

Upgrading Obrachire Village through the Vehicle of Participation

Proposals based on past experience.

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Objective

A brief attempt is going to be to demonstrate how a community's active involvement in a project is important to its successful implementation; what its successes and failures were, and the lessons learnt from this.

It is hoped that the analysis of this project, that was implemented about five years ago, will help to establish the strategies for the implementation and success of a new project that is proposed in the same community.

Introduction to Ghana

Ghana is situated on West Africa's Gulf of Guinea between Cote d'Ivoire to the west, Togoland to the east, Burkina Faso to the north and the Atlantic Ocean to the south.

On the coast it spans from about longitude 3° west to 1.27° east, a distance of approximately 550 kilometres. It also spans from about latitude 5° to 11° north for a distance of about 760 kilometres. The total area of the country is 239,000 km².¹

The population is estimated to be in the region of 18 million and is projected to reach 20.5 million by 2000 AD. The population growth rate is 3.1% p.a.

The per capita income is US\$430. The population density is expected to reach 81 persons/km by 2000 AD from the recorded density of 66 persons/km in 1993.

The rural population as a percentage of the national total was 65% in 1993 is expected to be 61% in 2000 AD.

There are 10 administrative regions and the coastal area is prone to earthquakes. The main economic activities on the coast are fishing, farming and commerce.

Ghana, like most developing countries has multi-faceted housing problems. The rapid population growth and increasing rural-urban drift have compounded the problem to critical proportions. The inability of the building industry to keep pace in delivery has resulted in an ever-widening gap between supply and demand. Failure to fully understand the problem led the government to believe it could solve the problem single-handedly.

¹ Ghana Statistical Service (GSS) Quarterly Digest of Statistics.

Historical Analysis of the Housing Policy

Table 1: Population trends, housing needs, delivery deficits and deliveries towards adequate housing from 1985 – 2005						
Figures in '000's.						
		1990	1995	2000	2005	
A. Urban Projection:						
1.	Population	4030	4840	5813	6981	8384
2.	Annual growth % (constant)	4.02	4.02	4.02	4.02	4.02
3.	Annual increase	101	162	195	234	280
4.	Annual displacement occupying 1% of housing stock to be replaced	43	48	58	70	84
5.	Population to be provided with new houses annually	144	210	253	304	364
6.	Annual requirements at 7/household*	<u>21</u>	<u>30</u>	<u>36</u>	<u>43</u>	<u>52</u>
B. Rural Projections:						
7.	Population	8970	10118	11413	12874	14522
8.	Annual growth % (constant)	2.56	2.56	2.56	2.56	2.56
9.	Annual increase	166	230	292	330	372
10.	Annual displacement (2% of housing stock to be replaced)	179	202	228	257	290
11.	Annual increment (new houses)	345	432	520	587	662
12.	Annual requirements at 7/household*	<u>49</u>	<u>62</u>	<u>74</u>	<u>84</u>	<u>95</u>
C. National annual deliveries (6+12)		70	92	110	127	147

Between 1954–1986, the government realized the need for a comprehensive housing strategy. It tried putting various housing agents in place but with the housing deficit widening, it was obvious the objectives could not be met.

The housing programmes that were initiated did not incorporate measurable input/output targets and needs assessments were not properly considered, and this did not facilitate effective monitoring of performance. The inadequacy of data for planning made it difficult to formulate policies and design appropriate programmes.

In order to overcome this, the Draft National Housing Policy and Action Plan 1987–1990 was prepared national housing needs assessment was undertaken.

The Ministry of Works and Housing (MWH) is² responsible for the formulation and co-ordination of policies and programmes. The Department of Rural Housing of the MWH co-ordinates rural housing delivery programmes with the District Assemblies and is set to implement the Rural Housing Assistance Programme together with the Ministry of Local Government and Rural Development. (MoLG).

Some basic problems faced in the housing sector are:

- The land tenure system
- The very high interest rates
- The rising cost of building materials
- The inaccessibility (especially of the poor and the informal sector of the economy), to housing mortgage and construction finance
- The lack of utilities that will guarantee sanitation and health
- The lack of a proper maintenance culture

² National Housing Policy and Action Plan (MWH) 1987-1990.

- Bureaucratic obstacles to obtaining title for land acquired and permits for building.

Experience both from Ghana and other countries around the world has shown that the above-stated problems are multi-dimensional; they most often depend on the peculiar mix of circumstances and must be dealt with on a case by case basis. Governments by themselves especially in developing countries do not have the huge resources that are likely to be involved in the provision of basic utilities, serviced sites and houses.

