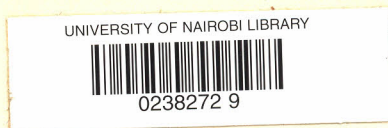


# RURAL DEVELOPMENT - NGINDURI LOCATION

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HIGHLANDS FIELD REPORT 3.

THE NGINDURI COMMUNITY:

A STUDY IN RURAL PLANNING AND IMPLEMENTATION.

DEPARTMENT OF URBAN AND REGIONAL PLANNING,  
UNIVERSITY OF NAIROBI,  
P. O. BOX 30197,  
NAIROBI,  
KENYA,

1979.

	<u>CONTENTS:</u>	<u>PAGE</u>
	<u>Preface</u>	1 - 2
	<u>Acknowledgements</u>	3
	<u>List of Participants</u>	3
I	<u>Preamble</u>	4 - 6
II	<u>Physical Conditions in Nginduri</u>	7 - 8
	Location	7
	Drainage	7
	Rainfall and temperature	7
	Soils	7
III	<u>Social Background:</u>	9 - 11
	Population structure	9
	Education	10
	Occupation	11
	Housing and Health	11
	Community organisation	
IV	<u>Economic Background</u>	12 - 13
	Sources of income	12
	Sources of loans	12
	Loan utilisation	12
	Farm labour	12
	Lack of development capital	
	Summary	13
V	<u>Proposed Community Development Projects: Nginduri 1978-199</u>	
	Introduction	14
	The zero-grazing Nginduri livestock project	15
	The Nginduri seedling nursery project	18
	The Nginduri community hall	20
VI	<u>Conclusion and General Remarks</u>	25 - 27

PREFACE

The Department of Urban and Regional Planning has selected field stations for the study of the problems of the various climatic regions of Kenya. Nginduri Location, Githunguri Division of Kiambu District, comes in the Highlands Region of Kenya. The objectives of the field station are:

1. Understanding the planning process at the various levels in the Regions selected.
2. Understanding the process of identification of projects, allocation of priorities and present methods of implementation of projects.
3. Evaluation of performance standards achieved in selected projects.
4. Selection of at least one priority rural project and one priority urban project for detailed study by the staff at the station and postgraduate students in planning as part of their curricular activities.
5. liaison between community and government organizations and the establishing the role of the University in community development.
6. Planning education programmes to bring about better citizen participation.
7. Research work in specific projects requested by the Ministries and other organizations such as feasibility studies for industrial location, infrastructure, planning of settlements, exchange of experience between different parts of the community and the region.
8. Documentation.
9. Establishing co-operative research and field projects with other Departments of the Universities and also with international Universities, who would like to have field experience in Kenya.
10. Exchange of students, staff and research workers between Kenya and other international institutions, within the framework of the objectives of research and extension already spelled out.
11. Putting up demonstration projects which familiarise the people in the region with improved technologies and planning process.
12. Organisation of mobile exhibitions, seminars and workshops on projects related to environmental planning.
13. Feed-back into the curriculum of planning education in East Africa and links with the international programmes on Human Settlement.

From the initial stages, the assistant chief of Nginduri Location, the district officials and staff and the students of the Department of Urban and Regional Planning of the University of Nairobi, worked together with members of the local community. There were individual meetings and demonstrations with all persons in the community participating.

The study was carried out between October, 1977 and January 1978. The Report is intended to assist communities with similar problems elsewhere in the climatic regions, and is also a Report of the Course on Rural Implementation of the Students in the Department of Urban and Regional Planning.

The Report presents the views of the authors and not necessarily those of the University of Nairobi or any other body.

ACKNOWLEDGEMENTS.

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The District Administration, Githunguri Division, Kiambu District.

The Chief of the Location.

The Assistant Chief (Mr. Kamau Gakunga), Nginduri Location.

Mr. Wanyutu Waweru.

"The Men of the Trees" for a gift of 150 fruit tree seedlings.

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1 PREAMBLE

The concern for rural development in the post colonial period has generated a myriad of development models, plans, strategies and special rural development programmes. These have been received with different levels of criticism, abandon and enthusiasm while resulting in success in some places and failure in other places. Many of these approaches to rural development tend to view the process of rural social-economic transformation purely in abstract terms and quite often from outside. It is hard to come by a well defined long range strategy that has emerged specifically from inside the community's objective conditions.

It is our belief that the successful implementation of a development strategy is inseparably related to the process employed in formulating a realistic appraisal of a community's problems through maximum participation and involvement of the local people in planning for their future.

This study is an attempt to define the parameters of a suitable planning environment in which the planner and the "planned" come in direct contact to discuss and exchange experiences in an attempt to enhance mutual abilities for realistic problem identification and problem-solving.

The study is also an attempt to contribute to a self-sustaining development process from within the community; a process that would have its inspiration from the soil and its direction by the people themselves. Full participation of the people in implementation and development effort remain a sine qua non for any desirable transformation of society towards egalitarianism. A more specific objective for this study is to facilitate the planning student to participate in the development planning of a rural community and in the implementation of a community development project.

At our decision to carry out a planning study of Nginduri, we were initially concerned whether a rural community of the small size we had selected was a viable planning unit. But our greater concern was in selecting a rural community that exhibited a certain degree of common community purpose and an amount of community cohesiveness.

In delineating our study area, we found Nginduri to be a viable planning unit as it is a community that has relatively uniform norms and value systems. It has a uniform ecological character. We found a great commitment to the community and oneness of purpose as indicated by a set of social economic projects around which the members of the community have rallied in great enthusiasm.

Although the community members are by no means independent or indifferent of the development going on elsewhere in their district, the community has developed a great deal of awareness of the need to plan for the community's future and henceforth to get involved in the implementation of a clearly defined community oriented development strategy. This is well argued in a letter from the Assistant Chief requesting the University's Department of Urban and Regional Planning to "carry out a social-economic survey in the community" and assist in plan-making.

