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ALLSIDES' FARMERS' PRE- CO-OPERATIVE

A SOCIO-ECONOMIC ASSESSMENT

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PREPARED

BY

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AGRICULTURE IN JAMAICA

Collection of papers of the Office of IICA in Jamaica

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No. IV- 5 Glenys H. Barker, "Bibliography of Literature relating to Research and Development in the Agricultural Sector of Jamaica 1959 - 1979". March 1980.

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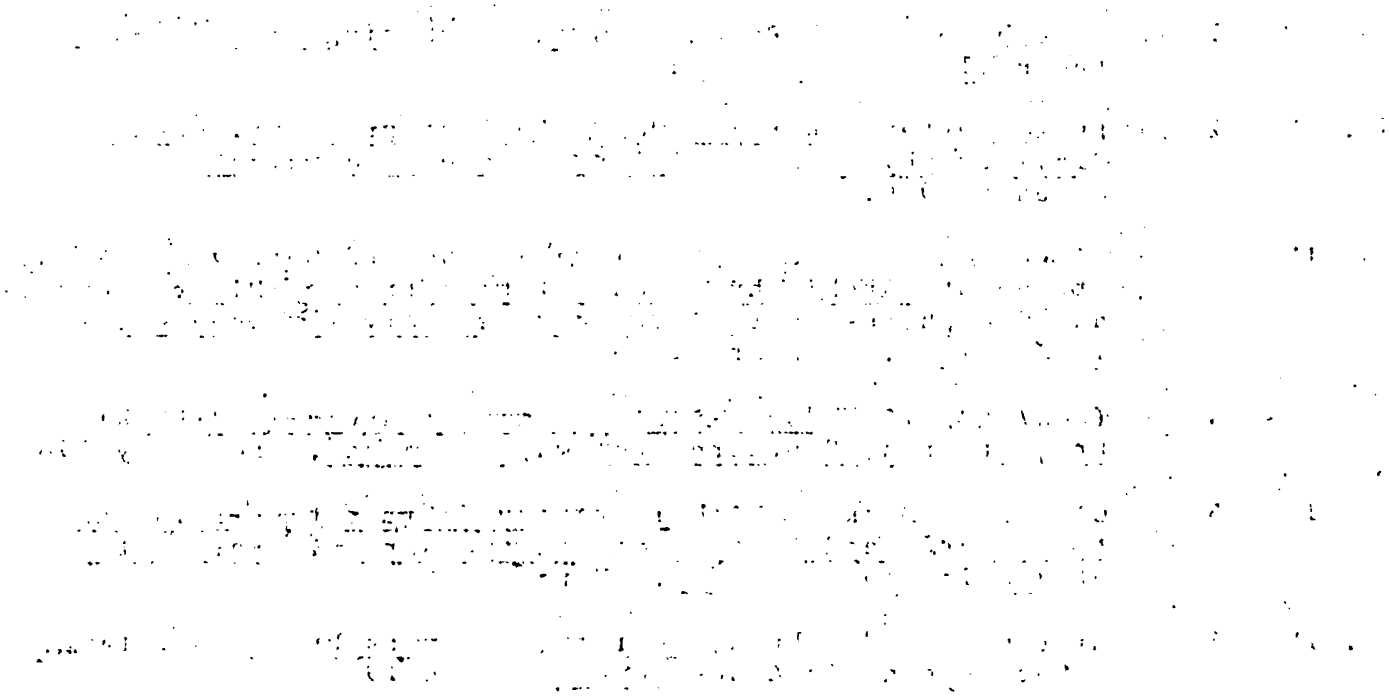

FOREWORD

The social organisation is an important step in the institutionalization process of any technological package.

"An institution is the social solution to a recurrent problem" [1]. "If the social solution assists and solves the problem then the social organisation is institutionalized that is to say, it is maintained. If the social solution does not solve the problem, then social organisation is disbanded and forgotten" [2].

The technological package developed at Allsides takes carefully in account the technical improvements for soil management and crop production. These technical improvements depend on certain available resources such as seeds, fertilizers, insecticides, tools, etc.