Private capital especially from commercial banks, with their high interest rates, does not impact positively on the cost of housing delivery.

Private contractors and real estate developers are likely to cause about as many problems as they solve: environmental, structural, etc., if unsupervised, since they are likely to cut corners in order to make a decent profit.

It has been noted that the demonstrated involvement and commitment of the beneficiaries is one of the most important keys to the successful implementation of any project.

Obrachire Technical-Secondary School Teacher's Housing Project

Description

Obrachire is a farming village in the Central Region of Ghana and is located along a trunk road between Bawjiase and Swedru, two important towns in the district.

The economy of the village is mainly agrarian with food, cashcrops and livestock that are sold in the neighbouring towns on their market days. There is also some limited commercial activity.

Condition of Existing Buildings

Lack of technical expertise and maintenance amongst the villagers has contributed to the present state of the houses and the degradation of the general environment here. This fits the general pattern of the country³:

- 50% of all houses have structural defects (some should be demolished)
- 25% require massive upgrading
- 28% have no foundations
- 30% have defective foundations
- 38% have unsuitable flooring material (unstabilized soil)
- 80% require repairs to their floors (cracks and settlement due to unsound building practices)
- 37% have unrendered walls
- 27% of walls prone to structural failure
- 40% of roofs fully or partially thatched
- 76% require roof replacement

Infrastructure

There are good transport facilities linking the village, and some workers commute to both white and blue collar jobs daily.

The road within the village itself linking it to its hinterland and satellite villages is in a state of deterioration, since it is untarred and unmaintained with no drains alongside.

Electricity and pipe-borne water are available since both the water mains and low-tension lines are along the main road, and a transformer to serve the village has already been installed.

Telephone lines are along the trunk road between the two towns and can be tapped for easy, fast and reliable communication with the rest of the country.

History of the Project

The village of Obrachire has had many years of fruitful association with World Vision International (WVI), an NGO in the areas of agriculture, basic health care and education before the inception of this project. They had learnt to consult WVI and work together on previous projects. A healthy relationship had therefore developed between them – based on mutual respect, trust and transparency.

The Spanish Government, through its embassy donated technical equipment to the school, which for practical purposes existed only in name. With the acquisition of the equipment however, the school was suddenly catapulted

to prominence, since many good schools in even district capitals did not have this equipment, and the importance of this development was not lost on the people. They therefore sought help and advice from WVI.

Objective

Meetings were held between the chief, the Village Development Committee, the people of the village and WVI and its consultants.

The conclusion was that to bring educational and socio-economic benefits to the village and its surroundings, and to sustain the project, housing facilities had to be constructed to entice qualified teachers, especially National Service Personnel who would be allocated by the Nation Service Secretariat. Also, an infirmary with a nurse permanently stationed was proposed to help the school and village.

There were very few teachers in the village school. Most of them were not properly qualified and none were competent to handle the technical subjects and equipment.

Qualified teachers were not attracted to the school because of the poor state it was in and the lack of housing. Teachers who came here did not stay, because they could not secure suitable accommodation in the village or its surroundings.

It was therefore agreed that the village would build 20 units of housing with support from WVI.

Strategies

The parties all agreed to play an active role in the project since it would benefit them and their children, as well as the school and teachers.

Land: the chief and the head of an adjoining village for the project donated approximately 1.2 hectares.

Participation: the villagers were to provide some locally available materials like sand and stone according to their ability. They were also to provide labour.

Private Sector Initiative: Some suppliers from the village were contracted to supply cement blocks, sand and stone. This generated income.

Training: Artisans mainly masons and carpenters were selected together with personnel for bookkeeping and store keeping. They were sent to Accra, the capital for their training.

Information: The villagers were consulted and informed about the project through a series of meetings with the chief and WVI.

Incentives: Seeds for farming and food were distributed to the community.

Costs: These were to be kept to a minimum. These were to be achieved by design and supervision of materials use on site.

Capacity Building: Human development especially when linked directly with income and employment generation is important. This generates and retains the interest of the people for the project. The women especially were targeted in this area.

³National Housing Policy and Action Plan. (Ministry of Works and Housing) 1987-1990.

Actors

The Chief of Obrachire

As the head of the community, he is supposed to act as the client since everyone owes allegiance to him. The Village Development Committee reports back to him. He is the custodian of all traditional land belonging to the community (stool land).

The institution of Chieftancy is very important in the Ghanaian context. It was the traditional mode of governance amongst ethnic groups before colonisation. It is feudal and hierarchical system based on lineage and allegiances. At the top is the Paramount Chief of the tribe and at the bottom is the sub chief of a small village.