The scope of this study is narrowly confined to the requirements of the University course for which the project was undertaken. The objective of the course is to familiarize the planning student with the process of planning and give him some practical experience in preparing a land-use development strategy for a rural community.

It was, however, a conscious effort in the report to try and widen this scope in order to make a contribution to the community. This was done through the identification of projects which we were certain would be viable and profitably initiated in the community. Pre-feasibility data has been collected and analysed for these projects and some designs included at the end of the report.

This is not an exhaustive analysis of Nginduri problems or presented the last approach to these problems but it is our conviction that the planning process demonstrated here and the integrative strategic project approach to plan-making will stir interest and hopefully indicate other areas for further rethinking on the contents of a community plan.

The method used in this study involved five major activities:

1. A comprehensive assessment of the social, economic and physical conditions in the community and around it.
2. A presentation of this information to the community members for discussion, ratification and/or modification. At this presentation, lists of problem areas or issues felt to be the key barriers to progress were prepared.
3. From the list of issues, a selection and grouping of those problems that may have common solutions was done accordingly. Here then emerged major problems grouped according to their relatedness.
4. Possible solutions to these problems were then sought; an integrated strategic project being proposed as a programme of action for each major problem grouping.
5. From further "planner-community" discussions, a set of three unique strategic projects were defined and agreed upon.



The survey was carried out in three stages:

1. A general overview survey of the whole community. This facilitated the classification of the community households according to living conditions into 3 categories so as to finally design a reliable sampling method.
2. An overall detailed survey of the land activities in the community.
3. A household social economic survey on preselected individuals.

In order to assess each student's participation and yet carry-out accurate surveys the project work was initially tackled under three groups; a social survey group, an economic survey group and a physical survey group.

Each group was responsible for collection and compiling comprehensive data from field surveys and other sources. The group was also responsible for analysing the data to produce a descriptive broadsheet for the community including summaries of the various factors necessary as inputs into the plan-making process. The three groups were later reassigned to work out details for the proposed integrative projects.

## II PHYSICAL CONDITIONS IN NGINDURI

### Location.

Nginduri is a section of Mbari-ya-Igi sub-location, Komothai Location, Githunguri Division in Kiambu District. It is about 225 hectares in size. It is situated about 37 kilometres north of Nairobi and is well linked to this, and other rural centres within its region. The location of the area in relation to centres of rich commercial and industrial activities like Nairobi and Thika has positive implications for the future development of the section.

### Drainage.

The section lies on a ridge lying between 1600 and 1700 metres above the sea level, bounded by two streams, Karia to the North East and Ruiru to the North West which mark the Eastern and Western extent of the area. The ridge is broken to the South East by a dry valley drained by Wagwanya, a seasonal stream<sup>1</sup>.

The pattern of drainage is from North West to the South East as determined by the direction of flow of the two rivers mentioned above. However the ridge slopes towards the rivers on either sides. The topographical character of Nginduri makes it easy for laying out service lines for water, electrification and other lineal service distribution networks. But the slopes towards the rivers pose serious natural physical communication barriers<sup>1</sup> to either sides of the area, as well as soil erosion which is currently being combated through contour terracing.

### Rainfall and Temperature.

Nginduri receives between 915 and 1040 mm. of rainfall as indicated by records of mean annual rainfall over a long period of time in the area<sup>2</sup>.

Rainfall statistics for this area show a good degree of reliability with two clearly marked peaks in March and November. Temperatures are generally varied as indicated by the mean annual ranges of 32°C to 4°C in the hottest and coolest months of the year; August and March respectively. The climatic conditions of the area are suitable for development of a wide variety of agricultural products.

### Soils.

Nginduri lies under tertiary volcanic of the upper and middle tertiary ages which cover the entire central province. The underlying rocks are alkaline in nature and are characterised by basalts. The soils are predominantly dark red friable clay types with grey mixtures along the swampy areas in the river valley basins (beds)<sup>3</sup>.

This fertile volcanic soil provides good condition for agricultural development. Much of the land in the area has been put under cultivation.

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- 1) See map 1
- 2) Illustrated by the mean annual rainfall records at three stations close to Nginduri Viz; Karamaini Estate 915mm; Marige - Magugu Farm 1037.4mm; Jacaranda Coffee Estate 1023.3mm.
- 3) Geology of the Kiambu area, Report No. 67, 1964.

III SOCIAL BACKGROUND

Population:

The Nginduri Community is composed of 150 homesteads with a total population of 1050. The average family size is 7.3. However, the structure of this population is important in planning. The table below shows the structure:

Table 1: NGINDURI POPULATION AGE STRUCTURE

	<u>AGE</u>	<u>% OF TOTAL GROUP.</u>
CHILDREN	0 - 5	25%
	6 - 10	26%
	11 - 17	49%
ADULTS	18 - 30	43%
	31 - 45	23%
	46 - 60	16%
	61 - 85+	18%

Our analysis reveals that there are more children (under 18) than adults (60% and 40% respectively). This means that there is a high dependency ratio and any planning must take this aspect into account.

Forty-nine percent of the children are between 11 - 17 years old. These will soon require a secondary school or employment so here we should ask ourselves whether the community can meet this demand and how they are prepared to deal with the demands that will soon be made by this young population.

Of the adults 82% are between 18 and 60 years old whereas 18% are above 60 years. We can therefore ask ourselves what the community can offer them in terms of work, recreation and other facilities. We must also take into account the future population of the community, in 20 years the population will have increased by 1950 whereas in 30 years it will have increased by 2600. As planners we should ask a few questions: will the land available and its productivity be adequate to support a larger and increasingly modernised population? Will the community be able to generate enough employment and other income earning activities? If not, what measures can be taken now?

Education.

The existing situation pertaining to education is illustrated in the table below.