Given the Jamaican social reality, the above-mentioned resources reach the project area at very high costs. In order to assist in solving this problem the "Allsides Pre- Co-operative" was formed. The Pre-Co-operative will provide field days, exchange of ideas, and in general it will serve as an integrative institution for the benefit of the farmers. The package not only includes measures for obtaining higher production and income but also for increasing the labour demands, assisting therefore to reduce the high rural unemployment in the area.

Hillside agriculture in Jamaica is practised by approximately 150,000 farmers (nearly 80% of the total number of farmers) with less than five acres per farm [3]. This sub-sector of agriculture is "typical of the Latin American Agricultural Sector which shows the smallest farmers whia the highest rate of unemployment" [4]. Allsides is a representative small sample of the Jamaican agricultural sub-sector. The co-operative in its short time has been fairly successful and has served as the integrative institution in an otherwise greatly individualistic environment.

A large part of the organisation's success is due to the hard work of Mr. Milton Wedderburn, who brings to this project his knowledge of co-operatives and of the Jamaican farmer, and his culture.

We are proud to present Mr. Wedderburn's work as one more addition to the collection of papers titled "Agriculture in Jamaica".

We feel certain that the Allsides project will be successful if given all the resources recommended, as we are convinced of the future institutionalization of its co-operative. We are certain also that Mr. Wedderburn will present other works to be included in our collection of papers.

Percy Aitken-Soux
Director IICA/Jamaica

1/ Percy Aitken-Soux "Reforma Agraria, Desarrollo y Empleo Rural" Honduras Consejo Nacional de Planificacion. I.L.O. (International Labour Organisation), Geneva, Switzerland 1977 P. 343.

2/ IBID P. 344.

3/ Government of Jamaica. "Statistical Yearbook of Jamaica 1978" P. 459

4/ J. Emilio Araujo "Una Opcion Humanista en el Desarrollo Rural de America". IICA San Jose, 1974 P. 31.

P R E F A C E

The Allsides Pilot Development Project, the brain child of the Inter- American Institute of Agricultural Sciences, has been nutured by the Government of Jamaica through the many Agencies that have come to be associated with it.

The objectives as stated in this feasibility are challenging and although they appear to be insurmountable, can be achieved through the hard work and dedication of the farmers in the first instance, and also all the technicians who service the Project.

Congratulations to the farmers who at their early meetings, opted for the Cooperative Framework as the structure for the Formal Organisation. In my estimation, no other framework could have suited them better, as the Cooperative method lends itself to their total participation in handling their affairs in a democratic manner.

The extent of the development of the Area will be directly influenced by the rate of transfer of the new technology in Hillside Farming, which will have its outflows in sales, incomes and the general upliftment of the people for whom it was intended.

My sincere thanks goes to the many persons on and off the Project who gave invaluable information, assistance and their time in the compilation of this feasibility; and to Miss Winsome Reid for her invaluable help and patience in the typing of this report.

MILTON R. WEDDERBURN.
REGIONAL COOPERATIVE OFFICER (W)

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1. THE TITLE

1. THE TITLE: Allsides Farmers Pre-Cooperative.

Through the title the group is able to identify itself by its geographical location (Allsides Area of Trelawny) and the main activity of the individual comprising the group (Farmers). During the process of training the group will remain a Pre-Cooperative. When it has fulfilled the conditions required under the Cooperative Societies Acts and Regulations registration as a Cooperative Society with limited liability will be effected.

11. INTRODUCTION

2. The Allsides Pilot Development Project, is a joint venture undertaken by the Government of Jamaica and the Inter-American Institute of Agricultural Sciences (I.I.C.A.) in "Hillside Farming Study and Implementation" in the Allsides Area of the Parish of Trelawny. Direct funding of the I.I.C.A. for the Project is done by the Simon Bolivar Foundation.

3. Apart from the study and implementation of the many techniques for successful farming of the hilly lands of the area, the I.I.C.A. has been seeking ways and means to provide a feasible form of social organization for the farmers within the Project.