The symbols of their authority in the south are the thrones called Stools and their Black Stools, which are the embodiment of the souls of their subjects.

In the north, the thrones are the skins of powerful animals like the lion and are called Skins.

Ever since the colonial days, their power has been curbed and they are largely ceremonial, playing second fiddle to elected democratic governments who oversee their activities through the Chieftancy Secretariat. Nevertheless, they remain the power structure of their ethnic groups.

The Village Community

These are the inhabitants of the village. They showed a great sense of responsibility and an intrinsic understanding of the direct and indirect benefits they stood to gain by their involvement.

They took part in all aspects of the project and by their questions and contributions during meetings, brought new perspectives.

The Village Development Community

This is a committee made up of the existing village committee and new members chosen by WVI to inject some “professionalism” into the committee. These are mainly people from the village with a close association with WVI, serving as the eyes and ears of the WVI.

The various interests in the community were also represented.

World Vision International (WVI)

This is the NGO that provided the funds for the project. It also provided the training and capacity building. It was responsible for co-ordinating the project and for hiring the consultants Tatch Ltd, who participated in all aspects of the project and provided the drawings, technical expertise, supervision and training.

This was a new area of co-operation with the community; the previous areas being in the fields of agriculture and public health care.

Experiences

The project revealed a lot of things about attitude, commitment and insight amongst others. There were positives as well as negatives.

Positive

There was a surprising degree of co-operation from the village community. People really understood the project’s objectives and even wanted more-like repairs to their homes and seed capital for their businesses.

The women especially were very well organised and they transported the building materials to site amongst them and offered maximum co-operation.

There was also a healing process in that long simmering disputes between two rival chiefs and between two leading houses and their supporters were successfully resolved as a direct result of this project. This unified the community and led in no small way to the success of the project.

New skills were acquired by some members of the community especially in the areas of inspection and quality control, organisation, management, building, bookkeeping and store keeping.

With the coming into being of the new health facility, the community should experience better health.

The teachers moving into the village should stimulate the economy by increasing the number of students and also increasing commercial activity.

It was found out that the villagers were willing to pay for the provision of services.

During construction, technical adaptations were necessary and successfully introduced. Appropriate technology transfer can have a good impact if adapted to suit local needs.

Women played a special role in that they were more organised, willing and receptive to the community’s development initiatives than the men were. WVI the NGO also played a special role. They were flexible and were able to use unorthodox or informal approaches to serve the community.

Negative

On the other hand, before the disputes were settled, petty jealousies were rife, with people making mainly false accusations in a bid to unseat and replace the various Committee members on opposing sides. Accusations, which were found to be true were quickly, dealt with, and some members were replaced as a result.

Books and stores were regularly audited and thefts noticed. The culprits were made to pay. The Village Development Committee was very active in this exercise, since the project gave them great autonomy in running the day to day affairs. They were also to be surcharged with any losses due to malpractice.

Inflation of the cost of building materials and the supply of inferior quality materials by villagers sub-contracted was noticed and dealt with. Some contracts were terminated as a result.

Conclusion

Since there is evidence of successful community participation, I decided to build on the experience. The proposal is to improve the economy of the village through the extension of existing infrastructure, the provision of drains, etc., by upgrading the existing housing stock to raise it to acceptable levels of decency. It is fair to assume that this same activity and energy of the people can be channelled for this project.

Provision must be made for expansion in a planned and orderly manner. This must integrate the old and new parts of the community to promote harmony.

Project Proposal: The Upgrading of Obrachire Village

Scenario

The village of Obrachire is a blighted community with:

- Insufficient basic services/ utilities.
- Mostly dilapidated houses.
- Lack of knowledge in erosion control, which has led to the appearance of gullies along the road, resulting in insanitary conditions.

Objectives

- To provide sufficient utilities (water and electricity) to the village community.
- To improve the quality of the existing houses and the total environment.
- To plan for the orderly expansion of the community. The new areas must be carefully integrated with the old so as not to create two different communities.
- To promote participation of the villagers in their own affairs.
- To empower the community in order to improve their socio-economic position. This can be achieved through capacity building.
- To promote the development, dissemination and adoption of existing and new technologies in the production of some material needed in the upgrading scheme.
- To promote small-scale businesses.