Table 2: Educational Achievements In Nginduri

Level Attained	ADULTS	CHILDREN
None	17%	15%
Std. 1 - 4	8%	19%
Std. 5 - 8	14%	33%
Form 1 - 2	17%	10%
3 -4	26%	14%
5 - 6	13%	5%
Above form six	5%	4%
	100%	100%

Of the adults, only 17% have had no formal education whereas 56% have had a secondary school education. As a whole 83% of the population are literate. We can therefore see that Nginduri has a high literacy level when compared with many other areas of Kenya. Literacy could be an important tool in transfer of technology or taking up new innovations. Perhaps this is why the community is so development-conscious as illustrated by the high rate of social - political organisation and participation in various self-help projects in which 85% of the people have contributed either in terms of money labour or both.

Occupation.

67% of the people are farmers. 11% businessmen, 9% civil servants and 13% are either businessmen, farmers, teachers or are involved in other activities. The Nginduri Community therefore can be seen as a farming community and so it is important to look more seriously into farming and how it can be improved since it is the main occupation in the area.

Housing/Health.

67% of the houses have an earthen floor whereas 33% have concrete or timber floors. 98% of the houses have corrugated iron sheets roofs and 2% have tile roofs. Walls are composed of mud. Mud (17%), concrete (2-3%), timber (43%), stove (16%) and sisal (28%). As a whole only 16% of the houses are permanent.

The number of people per room are 5.7. Overcrowding exists for according to national standards each room should have up to 3 persons per room. Nginduri therefore has a housing problem.

There are no health facilities at Nginduri. The nearest health clinic is at Ngewa which is 6 kilometres away. It is therefore necessary to have a health clinic opened within the community for at times especially during the rainy season, it is difficult to travel to Ngewa for medical treatment.

#### IV ECONOMIC BACKGROUND

##### Sources of Income.

The Nginduri Community seems to be entirely dependent on coffee production for its livelihood. The sale of milk, eggs and surplus crops account for 6% of the income received by the community while wages and salaries add up a mere 4%.

A solid 45% of the households derive their income from the sale of coffee only while 17% derive it from the sale of milk and eggs in addition to their coffee. Thus the heavy reliance on coffee is apparent and makes the need for economic diversification all the more urgent. Like most rural areas of its size, Nginduri has no autonomous economic base and has to rely on external sources for the finances necessary for unproving its quality of life. It is thus disturbing to note that 49% of the households in the community have never acquired a loan.

##### Sources of Loans.

The most notable source of loans so far has been the Co-operative Bank - accounting for 52% of all loans issued to Nginduri households.

##### Loan Utilisation.

The utilisation of these loans, however, reveals some interesting aspects. More loans were utilized in improving cattle and fodder development (29%) than on coffee improvement (23%). This may indicate an awareness on the part of Nginduri farmers of the need to diversify their sources of income. Also it might indicate a certain level of satisfaction with the present level of coffee production.

The use of manure, fertilizers and insecticides is almost universal. Only 11% of farmers use no application of any kind while 51% apply all of the above mentioned applications.

##### Farm Labour.

One of the disturbing aspects of coffee growing in the community is the use of family members as the main source of labour. Family members plus casual labourers account for 40% of the labour. A relatively large number of households (30%) depend entirely on family members for working on their farms. This invariably involves the use of child labour and may account for some of the children of school-going age who are not attending school.

Only a few of the households can afford to pay full time labourers (4%). This fact is given more weight by the observation that 16% of the households cited this reason as the greatest limiting factor to the production of their farms.

Summary.

In brief, the community of Nginduri is dependent on coffee for its livelihood but seeks to cut down this dependence by investing the little money it gets through loans in coffee and fodder improvement. The community views the lack of capital as the greatest limiting factor to improving its quality of life. Inadequate supply of water for both domestic and commercial uses was listed as the next most important limitation to development.



V PROPOSED COMMUNITY DEVELOPMENT PROJECTS:

NGINDURI 1978-1989

Introduction.

We have observed that Nginduri people are largely agricultural. They rely on coffee and other minor crops like maize, beans, potatoes and bananas as the main sources of income. Their land is fully cultivated, the plots ranging from  $\frac{1}{4}$  to 9 hectares in size. The immediate problems with land-use involve methods and resources for greater intensification and diversification of farming activities and improvement of agricultural yield.

It was also noted that the community leadership has in the past tended to mobilize the community savings primarily towards social self-help projects such as churches and schools, giving little emphasis to economic self-help projects that are income-earning. While this has been acceptable short-range response to immediate problems, it is now quite clear that within the long-range view, the community, like any other in Kenya, must now embark on self-help projects that will in future strengthen the community's economic base and possibly be a source of revenue for the initiation of new social projects as well as the maintenance of the old ones.

From several interactions with the members of this community we became aware of their receptivity to new ideas and their willingness to participate in the implementation of an acceptable community plan. However, the question also lingered in our minds: is a community of this size and type a viable target for a comprehensive plan as we know it? Given the community's financial resources, leadership and level of awareness, was this a place to introduce overall development plan with its strict requirements of standards, targets, deadlines and expertise in monitoring?

From the previous performance of the community we discerned that an incremental approach has been largely applied to development decision-making. When a need for a primary school or a water supply was acutely felt, the decision was made to mobilize all the resources towards the satisfaction of that need in isolation of others and outside the context of an overall community futuristic plan. It is hard to determine whether this was due to the limitation of funds to enable the implementation of an overall community plan or it was actually due to lack of such a plan. We suspect the former to be the case, and because of this we refrained from "over-planning" the community and sought to establish a perspective on the most strategic community activities that we felt had the greatest potential for development and on the whole, do relate directly or indirectly to the

development of other activities that are not explicitly covered by our proposals. From this perspective we developed what was loosely labelled as an integrative strategic project approach to rural community plan-making.

The integrative strategic project approach diverts from the traditional exercise of compiling a comprehensive plan with policy directions on every sector of the community and concentrates on the search for a package of projects which, when fully implemented, will have direct or indirect positive effects on a wide spectrum of the community's ecosystem.