4. Discussions with the farmers falling within the Project Area, and the various Extension Agents of Government, elicited that the most feasible form of socio-economic organization that the farmers favoured is the Cooperative form. I.I.C.A. accordingly approached the Cooperative Department for assistance in developing such an organization, since the promotion of the Cooperatives is the responsibility of this Department.

5. In discussions, however, it was indicated that the Allsides Project Area may be too small to provide a feasible unit for the establishment of a Co-operative. Additionally, the Co-operative Department of the Ministry of Parliamentary and Regional Affairs, along the lines which it is pursuing for developing Co-operatives on an Island basis would be willing to include a Co-operative for the Allsides Project Area within one for a larger area than just Allsides alone; but would retain the name to give identity to the Project.

On examination by the Co-operative Department, and after obtaining preliminary information from an I.I.C.A. consultancy through the late Mr. V. P. Smart, it was agreed that the above proposal appeared to be a sound one and should be pursued.

6. It was agreed that this exercise is to be executed in close collaboration with the Agricultural Extension Officers of the Project, as well as other government extension agents (eg) Home Economics and Co-operative, and Technical Staff involved with the Project.

111. BACKGROUND

7. **Physical**

Initially, the area of operation comprises the Allsides Area and its environs. The area is about 8 square miles in the upper section of the parish of Trelawny. Situated approximately 32 miles from the Capital Town of Falmouth, the nearest main Town of Albert Town is only five miles away, with a population estimated at about 16,000 persons. The area has relatively good roads, adequate electricity (made use of mostly by the business sector and persons living along the high way) and poor housing among the greater number of the inhabitants.

Placement in the National Development Strategy

8. Jamaica has always been an agricultural country. Of the country's two million eight hundred thousand acres (2,800,000) about 80% is mountainous. In this percentage are found the majority os small farmers with holdings ranging from less than ½ ac. to 5 acs. The use of inappropriate technologies in hillside farming has been the cause and increase of serious soil erosion.

9. Government land policy has been changed from that of freehold to leasehold. With the acquisition of large landed properties which are redistributed among the small farmers, there is need for a form of organisation which is simple, inexpensive yet operative, and within whose ambit can be accommodated the plans for the socio-economic upliftment of these farmers. Government has signified its intention of using the Cooperative based organization to achieve socio-economic changes especially in rural community living.
A structure for Cooperative Development was presented by the Cooperative Department (Western Region) and from discussions with the Officers of the Ministry of Agriculture Allsides was selected as the pilot area.

10. It is within this context that I.I.C.A. sought assistance for the initiation of a project in agricultural cooperatives. In accordance with government policy this should be accommodated within the framework being developed for promoting agricultural cooperation among farmers in two of the agricultural divisions in Southern Trelawny.

11. In support of this strategy, it is imperative that adequate and intensive training be instituted among the farmers of the area. Training Programmes carried out by trained and experienced Personnel stationed in the area should concentrate on the following subjects :-

a) Cooperative Management and Administration - to fully understand how a Cooperative works, its social and legal implications, and the operation of a Cooperative orientated business.

b) New Hillside Farming Techniques - to teach properly the implementation of the new farming techniques conducive to increased production.

c) Crop Culture - to improve on the cultural practices of the crops being grown and to acquire the skill required for the cultivation of the new crops that are to be introduced into the Area. In improving the cultivation practices of these crops, the economics of their culture should be studied and compared to ensure a relatively high income return to the farmers.

To achieve the maximum effectiveness, the programmes should be flexible, simple and practical whereby the following methods of approach- Debates and Discussions, Field Days, Demonstration on Farms' Holdings, Personal attention of Extension Staff to Individual farmers and Formal Training Courses held outside of the Area - would be advantageous to the learning process.

12. The Extension Staff of the Ministry of Agriculture in collaboration with the Personnel of the I.I.C.A. are solely responsible for the transfer of these new technologies to the farmers and the implementation of the techniques for hillside farming, the strategies for increased crop production and the introduction of the new crops.