SWOT Analysis

Strengths

- Deep sense of community spirit
- Highly motivated and mobilized structure
- Availability of some raw materials like clay, lime, and timber

- Some skilled and trainable artisans
- Technical – Secondary school with up to date equipment and workshop. Also trained instructors.
- Commitment to contribute financially to the project

Weaknesses

- Poverty and limited resources
- Majority lack basic skills and knowledge

Opportunities

- External financial support from Financial Institutions, WVI, and the District Assembly Common Fund
- Establishment of a Credit Union
- Availability of a Revolving Fund

Threats

- Sustainability depends to a large extent on the performance of the Revolving Fund
- There is the possibility of factions arising
-

Actors (Roles)

The NGO: World Vision International

The role of this organisation is to:

- Act as the Co-ordinator of the project,
- Facilitate communication between Government and the village,
- Provide funding,
- Conduct training.

Local Government Authority

This consists of the various government departments working at the local level. The main ones here are the District Assembly, the Department of Rural Housing and the utility companies providing water and electricity. Its role therefore is to:

- Provide sufficient basic utilities,
- Assume the maintenance of these utilities,
- Train artisans in basic maintenance of taps, etc

Chief of Obrachire

As the head of the community, he is very important to the outcome of anything that happens. He is a powerful rallying point for organising the community. He should be made to understand the importance and the benefits of the project.

It is best if he is in a good relationship with WVI and the representatives of government, and is seriously committed to the project.

Village Development Committee

This is the main vehicle by which the community articulates its desires to the other actors in a formal manner since they are the elected representatives of the community. Their role is therefore to:

- Identify the needs of the community and to set priorities,
- Organise and mobilize the community in their developmental efforts so as to achieve their objectives,
- Provide persons with some skills in construction, bookkeeping, etc. for further training.

Consultants

These are hired by WVI to help formulate the strategies. This is to be accomplished by:

- Conducting a survey of the village so as to collect the data which will form the basis of analysis and decision-making,
- Produce the development plan in conjunction with the relevant agencies,
- Provide supervision and training.

The Village Community

These are the ordinary members of the community and their main role is to:

- Provide labour for the work,
- Contribute money.

Obrachire Secondary-Technical School

The School's contribution to the development of the community is in the area of providing its premises and equipment to:

- Facilitate training,
- Manufacture the doors, windows and roofing members, etc.
- Provide technical assistance.

Housing Preference

The majority of the people prefer new houses over the upgrading of their existing stock. Significantly, over 40% of the respondents prefer an upgrading scheme. This will help to determine those who will participate immediately in the upgrading scheme.

- People prefer new houses over upgrading because it gives them a chance to have a “dream” modern home, maybe bigger with a well demarcated plot and a walled compound, etc. This would however mean a new plot of land, most probably on the outskirts of the village, and also a substantial investment for the house.

Securing title for a new plot and obtaining money from the bank might be difficult (without the necessary collateral).

Upgrading on the other hand does not entail the trouble of ownership of a new plot, the substantial investment involved, and the very high probability of not qualifying to secure a bank loan.

When placed side-by-side, the chances of getting a reasonable loan from or through WVI for the upgrading exercise are much better and easier than going for a bank loan for new construction.

Housing Finance

Overall financial policy, including that of housing finance is regulated by the Central Bank. Financial institutions like the Bank for Housing and Construction, the Social Security and National Insurance Trust, First Ghana Building Society and more recently, the Home Finance Company Ltd, are the main mortgage finance institutions in the country. Unfortunately, due to the non-availability of long-term funds, most of these institutions now devote about 80% of their portfolio to commercial banking and short-term loans. Only the HFC Ltd is actively involved engaging its resources in long-term home mortgage financing, but its terms are beyond the scope of low-income earners.

Full and accurate information on the total flow of resources into the housing sector is not readily available as the bulk of housing investment comes out of private savings.

The formal housing finance system caters mainly to a restricted population of a few households belonging, for the most part, to upper income groups, and therefore contributes little to financial intermediation in the housing sector.

The formal private sector cannot deliver affordable housing to most of the public; the popular sector accounts for the bulk of housing finance and delivery, satisfying the needs of the people. This do-it-yourself approach accomplishes socio-economic goals although it is characterised by unplanned land-use and sub-standard structures.

In the Obrachire context, WVI will have to provide loans or facilitate the provision of loans by some institutions like the rural banks and others with conditions that the villagers can reasonably fulfill.