For the purposes of physical development planning, an integrative project is here defined as a project that brings together resources, individuals, institutions and other programmes that do not normally interact directly with each other in conscious effort to achieve a common community objective. A strategic project is one whose full implementation incidentally results in the implementation of the greatest number of other programmes related to the growth and improvement of the community's welfare; while maximizing the utility of the available resources by providing the highest economic returns.

In the search for a package of integrative strategic projects for Nginduri, the above considerations were made. Included, also were the questions of feasibility and desirability of the project within the community.

After considering various correlates of social economic welfare in Nginduri with the community members, three projects were decided upon as follows:

1. Zero-grazing livestock project.
2. A seedling nursery project.
3. A community social hall.

#### The Zero-grazing Livestock Project.

From our community survey, we noted that the Nginduri people are already quite conversant with the skills of zero-grazing. After all, the concept is based on a traditional practice by the Kikuyu of "Gichegu" whereby an animal, usually sheep or goat, would be confined indoors and "fattened" to increase the quality and quantity of meat. The community is also not self-sufficient in livestock products like meat and milk and given the projected huge increase in the community's population to 3,000 people, by the year 2,000, the demand for such community based production will inevitably increase.

The lack of vacant land in general and grazing land in particular, raises the need for zero-grazing as has been shown by a few farmers in Nginduri who currently raise a few high grade cattle on small plots of land. This is the time to take advantage of the various by-products from food processing industries in nearby towns that have until recently been regarded as wastes, namely, spent grain from brewery and pineapple peelings from the Kenya Cannery.

A strategy to do this would definitely result in an increase of the dairy herd within the community.

The project's main objectives will be:

- (a) Diversification of economic activity and hence less dependence on coffee alone as the main source of income.
- (b) Provision of milk as an essential part of family's diet.
- (c) Increasing the need to plant more perennial fodder crops like napier grass, thereby helping control soil erosion.
- (d) Provision of manure to help reduce dependency on commercially available fertilizers.
- (e) For those livestock owners with the ability to do so, the zero-grazing livestock programme will enable them to construct bio-gas digesters given the readily available raw material. This could provide an alternative source for heating and cooking energy plus a by-product of high grade fertilizer.
- (f) The increase of livestock population within the community will usher in a demand for more farm-workers: milkers, delivery men and fodder distributors, thus increasing the potential for rural employment.

The project's main goal then is to improve the local incomes and generally better the living conditions. It can clearly be seen that in the process of implementating the livestock programme, other projects germinate to the community's welfare must of necessity be effected. Included in these are the water supply project, improvement of dairy-marketing facilities, access roads, fodder development and animal feed storage facilities.

#### Requirements/Inputs of the Project.

In order to implement this project, the following inputs are necessary:

1. Grade cattle - 2.3 per household on average to start with.
2. Feedlots (see typical design of an inexpensive feedlot on appendix 4).
3. Cattle feed-napier grass, fodder crops, pineapple peelings, brewer's spent grain, etc.
4. Co-operative store - for storing cattle feed.
5. Capital/money to buy the cattle.
6. A cattle-dip (already existing).
7. Water (30-45 gallons per day per household for animal use only).

The envisaged problems in implementing this project is lack of money to buy the grade cattle by the majority of the people and also inadequate cattle feed. We have, however, suggested that proper arrangements should be worked out so that almost everybody can have access to loans from either APC or the co-operative bank. A co-operative store can be constructed where all types of cattle feed such as napier grass, hay pineapple peelings spent-grain from breweries etc. can be stored for those people who cannot raise enough cattle feed. The cattle feed thus stored would be for sale. This kind of arrangement would alleviate the cattle feed problem.

For those people who cannot keep cattle due to other complications unique to themselves, they can still earn additional income by planting a lot of napier grass and fodder crops which they can sell to those with cattle through the fodder store or shop.

With a minimum of 2-3 heads of cattle per household, it is possible to build a satisfactory cattle stall (feedlot) just within the homestead compound where the cattle can be fed, accommodated and milked. A few farmers in Nginduri have already proven the feasibility of zero-grazing cattle-raising methods in this community. The idea will not be entirely strange, therefore.

#### Phases of Implementation.

This project will be difficult for everybody to accomplish immediately as a lot of arrangements and construction will be necessary before it is fully affected. We have as such suggested here below three possible phases:

1. 1978/82 - Loan application and procession: During this period, people will try to raise enough money to buy cattle and construct feedlots; intensive growing of cattle feed-fodder crops nappier grass.
2. 1983/87 - Construction of feedlots and the co-operative store.
3. 1988 onwards - All the necessary arrangements for buying grade cattle and the construction of the feedlots and co-operative store will have been accomplished. People will then buy their grade cattle and the project will take off effectively.

N.B. The above phasing of the project is a general one. We are aware of the fact that there will be some people in Nginduri who will fully implement the project within a few years (like 5 years) but the majority will take more or less the time we have attempted to cover in our phasing.

The co-operative store should be built by the community as a community self-help project. People should contribute generously towards it. It should be a permanent structure built of stones and with enough room for storage of many thousand tons of cattle feed. We have roughly estimated its cost to be in the range of 150,000/-.

The building of the feedlots and the buying of the grade cattle should be left to each individual to make his/her own arrangements although a co-operative society like the coffee co-operative society can help its members in terms of giving financial assistance. We have tried to estimate how much the whole project is going to cost an individual by basing our estimate on 2-3 grade cattle:

2-3 grade cattle @ 3,000/-	6,000/-	-	9,000/-
Construction of feedlots	6,000/-		
Miscellaneous expenses	<u>2,000/-</u>		
	14,000/-	-	17,000/-

Conclusion:

If successfully carried out, this project will have a multipurpose advantage to the Nginduri people. Apart from the additional source of income by selling milk, they will also enjoy better health from drinking more milk. They will also get manure which they will use in their farms and thus minimizing the amount of fertilizers they buy from the shops. The planting of nappier grass will to some extent help in minimizing soil erosion in the area.