The Cooperative Department is responsible for the training in Cooperative Management and Administration resulting in the creation

of practical approaches to Cooperative Marketing, and the provision of Agricultural Requisites and other services to the farmers. The resulting effect will be the establishment of a cooperatively - run Farm Supply Store through which Marketing, provision of Agricultural Supplies and Services, and Social activities and amenities will be channelled.

With co-ordination of activities and the cooperation of all the staff from the Agencies involved, the targets that have been set should become practically feasible.

General Background

13. In the adjoining parish of Manchester is the Christiana Potato Growers Cooperative, an Agricultural based Organization that, apart from handling over 75% of the importation of Irish Potato planting material for its members, supplies a wide range of Agricultural Requisites and services. Unfortunately this Society's Area of operation does not extend into the parish of Trelawny hence the farmers do not get any direct service from this Cooperative unless they journey to Christiana, a distance of 10 miles. Their visits often result in hardship in transporting goods bought, wastage of valuable time, and since the acute scarcity of some supplies (eg) fertilizers, blank refusal of purchase, as they are non-members of that Cooperative.

14. West of the area is the Upper Trelawny Coffee Cooperative, where individual farmers of Allsides are members. The main functions of this Society are :-

a) Purchase and collection of cherry ripe coffee on behalf of the Coffee Industry Board.

b) Distribution of coffee seedlings and fertilizers to Coffee growers only.

c) The vehicle through which up-to-date information on coffee culture is disseminated to the Coffee Farmers.

15. The Trelawny Cooperative Credit Union, with offices at Falmouth, has launched a Membership Drive.
An area office has been set up at Albert Town and the Society's education programme is being introduced to Allsides.

16. With the apparent limited exposure of the people of the Area to the Cooperative idea, the timing of this Project would appear to be right. It is hoped that the established Cooperative activities operating in and around the area will help in making the Allsides Project a success.

17. Data collected and analysed showed viability at different levels. It would take however a few years to achieve optimum results; but on the assumption that the services are efficient and the farmers adopt recommended practices; development could proceed at a level which will enable the Pre-Cooperative to develop into a Cooperative.

IV. OBJECTIVES

18. The Project seeks to assist the farmers in improving their social and economic lives, and helps in the general upliftment of their overall standards of living, through:-

a) Production. To initiate, develop, encourage and undertake better and more economical methods of production:

i) Through the introduction of hillside farming techniques and improved farm practices, the production of the current crops will be greatly increased.

ii) With the introduction of new crops, the farmer will be able to diversify his operation and so create other avenues of income.

iii) Improvement in the livestock population of the Area will in turn generate more income, provide a good source of relatively cheap protein for the farm family, while supplying organic manure for soil improvement.

b) Marketing To initiate, develop, encourage and undertake better and more economical methods of marketing through Cooperative Marketing.

c) Watershed Conservation To encourage and develop more economical methods of Soil Conservation and Land Utilization by :

i) Adopting new and effective techniques of farming in hillside agriculture.

ii) Establishing reserves of forests for the creation and maintenance of watershed areas:

d) Farmer Representation

i) As an organization, the farmer is represented administratively and/or otherwise at the local, national or international level.

ii) To enter into arrangements with any Authority, governmental, private, local or otherwise on behalf of the private, local or otherwise on behalf of the farmers and obtain from any such Authority any rights, privileges or concessions that may accure to such farmers.

e) Cooperative Purchasing The establishment of a Cooperative Agricultural Store for the provision of all Agricultural inputs and services for the benefit of the farmers.

f) Education To encourage and develop areas of complementary education at the various levels of the farm family. Areas of education to include Agricultural, Cooperative and Social Integration.

g) Social Activities To create an awareness of, and develop participation in the areas of sports, celebrations, debates and cultural activities.

h) General To do all other acts as are incidental or conducive to, or consequential upon the attainment of the aforesaid objectives.