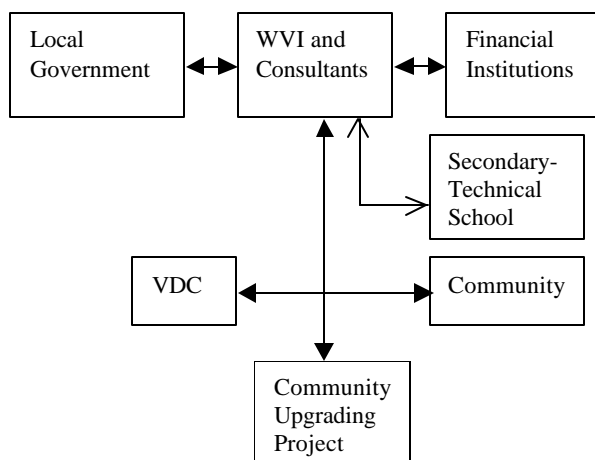


Figure 1 Relationship between the various actors.

The participants will have to pay a percentage of the cost of the utilities to be communally shared and their individual housing upgrade cost as their immediate share to the project cost.

The remainder will be paid over a period of time to be determined by the project after analysis.

Land Acquisition

Land Acquisition in the country is a composite mix of traditional or customary arrangements and more formal concepts of private and state ownership. Land acquisition is therefore arranged through custodians of:

State Land managed by the Lands Commission

Stool/Skin Land⁴ held in trust by a chief for his people

Private/Family Land-held on freehold or long leasehold.

These co-exist in various patterns including subsidiary interests such as short-term tenancies, statutory tenancies, mortgages and squatters.

All the lands in the village are either stool or family owned. This means that for the existing houses requiring upgrading, legal documents should be fairly easy to procure if the lands have been registered at the Deeds Title Registry. However in the case of the extension of the community, land has to be acquired either from the chief, or from the individual families which will first have to be identified. It is envisaged that land disputes will occur, triggered by the anticipated increase in cost as a result of demand due to expansion.

Security of title is therefore necessary to avoid litigation.

Constraints

There is the difficulty in the establishment of proprietary interests.

The process of acquiring title to land is often, difficult and cumbersome, and delayed development of land leads to speculation. There is also a lack of physical planning control of housing development. This is due in part to;

An obsolete Town and Country Planning Ordinance. This came into effect in 1945 and is still the statutory basis for planning in Ghana despite the many socio-economic changes.

Lack of resources has resulted in the survey and topographical maps being out of date by over 30 years. Aerial surveys have recently begun. Inadequate equipment and insufficient manpower levels, have led to uncontrolled development.

The Department of Town and Country Planning, (DTCP) is identified with 6 different Ministries; this unsatisfactory arrangement has led to the DTCP's ineffectiveness in control planning with individual agencies carrying out sectoral programmes without recourse to the DTCP and its co-ordinated plan of activities.

Strategies

Private Sector Initiative

New local entrepreneurs willing to benefit from the project will be screened and those who meet the criteria will be selected. Training and possible financial assistance in the form of loans might be considered in order to guarantee the sustainability of the project.

Participation

The primary goal here is to shift away from a mentality of dependency towards greater self-reliance and assertiveness. This should place them in a position to seek public and private sector support for their own future development initiatives. The motivation of the villagers, especially women will be encouraged and exploited.

It should be noted that community as a whole must be involved in all levels and phases of the process. They must contribute positively to planning; decision making and execution of the entire project, which must be tailored to suit their desires for they indeed, are the heartbeat of the successful completion of the project.

There would be collective discussions of the project by the community and all the other agencies since they will be prepared to actively participate in any plans they agree to thus ensuring the success of the project.

It is envisaged that "self-planning" in the upgrading scheme will be practised with the consultants acting mainly in an advisory capacity.

The surveys to be conducted will be with the full involvement of the villagers. The Rural Participatory Assessment method will be used.

Community Participation Officers will be selected to mobilize the community. They will be involved in the design and collection of data for the project since they understand their own people better than any outsider, and can express the community's desires.

Empowerment (Capacity Building)

This is to address the needs of the village itself and the individuals and groupings within it –the human resource. This will help towards improving the existing housing stock and the infrastructure. This human resource development has potential advantages that can be harnessed to:

- Improve the health and sanitation conditions of the people
- Raise the value of the housing stock making access to funds for future investment easier
- Speed up the transition of the village to a small town by offering new and better low-cost community owned housing in partnership with the private sector
- Attract to the village, the establishment of new small-scale enterprises based on locally available materials

⁴ National Housing Policy and Action Plan (MWH) 1987-1990.

- Use the presence of the facilities of the Secondary -Technical school to increase adult literacy and informal education, to increase the education of the children and youth, especially the girls.
- Encourage identifiable groups like farmers, women's organisations, traders and individual entrepreneurs to form associations for better access to finance. These would be given training and access to information and technology transfer.
- Training of local artisans and entrepreneurs in their respective fields of endeavour.