Finally, if unexpected crisis with coffee prices arise, or if there were a bad coffee season, people would still maintain themselves without much difficulties on their dairy produce plus the subsistence crops.

THE SEEDLING NURSERY PROJECT

This project differs from the dairy farming project in that the whole of it would be communally run. We have suggested its location to be in the (Nginduri Primary School) compound where adequate unexploited land can be got as it will require quite a bit of land especially when the market for its products (seedlings) grows over time. To begin with, the community can start with a small nursery of about ¼ an acre and plant about 10,000 seedlings, preferably of avocado trees, initially. Then it will expand this as its market gets fully established.

REQUIREMENTS FOR THE PROJECT

Land is one of the major requirements and can be obtained as indicated above. Manure, seeds, labour and water are other essential requirements. Manure can be bought through the already existing coffee co-operative societies. Not alot of DAP fertilizer which is very good for planting @ 160/- per bag can be sufficient for planting 10,000 seedlings. This figure could be doubled biannually until full capacity.

For seeds, we can request the "Men of The Trees" or any other willing donours to assist in the initial stage by providing us with seeds which we can first experiment with. But the community should also keep aside about 4,000/- which it can

spend on buying seeds if the external assistance would not meet all its demand. We have suggested the following seeds which we hope would be easily marketed when their seedlings are ready:- cedar, cypress, citrous fruits, mangoes and avocados.

A few people to work in the seedling nursery are needed. These could be four to start with: one locally trained expert in growing seedling who would not be too expensive for the community to keep and one assistant. These should be fulltime employees paid by the community. It is, however, hoped that the project will be able to meet their salaries and the cost of buying the fertilizers when it is fully implemented and realizes sales of its seedlings.

The water project is expected to have been completed by the time the seedling nursery project is implemented and as such, water for watering the seedlings will not be a major constraint.

Here below is a rough financial estimate of this project:-

1. Initial Investment.

10 bags D.A.P. @ 160	1,600/-
Seeds	4,000/-
Salary for 4 workers for 1 year	15,000/-
Miscellaneous expenses (ploughing, covering seeds, etc.)	<u>10,000/-</u>
TOTAL	<u>30,000/-</u>

2. Estimated Net Returns (Biannual)

Sale of 10,000 seedlings @ 10/- each	100,000/-
Production cost	<u>30,000/-</u>
NET RETURNS	<u>70,000/-</u>

Marketing of the Seedlings.

It is quite evident in the new estates like Buruburu, Ngei, Uhuru, Loresho, Golf Course, etc. that a lot of cedar trees are in great demand for hedging. The other trees like the cypress, citrus fruits, avocados and mangoes are also needed for beautification around the residential areas and even around the town, especially in the parks and in the institutions compounds. Therefore, we feel that when these seedlings are grown, they will not miss buyers. Nginduri by virtue of its locational nature and proximity to the city and Thika town would serve as a very good source of seedlings for these towns.

We also feel that some individuals from within and outside the community be interested in buying seedlings to plant in their farms and Nginduri Seedling Nursery will be a very good source of these. In any case, there is a national shortage of crop tree seedlings despite the urgent need to grow more revenue-earning trees in rural reafforestation programmes.

#### CONCLUSION:

Successful implementation of this project will earn the community additional income. It will be another source of income for the community and the income thus earned can be reinvested into a bigger seedling necessary project or utilized to assist in putting up other community social projects like schools, churches and hospitals instead of contribute.

From the same project, the community members will benefit in that they will also be able to buy some of the seedlings at very low prices and plant them in their homesteads, thus beautifying their surroundings. They can also plant some of the fruit seedlings - mangoes, citrus fruits and avocados and sell their fruits when they are ready. This will earn additional income.

#### NGINDURI MULTIPURPOSE COMMUNITY HALL:

##### Location:

We believe that the Social Hall should be located in a central point where all members can walk easily. We therefore, suggest it to be located around Nginduri Primary School.

##### Size:

According to our estimates, the current population of Nginduri is 1,050 and the 1978 projected population is estimated to be about 3,000. Working on this projected population, we feel that the size of the Hall should be about 200 square metres, (10m x 20m). (See Appendix 4)

##### Material:

The Community Hall should be of permanent structure and therefore, should be built of permanent material. The floor could be of cement, wall of concrete blocks and roof of corrugated iron sheets.

##### Implementation:

We suggest that Nginduri Community Hall should be built on Harambee basis. As mentioned above, the population at present in Nginduri is 1,050. If we assume that 50% of these are children, then we have about 500 adults who can participate in the project.

Our financial estimate for the project when completed is about KShs. 70,000. Therefore, each adult can contribute about 140/-. This contribution can be voluntarily deducted from coffee payments or dairy products payments or from any other individual source of income. We also feel that the community which will be responsible for the Hall can approach the government for any financial help which would be necessary. Also funds can be raised in the neighbouring communities towards the same project.

Contribution should not be restricted to money only. It can also be in form of labour, concrete, blocks, cement, iron sheets, benches, tables, chairs or means of transporting the materials.

#### Maintenance:

Initially a Building Committee should be formed to look into the affairs of the Hall. This Committee would be in charge of collecting funds and buying the necessary raw materials. After completion, the same Committee now to be named Nginduri Community Hall Committee would be responsible for the maintenance and security of the Hall.

#### Activities:

We believe that the Hall should be multipurpose. It can be utilized for recreational, commercial, cultural, political activities and for educational purposes. Adult education in such subjects like reading, writing and a simple agriculture would be conducted. Commercial films, and plays can be shown on the weekends or in the evenings, and this would be a source of income for the Hall. It can also be hired for wedding parties and dances. When a group of people want to meet, they can also utilize the Hall. A small health service can also be located therein. The design of the Hall would allow for flexibility of usage.