V. ORGANISATION AND MANAGEMENT

ORGANISATION

19. Structure

For the implementation of the technical inputs within the Project Area, a self explanatory Organisational Chart showing the line relationship of the Staff has been prepared. The different levels of Staff are being recruited and assigned to their posts, and the full complement should be assigned within the next 4 - 6 months (see App. IX)

20. The Project Area in its entirety, becomes one of the nuclei (property or Branch Society) of the proposed structure for Agricultural Cooperation within the Region. Such a structure as shown in the diagram (App. X) would begin with the identification of landed properties leased to the farmers by the Project Land Lease Section of the Ministry of Agriculture. These units will function through their local governing committees (property committees).

20(a) Chairmen of the Property Committees will form the Primary Societies. The Area of operation of this level Society will be the area covered by an Agricultural Divisional Extension Officer. The complement of the Managing Committee of the Primary Societies will depend on the number of properties within the Division.

20(b) The Secondary Societies' (Parish Cooperatives) Managing Committees comprise the Chairmen of the Primary Societies. Representatives from these secondaries will represent the Region at the Tertiary Level (National Union of Cooperative Societies) and will also be the cohesive force between the Parish Cooperatives.

21. The Pre-Cooperative will conform to the basic cooperative structure, whereby the members at an Annual General Meeting elect the Board of Directors. The Board will appoint a Manager through whose assistance other members of staff are employed.

22. Membership

The two most basic requirements for membership are that the applicant must be a genuine farmer and he/she must reside in the parish of Trelawny. Once these criteria are filled, the applicant, on becoming a member, can purchase unlimited number of shares, but pay an Entrance Fee of only One Dollar ($1.00). The main strategy used for share payment is through a cess on certain agricultural items sold in the quickest possible time. **(See Anticipated Membership App. XI).**

23. Committee of Management

The Managing Committee, elected by the membership comprises now, only farmers from the Alsides Development Project. Within one year when a sufficient number of farmers outside of the Project Area have become members, the Managing Committee will then comprise farmers from within the Development Area as well as from outside of it.

24. Staff

24 (a) Project - Staff complement is similar to that shown on the Organisational Chart.

24(b) Shop - Two persons have been given formal training by the Cooperative Department in simple book-keeping and basic Management to operate the Farm Store and keep the records of the Pre-cooperative up-to-date. With the initial size of the business and the serious constraints on funds, only one person is presently employed. As the business develops, more persons will be employed as the need arises.

25. Management

Coordination and liaison between all the agencies involved, is the responsibility of Dr. Abdul Wahab of the I.I.C.A. (Jamaica Office) who is the Project Manager. However, as he is concentrating on the technical aspect of the Project, the job of co-ordinating activities of the Agencies is done by Dr. I.E. Johnson, I.I.C.A., Economist

26. Provision for Follow-Up

Government will assume full responsibility through the Western Regional Agricultural Director of the Ministry of Agriculture, while the total development of the Co-operative input is the responsibility of the Co-operative Department.

27. Reporting

Technical monthly reports on the project will be made by the Western Regional Agricultural Director to the Production Unit of the Ministry of Agriculture through the Trelawny Agricultural Parish Manager. For reports on the cooperative input, emphasis will be on Co-operative Education and the Operation of the Co-operative Farm Store. Reports to the Registrar of Co-operative Societies will be on a Monthly Basis. A review of the overall activities of the project will be done annually, although the progress will be assessed continuously.

28. The Allsides Project in its entirety and its relationship to the Region, should be seen as the new thrust for the development of Agricultual Co-operation within the Parish of Trelawny. From its modest beginning, it is hoped that at least 80% of the farmers of the parish will benefit directly in the later years by being associated with it.