WVI, together with the District Assembly, financial institutions and the groups can forge simple and credible organizational structures to smoothen relations between them for greater efficiency and co-ordination. These measures it is believed, would greatly build capacity in the village and empower them to produce very good results.

Training

Training is very important since it transfers knowledge and skills in technical, legal and economic matters.

The facilitators of the project WVI will co-ordinate the efforts of the government agencies, the consultants and the technical team from the secondary-technical school to train the community.

Artisans, entrepreneurs, bookkeepers, community workers, women's groups and the community at large will be involved.

Appropriate technologies to deal with new and traditional building systems and materials will be taught the masons, carpenters, plumbers and electricians.

The facilities in the school will be put at the disposal of the trainers and the equipment, especially that for woodworking would be used to produce all the carpentry and joinery components for the entire project. This would yield dividends to the VDC and the school. It would also help reduce the cost of the project thus improving the cost-recovery efficiency.

Basic accounting and management skills will be taught the bookkeepers and storekeepers who will manage the monies and materials for the community projects like public lighting, standpipes. A VDC audit team will also undergo training to work with WVI during and after the construction phase of the project.

Women's groups especially would be trained amongst other things, to manage, repair and maintain the public standpipes and the garbage collection system. Special attention should be paid to gender issues since the women are the most involved group in the construction. Opportunities abound for small job creation in other fields. Credits should also be extended to them.

Prospective entrepreneurs for the manufacture and supply of building materials and equipment like cement blocks and roof tiles and brick products will be trained in the technical aspects of quality production, accounting, management and maintenance of equipment, etc. They would also be given loans after screening, to buy

equipment and raw materials. Access to electricity and treated water will enhance the possibility of different types of businesses.

The VDC and selected community workers would be trained in information collection, conflict resolution negotiation and mobilisation skills. They will also receive training in organization, management of housing and infrastructure projects, stores administration and procurement.

Those individuals who would take part in the project will undergo training in construction and maintenance before they take their loans. This should enhance the self-help aspect and optimise the loan's utilization.

Funds Mobilization

Funds will be provided mainly by WVI to be disbursed to people who meet the selection criteria to be formulated. It can be achieved by WVI negotiating with the Rural Banks and the housing finance institutions and convincing them to participate in the project by giving long-term loans at reasonable interest rates. The guarantee if any should be by the government agencies. Management of the loans will be the duty of WVI. These would be building loans to the Village Development Committee on the behalf of the village, and to those who qualify for the loans.

The possibility of recruiting some financial houses that were instituted to service the housing and the agricultural sectors of the economy will be explored. The main concern here is that the interest rate should not be high as to endanger the ability to payback without defaulting. This it is feared might preclude the commercial banks.

The funds will be for

- Procuring materials for the transporting of utilities like water and electricity for communal use, to areas to be identified by the community.
- Construction of public drains, to provide for better sewage disposal.
- Repair of access roads and terracing where necessary, to prevent erosion.
- Provision of septic tanks for individual homes and public toilets for communal use to improve the sanitary conditions.
- Payment of skilled artisans to be employed as "leaders" in the upgrading exercise.
- Purchasing materials for individual home upgrading.

Loans Recovery

Selected members of the community will be trained in persuasive skills to act as Loan Recovery Officers.

The Village Development Committee, together with the influential members in the village and the Loan Recovery Officers will be held responsible for default by the village and the individuals.

- The VDC will charge acceptable rates for the use of communally owned infrastructural services like public standpipes and toilets. Payment will be assessed and levied according to usage.

- Flat rates will be charged for streetlights and poles and also for road and drains maintenance.

Failure to recover loans may spell the end of the project.

Revolving Fund

A fund with seed capital from WVI, the district Rural Bank and the housing finance institutions will be sought. A Credit Union will be established in the village and will be a partner with the above institutions in this fund.

Regular monthly contributions by the Credit Union will then be used on the behalf of its members to payback loans.

The Credit Union will be required to save with the Rural Bank where the project account will be lodged.

Financial incentives will be awarded to those members of the village who can make extra payments towards their loans.

Details of the financial arrangements will be worked out with the full participation of the village. They will have access to both fiscal and legal advice to help them make an informed decision.

Drainage and Erosion Control Techniques

The community must be made aware of the dangers of erosion to their environment and how to prevent or reverse them. Drains terracing and any other control techniques to minimize damage to the environment, house foundations and the road, especially any based on local methods will be used since it will be better appreciated by the community.