THE FOLLOWING IS A BRIEF SPECIFICATION OF MATERIALS AND QUANTITIES REQUIRED FOR THE ERECTION AND

COMPLETION OF THE PROPOSED NGINDURI SOCIAL HALL

MATERIAL	QUANTITY REQUIRED	SOURCE	TOTAL PRICE
<u>BUILDING STONES</u> - natural building stones from an approved quarry, neatly chiselled to a truly rectangular shape	2,000 ft.	KASARANI	6,000/- including transport
<u>CEMENT</u> - Ordinary Portland Cement supplied in manufacturer's sealed bags, complying in every respect to B.S. 12 and stored in a dry place - for floor beds, concrete floor, plaster and mortar.	3 tonnes or 60 BAGS  (Approximate)	NAIROBI	2,000/- including transport
<u>Fine Aggregate</u> - Sand	5 SEVEN TONNE LORRIES	UKAMBANI (KANGUNDO)	1800/- including transport
<u>COURSE AGGREGATES</u>	2 SEVEN TONNE LORRIES	NAIROBI	1,000/- including transport
<u>HARD CORE</u>	4 LORRIES	KASARANI	600/- including transport
G.C.I. Galvanized Iron Sheets (Gauge 30)	96 sheets 2.5m. 10 sheets 2 m.	KIAMBU) KIAMBU)	3,000/- including transport
G.C.I. Ridge Cover (Gauge 30)	10 each 2 m. long	KIAMBU	150/-
<u>TIMBER</u> - Sawn Timber, well treated and free from imperfections.			
FOR PURLINS 3" x 2" (75 x 50 mm.)	540 ft. or 180 m.	GITHUNGURI	600/-
FOR ROOF RAFTERS 4" x 3" (100 x 75mm.)	330 ft. or 110 m.	GITHUNGURI	400/-
FASCIA BOARD 6" x 1" (150 x 25 mm.)	180 ft. or 60 m.	GITHUNGURI	300/-

MATERIAL	QUANTITY	SOURCE	PRICE
<u>WINDOWS</u> - Standard metal casement windows consisting of three panes square with two opening casements and one dead light in the middle.	10	MARIGE	2,500/-
<u>DOORS</u> - 1 main double door size 1500 mm. by 2.1 m. framed, ledged braced matchboarded and fixed to door frame built into stone wall with lugs.	1	MARIGE	300/- including transport
2 Single doors size 800mm. x 2.1m. and as above.	2	MARIGE	250/-
<u>GLASS</u> - 4mm. Clear sheet glass and glazing putty	90 pieces	NAIROBI	400/- (approximate)
<u>PAINT</u> - Emulsion paint	50 LITRES	KIAMBU OR NAIROBI	2,500/-
Locks, Nails, Hinges, Bolts, Window Staybars, Fasteners and other Sundry items		NAIROBI	1,000/- (approximate)
		TOTAL	22,800/-
		SAY	23,000/-

Labour has been calculated because it is hoped that the greater part of the labour required will be communal - i.e. by the members themselves.

All prices quoted are those charged by December, 1977 at the indicated sources.

IF CONSTRUCTED THIS YEAR COST	=	<u>23,000/-</u>
IF CONSTRUCTED IN TWO YEARS' TIME	=	<u>28,000/-</u>
IF CONSTRUCTED IN FIVE YEARS' TIME	=	<u>37,000/-</u>
IF CONSTRUCTED IN TEN YEARS' TIME	=	<u>60,000/-</u>

\* FIGURES ARE ROUNDED OFF TO THE NEAREST 1000/-

THE CALCULATIONS ARE BASED ON A UNIFORM  
MARKET INTEREST RATE OF 10% - COMPOUND INTEREST.

\* NO ACCOUNT OF INFLATION HAS BEEN CONSIDERED. IF CONSIDERED  
COSTS ARE BOUND TO BE MUCH HIGHER THAN SHOWN (IF PRESENT TRENDS  
CONTINUE).

## VI CONCLUSION AND GENERAL REMARKS

One of the main aims for this study was to define what factors go together to create a suitable participatory community planning environment. We found this to be an essential effort due to our belief that only community of any scale needs to have a formal procedure for determining and implementing its own goals and objectives and for such a procedure to be viable, it must embrace avenues of participation for all the community members. In defining the parameters of a participatory planning environment at a rural community scale, we found it necessary to raise some questions and try to answer them from our experience from the Nginduri community.

What can planning really achieve at the very local level? Should planning at this level aim at the creation of a modern self-sufficient type of an organic community or should it aspire to the more utopian goal of integrating the community into the larger and more complex interdependent national system? While these are not necessarily contradictory goals for planning, the pursuit of one in exclusion of the other would need a specific planning environment to ensure public participation. This point will be discussed further below.

Another question invoked is what sort of planning in terms of its inputs and outputs needs to be carried out at the community participatory level? In this, we distinguish between the community master plan or the comprehensive approach that is here defined as the integrative strategic project approach.

In consideration of these questions along with an assessment of the nature of the relationships and interactions between the authority, planning agents and the community, the parameters of a participatory planning environment at the rural community level can be discussed.

At any level of an eqo-system planning can be applied as a procedural tool to aid in the realisation of a community's goals for social economic development in various ways. While the role of planning in development is obvious, having been extensively documented, we wish to re-emphasize the role of community participatory at the local level.

In Nginduri, we found out that there was an informal process of participatory planning in progress. While no written plans or documentation of community planning effort exist in this process, it does, however formulate and implement development projects, mostly on self-help basis. This results from consultations between the leading community members lead by the assistant chief, a baraza to determine the priorities for the community and identify problems while deciding on a formula for the distribution of the burden and benefits of community development projects. This informal planning process goes on with the occasional technical aid from the District Development Committee and related ministries.

