-19.

Esman, M. and Uphoff, N., 1984, *Local Organisations: Intermediaries in Rural Development*, Ithaca: Cornell University Press.

Holmsquist, F., 1980, 'Peasant Political Space in Independent Africa', *Canadian Journal of African Studies*, Vol. 14, no. 1, pp. 156-67.

Kitetu, C., 1998, 'An Examination of Physics Classroom Discourse Practices and the Construction of Gendered Identities in a Kenyan Secondary School,' unpublished PhD. thesis, Lancaster University.

Oakley, P. and Marsden, D., 1984, *Approaches to Participation in Rural Development,* Geneva: International Labor Office.

OAU/ILO, 1983, 'Democratisation of National Development in Africa', proceedings of a symposium in Dakar, March 15-18, 1984, Geneva: International Labor Office.

Rahmato, D., 1991, 'Peasant Organisations in Africa: Constraints and Potentials', Dakar: CODESRIA.

UNECA, 1990, *Africa Charter for Popular Participation in Development and Transformation,* Addis Ababa: United Nations Economic Commission for Africa.