29. VI. PRODUCTION AND MARKETING

Production

The Project Area, the nucleus from which the assistance in developing new techniques in hillside farming is being developed, comprises approximately 622 Acres of land with about 300 farm families. There are 231 farm units varying in sizes from ½ acre to 10 acres. The breakdown of these farm units into group size (acres) is as follows:

(1)	½ Ac.	- <2 Acs.	=	77 Farms
(2)	2 "	- <5 "	=	126 "
(3)	5 "	- <10 "	=	26 "
(4)	10 " and-over		=	2 "
				231 "

30. Transfer of Technology

As new farming techniques are instituted within the Project Area, the rate of transfer of this technology to the farmers should be relatively moderate; and will show up in marked annual increases in production. It has been assessed from the results of past Agricultural Extension Education and Practices in the Area, that the leve of applicable farmer technology is about 35% of what is desireable. With the new thrust by all the Agencies through this Development Programme, the rate of transfer of further technology in relation to annual increase in production over five (5) years is set out below:

Particulars		Y	E	A	R	S
	0	1	2	3	4	5
Rate of Transfer of Technology(%)	35	40	50	60	75	80
Increase in Production (%)	0	2.5	5.0	7.5	9.0	10

This rate of transfer in technology can be achieved by

(a) Conducting demonstrations on farmers' holdings or on Special Plots.

(b) Farm Visits

(c) Terracing of the hilly areas

(d) Any other positive Extension Method employed.

Increased production will come about through better land usage, as lands once thought to be useless and unproductive should achieve and maintain a high degree of productivity.

Lands outside of the Project Area, will to some extent show some measure of increased production, as these farmers will begin to copy some of the techniques that are introduced. However, the signifance of their increased will not be felt until about the third year of development, when the percentage increases should be 3%, 5% and 7% in years 3, 4 and 5 respectively.

31. Land Use

To arrive at the production figures as given in this report, a five (5) years projection of the usage of the land is prepared. These figures are calculated from actual production figures supplied from an analytic survey of the Project Area as was conducted by the I.I.C.A. sometime during the end of 1977 to early 1978.

32. The main crop produced in the area is yam and this constitutes more than 90% of the lands to be utilized. The acreages for crops such as Coffee (planted under bananas), and Red Peas (intercultivated with yams) have not been included in the total annual acreage. From an estimated total area of 314 acres now in production it is envisaged that in the fifth year of development the total usage will rise to about 601 acres or over 90%. (See Proposed Law Use, App. XII).

33. Increased land usage is heavily dependent on the rate at which the land terracing programme is done. It is possible that the terracing could be accomplished within one year despite the high cost per care ($1,500 - $2,000 per acre). Costs for doing this could be treated as a loan to the farmers by the Project Land Lease Section of the Ministry of Agriculture. Treated as Capital Expenditure, the loan could be recovered over five years or through any other feasible arrangements.

34. Twenty one (21) acs. (3.4%) of the lands in the project are calculated as being utilized by drains, gully courses and other such uncultivable areas.

35. CROPS

35(a) Yams - As already stated, the main crop of the area is yams, the main varieties being Negro and Yellow Yams. Presently, the average yield per acre is about 6.5 tons and it projected that yields could be increased by 2 tons per acre per year within five (5) years. This should be possible from observations made of the poor cultivation practices done by the farmers. The projected land use based on a percentage of the past year's figures is as follows:

Year 1 - 8% (21 acres) Year 3 - 20% (64 acres)
Year 2 - 12% (34 acres) Year 4 - 9.9 % (38 acres)
Year 5 - 2.1% (9 acres)

Production

From an initial production of approximately 1650 tons, the expectations are that the increase in production will rise by 5%, 5%, 7%, 7½% and 8% in the five years of development. This modest increase in tonnage per acre when considered in the context of the annual projected increase in land usage should result in production figures of 1867 tons, 2193.6 tons, 2816.6 tons, 3327.5 tons, and 3670.3 tons in years 1, 2, 3,4and 5 respectively. (See App. XII).

Costs - include both Capital and operational.

1) Capital Costs - would involve the purchase of additional planting material to cope with the expected annual increases in acreage. From the nature of the crop itself, each crop would give increase in planting material, hence it is calculated that only 50% of the planting material required each year for expansion would have to be bought.
At $30 per cwt, the annual capital expenditure on yams would be $12,000, $20,400, $40,800 , $27,600 and $26,200 for each year of the five years development.

ii) Operational Costs - involve all the cultivation practices inclusive of reaping. The total figures for each year as shown in the schedule have taken into account the replanting of the old fields ($1200 per acre) as well as the establishment of the new additional acres at $2,500 per acre.