Green areas will be incorporated to help prevent erosion and land degradation, which will otherwise affect the houses, roads and the farms.

Land Management and Development Control

In order to ensure proper management of the village and protection of resources and environment comprehensive plan has to be drawn by the government agencies involved, together with WVI the consultants and the community itself through their representatives.

Firstly, the legal aspects of land ownership and transfer must be tackled. Legal experts will be used to explain in simple and precise terms, the mechanics of land tenure.

Physical planning should be used as a tool to demarcate and zone the village. Farmlands should for example, be protected, together with green zones, etc. The siting of community standpipes, electricity poles, communal toilets, etc, should be done in conjunction with the community.

The direction of extension of the village must be planned for and services extension integrated into the planning.

Raw Material Resources and Reserve Identification

The district abounds in many of the raw materials needed for the project. These will have to be identified, assessed and quantified to ensure the sustainability of the works and the creation of a future base for small-scale industries.

- There is clay for burnt bricks and roof tiles. The area is noted for clay products.
- Good lateritic soils for the production of stabilized blocks.
- Lime from the seacoast for making mortar and whitewash paint. A whitewash paint business utilizing the raw material is currently operational in the district capital.

Timber for all the structural members and joinery is available. Swedru, a town nearby, is a centre for saw milling.

- There are extensive granite outcrops all throughout the region. A license to operate a small stone quarry in the future, as a co-operative (possibly with the District Assembly for a partner) could be sought.

Of the materials listed above, the clay products use a lot of energy and without a cheap energy source, the cost will be high. Off-cuts and sawdust from the sawmills, offer a cheap and abundant source of energy which otherwise is difficult to dispose off.

The use of bottled gas for fuel is becoming increasingly popular. The supply network that is privatised is extensive and quite efficient. This is a worthy alternative since it could prove cheaper than the timber waste.

Before establishing any industries, it is necessary to evaluate the quality and size of the reserves in order to ensure a continuous supply for sustainability. As can be seen, the capacity to develop these into potentially viable businesses is very high.

Incentives

Various packages will be designed ranging from monetary, provision of seeds for farmers, to reduction in interest, etc. The aim of this is to;

- Maintain interest in the project
- Speed up the work so as not to incur high interests that might jeopardise the repayments
- Encourage participants to make extra commitments to the project
- Entice groups especially the women to venture into new areas of business, thus building capacity and making their commitment and ability to repayment much brighter. It is imperative that the details of the packages are worked out with the village community to ensure the success of these measures, and to make sure that the community is well informed.

Standards

Since the regulatory bodies would normally apply very stringent standards, established for urban areas, that will

put the whole project in jeopardy. Standards used here must be agreed to between the WVI, the community and the state bodies responsible.

Monitoring

All work in progress will be monitored for quality assurance.

It is necessary for the actors to evaluate how the strategies, designs and the implementation of the objectives impact on the delivery, and the nature of the people's reaction to the project as it progresses. The data collected would be analysed and decisions taken based on this should help to fine-tune the project and also be a data bank for future projects to draw on.

Design

This aspect looks at how to plan the village and design the houses in the light of the climatic, physical, and socio-economic conditions so as to achieve the best possible environment in the given circumstances.

Physical and Climatic Conditions: Obruchire is on the interface of the coastal savannah and the tropical rain forest. It is a hot and humid climate with the prevailing winds in the NE-SW direction.

It is an area of gently undulating hills and slopes generally from north to south. It is prone to earth tremors like the rest of the Ghanaian coast.

The farmlands are generally to the north of the village and there is a cattle kraal to the southern outskirts near the trunk road.

Table 1: Climatic data for the warm-humid climatic zone.

	Dly Av Max temp	Dly Av Min temp ⁵	R.H. Av(am) %	R.H. Av(pm) %	Rain Av mm
Jan	31.1	23.3	84	65	19*
April	31.7	25.0	81	72	11.6*
July	28.3	23.3	87	80	29*
Oct	29.4	23.3	86	76	10.6*

Socio-economic Conditions: As has already been stated, this is basically an agrarian society with a low-income population.

The houses are mainly based on the courtyard, which features prominently in their daily lives. It serves as a multi-purpose space for outdoor cooking, laundering domestic work, drying of agricultural produce and the holding of meetings amongst others.