From our participation in Nginduri development affairs and our observation of the informal planning in action, we were able to extract certain characteristics of the community that give rise to a suitable participatory planning environment. As in the many other communities of different sizes, some of the factors are well developed and represented in Nginduri and others are not. These factors include resources for planning and implementation, willingness to participate in planning, community common purpose and awareness, effective community leadership and incentives by the administration and other government agencies.

The critical resources needed to enable community members to participate in planning involve time, expertise and financial assets for plan implementation. In Nginduri, we found out that although the farmers have to work long hours on their plots, a majority was willing to spare some time to attend lengthy planning discussions. At that level, there seemed to be sufficient full-time community expertise in form of a well-informed leadership and, as our analysis of educational achievement in Nginduri shows, there is a sizeable group of well-educated people. Where the community expertise is not sufficient, the members are motivated enough to call upon the outside help from for example, the District Development Committee or the University's planning department.

It is also essential for a planning community to have access to financial resources in order to meaningfully participate in shaping its own future. For many communities, this is a severely restricted resource, and Nginduri is no exception. However, as noted elsewhere, the members have been able to obtain individual loans from the various institutes while the community occasionally receives grants from the development agencies and self-help sources. It is essential for a community to share some common purpose for its development in order to direct such available funds into activities and planned programmes that enhance maximum community welfare.

In identifying the parameters of a suitable participatory planning environment at this local level, there was raised another question: what can planning really achieve at this level? For planning to achieve anything there is a need for the process to be carried out in an environment whose social, economic and physical data and information is readily available in an accurate form. Stated another way, it is necessary for the people within the community to understand their community's potential and problems as precisely as possible in both qualitative and quantitative perspective in order for them to participate in planning in an informed way. One of the achievements for planning at this local level would be to establish and formalize a process of creating a community data "bank". Such information as pertaining to the various aspects within the community and other external factors that affect the community's position, would be built upon and improved to better the community's perception of itself and of its regional setting.

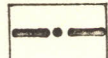
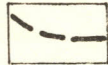
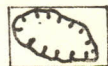
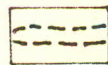
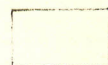
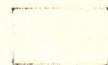

Whatever would be achieved by a community plan will depend on the content of the plan itself and the degree to which the decision-takers have been involved in decision making. Given Nginduri's planning environment, we found that a community plan was more understandable and acceptable if, instead of containing detailed policy packages for the whole spectrum of the community's problem areas, it had isolated a few strategic areas of community development potential and problems to come up with a set of clearly defined and locally viable integrative projects.

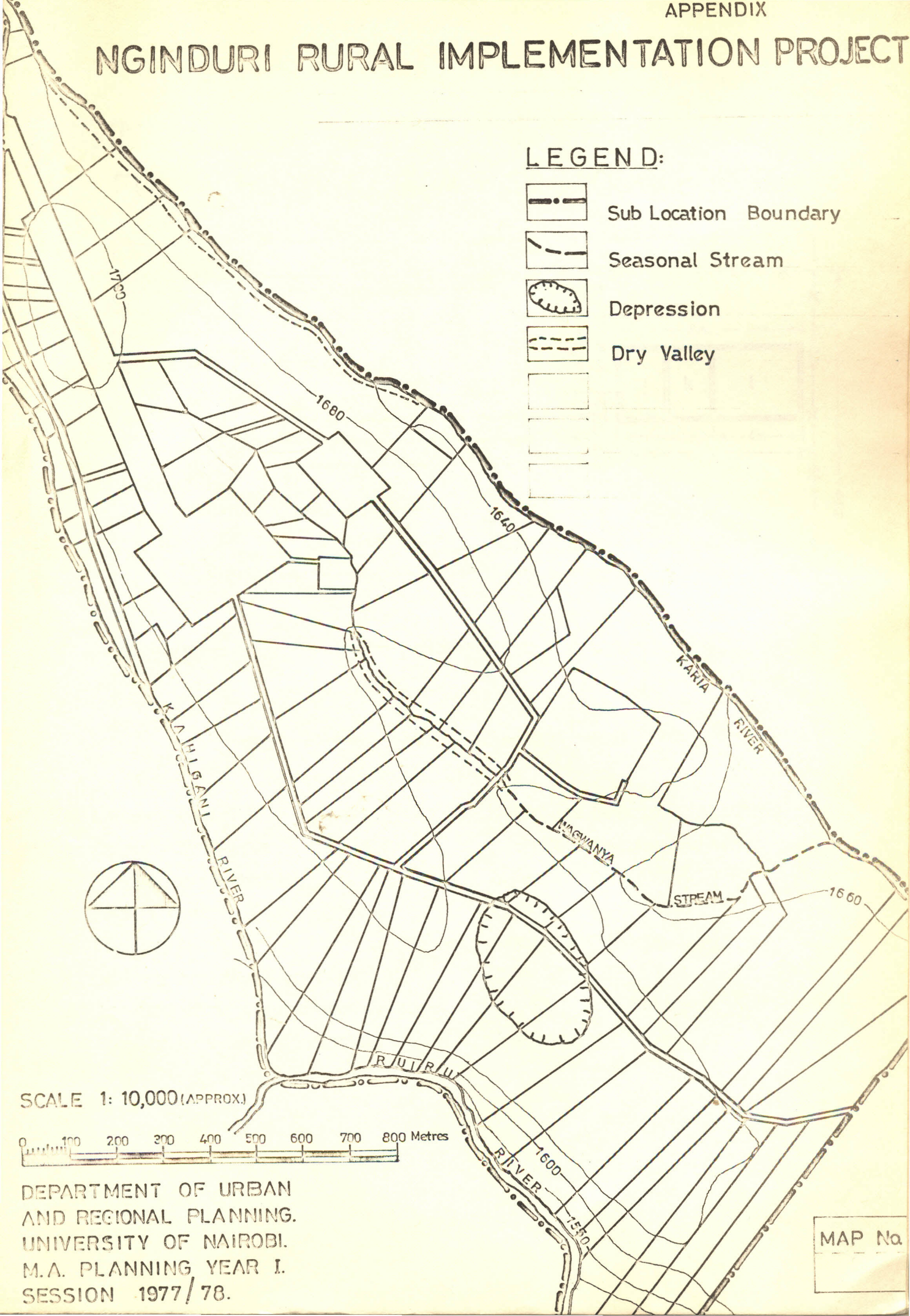
The leading inputs into an integrative project plan should then be first a consideration of what projects the community needs to undertake in order to become self-sufficient in its social economic needs and secondly what needs to be done in order for the community to make a positive contribution to wider national interest in development. The contents of such a plan would then include the design and feasibility studies of the planned projects presented in a manner that anybody interested can understand and implement the project.

This study was an attempt to select, discuss and document three integrative strategic projects. These have been presented along with pre-feasibility studies on each and it is our hope that the members of Nginduri community will soon or later implement the projects.

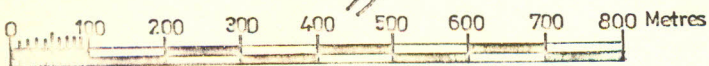
# NGINDURI RURAL IMPLEMENTATION PROJECT

## LEGEND:

-  Sub Location Boundary
-  Seasonal Stream
-  Depression
-  Dry Valley
- 
- 
- 



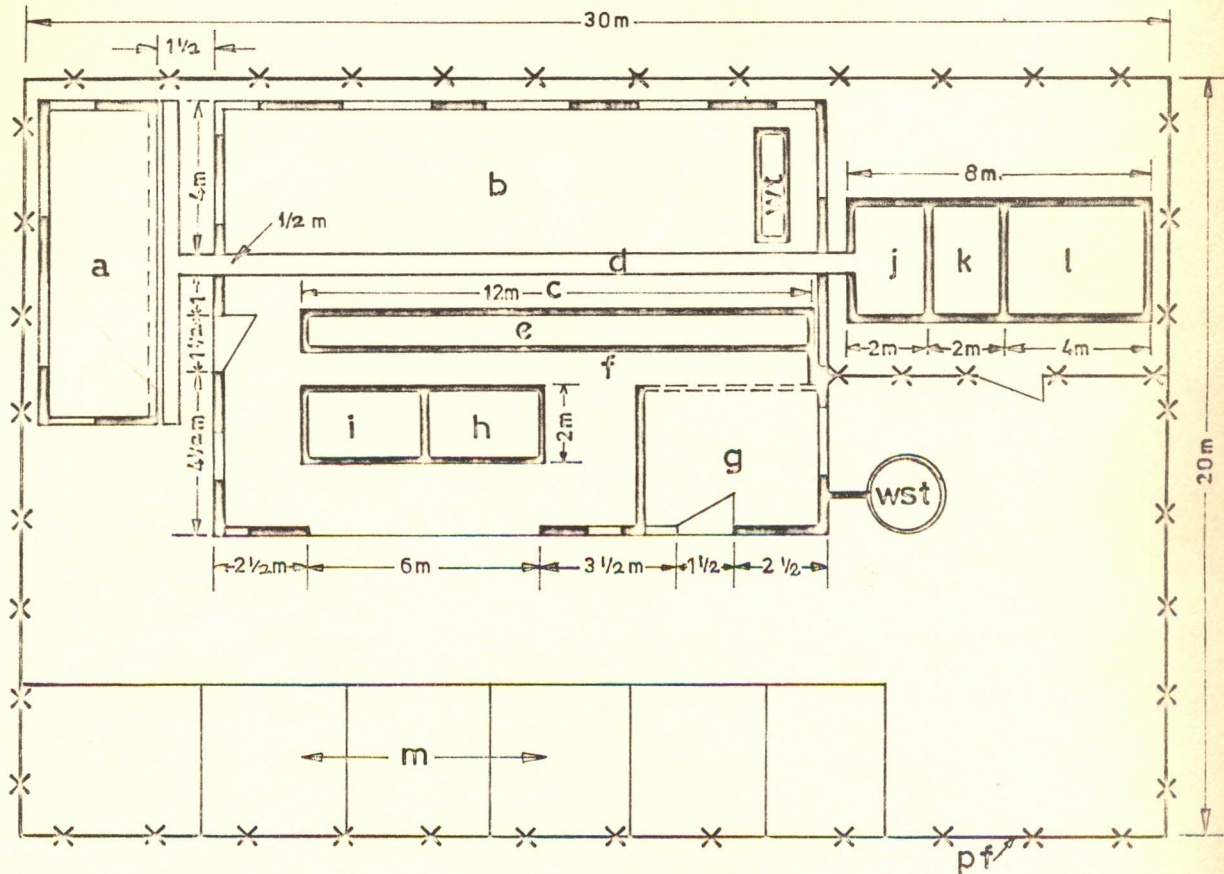
SCALE 1: 10,000 (APPROX.)



DEPARTMENT OF URBAN  
AND REGIONAL PLANNING.  
UNIVERSITY OF NAIROBI.  
M.A. PLANNING YEAR I.  
SESSION 1977/78.

MAP No.  
[ ]

# NGINDURI RURAL IMPLEMENTATION PROJECT FLOOR PLAN FOR A LIFESTOCK FEEDLOT



## NOTES:

SCALE 1: 200

- |   |  |
|---|--|
| a. Milking shed                         | i. Storage tank for pineapple peelings |
| b. Animal resting area (unshaded)       | j. Sludge collector and sifter tank    |
| c. Feeding area shaded                  | k. Biogas processing plant             |
| d. Sludge duct                          | l. Slurry drying pad                   |
| e. Feeding bunk                         | m. Worker housing units                |
| f. Feeding and work corridor            | wt. Water hole                         |
| g. Dry feed storage and processing room | wst. Rain water storage tanks          |
| h. Storage tank for spent grain         | pf. Perimeter fence                    |