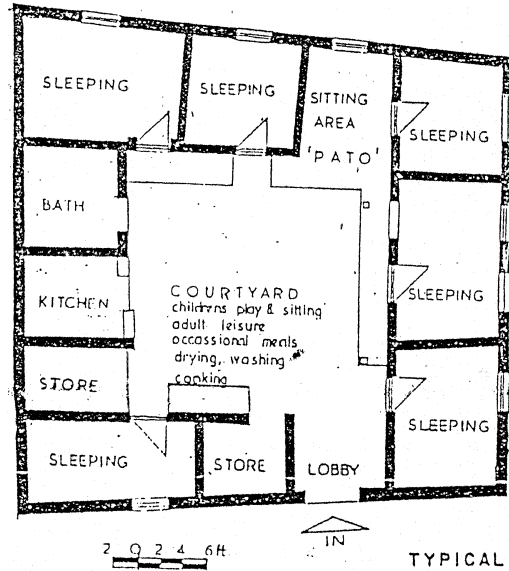


Figure 2 Plan of a typical compound house



Figure 3 Courtyard in a typical compound house

Planning

The various activities in the village must be planned with the community participating in all the details.

Zoning of the various activities in the done to ensure a logical growth pattern. The extent of farmland must be clearly demarcated taking future expansion of the village into account. Placement of communal areas such as green areas playgrounds, religious facilities, residential areas, school areas, etc. Standpipes, streetlights and communal

⁵ Building Issues vol5, 1995

toilets, water mains as well as sewerage lines and drains will be pinpointed.

Factors influencing the determination of space will also be noted. Standards applied here will be those agreed upon between the planning authorities and the WVI, the consultants and the community. This will reflect their real situation and should be less stringent than that presently in existence.

Houses

The design of the buildings is to suit the ambient climate and the required indoor climate by employing the appropriate design principles. The aim is to keep costs within the means of the community.

- Comfort and durability
- Passively climatized
- Minimum maintenance
- Building materials
- Protection against termites and rot
- Protection against moisture
- Health
- Lighting and ventilation
- Protection against earth tremors

Houses to be upgraded, together with any new ones will take into account space standards, window size orientation, colour etc. in order to achieve comfort and durability and passive climatization.

In order to keep maintenance low, durable and relatively cheap will be used.

Foundations, columns and a ring beam in concrete are necessary to help secure the houses against earth tremors. To protect the foundation against erosion, a concrete apron will be employed and to safeguard against rising damp in the foundations, good quality gravel fill is well compacted and a moisture barrier of polystyrene rolls will be used where necessary.

A termite barrier of flattened aluminium sheets will be used along the perimeter of the building to secure the floor.

The walls shall be of cement blocks or bricks. Plaster and light coloured paint, will be applied to reduce water penetration and solar heat gain.

All wood components will be treated against rot and termites. It is necessary to remove the sap, and dry carefully to reduce the moisture content. A relatively cheap preservative can then be painted over the wood for protection.

The houses to be upgraded may not be able to take advantage of cross ventilation since their plots and buildings are already oriented. Window size and position will be used to achieve the required levels of ventilation comfort.

Providing ceilings can minimize solar heat gain through the roof. The use of rock wool as a ceiling material can be a good alternative to wood if the cost is not prohibitive. If possible, the ceiling should be ventilated to make the roof more efficient. The vent openings should however have netting to stop vermin, and birds from using the space. The use of shading devices like large overhangs is possible.

Conclusion / Recommendations

The project has very real chances of doing well. Though government is committed to rural development, and though its intervention is welcome and should be sought, it is fraught with many dangers and should therefore be carefully considered before any decision is taken to involve the authorities.

The political will to engage fully in such a project is crucial.

A way should be found around the bureaucratic red tape which can be time consuming and frustrating.

The Government can help WVI solicit funding from the Financial Institutions.

WVI should fuel the Government's interest by showing from its rich experience, how to obtain the desired results based on the correct approach. This may not be difficult since in its Vision 2020 document, the Government has clearly spelt out its commitment.

WVI, the Financial Institutions and the Government should set up a data bank for the collection and analysis of information, to span the life of the project and beyond. Data received should be compared with those from other projects with the aim to understand the development process better. This will lead to more successful implementation of future projects.

From the success of the first project (Teachers Housing), this project should be sustainable and replicable in other communities. The main guarantee is the peoples commitment and active involvement in every step of the process, from inception, to implementation, to management.

The main ingredient to ensure success is the community and so every effort should be made to bolster their self confidence and belief in their ability to better their own future.

As regards the issue of funding it is imperative that WVI and the community be prepared to go it on their own if the response from the Financial Institutions is not readily forthcoming. Sustaining the project through the efficient operation of a Revolving Fund is crucial so every effort should be made to design and implement it properly.

The building of capacity should be seriously considered and implemented since it will lead to greater development and prosperity for the entire community.

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