Returns - are based on the value by weight of the total production of the crop. It is calculated that for every ton of yam reaped, the recoverable portions are the edible and marketable yield, planting material, and unmarketable and damaged in the ratio of 10:5:1.Forthe last category it is believed that the farm family consumes between 60% and 70% while the remainder

is used as a supplementary food for pigs.
However, the total returns is considered in arriving at the entire farm income, and as such the yields are valued at $600 per ton in the first two years, $700 per ton for the next two years and $800 per ton in the final year.
Within this price structure, the inflationary conditions of the times are considered.

35(b) Irish Potato - is a relatively new crop being introduced to the farmers. In the town of Christiana (10 miles away) and in nearly all of the adjoining parish of Manchester, farmers have been cultivating this crop on a large scale. The main difference in cultivation in the introductory stage in the area is that instead of having pure stands of the crop, it will be inter-cultivated with yams. Trials done on the demonstration plot run by I.I.C.A. gave low returns due to damage of Late Blight Disease, but more trials/demonstration plots are being set up on farmers' holdings in an effort to disseminate the knowledge of the successful culture of the crop.
The mode of cultivation to be instituted among farmers, however, makes the yield projected as only 5:1 in the first year. It is hoped that its cultivation will more from 5 acres in the first year to a minimal planting of 12 acres in the fifth year.

Production - Being a new crop, it is estimated that only about five (5) acres with an initial production of 5:1 will be achieved in the first year. The small annual increase in production over the succeeding years is attributable to loss by Early and/or Late Blight Disease. Not until the farmers become efficient in the control of pests and diseases will there be any significant rise in the increase per acre.

Costs - Production costs average about $2,057 per acre but when inflation is taken into account the costs are expected to rise at about 40% each year

Returns - is expected to be in the region of about 5 tons per acre initially and rising to 6.75 tons per acre in year 5. This should gross $15,000 in year 1 and reaching $47,250 in the fourth year.

35(c) Peanuts, like Irish Potato is a new crop to be introduced as an inter crop for yams. Its production has only been tested in trials run by Dr. Abdul Wahab of the I.I.C.A. and averages about 700 lbs per acre.

Production - appears to be very small but this projection is done on a highly conservative basis as the Project will have to convince the farmers that the planting of this crop is worthwhile. To encourage its production, however, marketing outlets have already been identified.
It is estimated that at a yield of 3000 lbs per acre, and the establishment of about 5 acres in the first year the production should not exceed 7.5 tons. This should reach a production level of 25.3 tons from 15 acres in the fifth year.

Costs - Planting material will only be bought in establishing the crop initially, as planting material for subsequent crops will be derived from the production of the past crop. At a production cost estimated at $940 per acre initially, inflationary conditions have pushed the costs, in 5 years, to about $1,316 per acre.

Returns - average about $1,650 per acre when it is estimated that the yields are 3000 lbs per acre. Selling at $1,100 per ton, the gross returns in the first year is approximately $8,250, and should eventually reach $29,095 in four years time.

35(d) Coffee - an export crop, suffers from adverse cultivation practices in spite of the importance given the crop by the Extension Officers of the Coffee Industry Board, and the high

price paid for cherry ripe berries. Mature trees need pruning and old trees should be "cut back" in the programme of resuscitation.

Production - It is doubtful if the present production surpasses twenty (20) boxes per acre. The pruning of the old trees will cause a fall in the present production level of about 1.1 ton (about 6.1 boxes per acre) per acre, but this should cause no alarm as within three years the young shoots should be heavy in bearing. The crop will begin to come into its own in the fourth year of development producing about 24 boxes per acre and rising to about 67 boxes per acre in the fifth year. Production should continue to rise over another four years as fields planted in the second, third, fourth and fifth year come into production. The maintenance of this level of production will depend to a great extent on the pruning and resuscitation programme followed, improved cultural practices and the rigid control of the Coffee Berry Borer.

Costs - It is estimated to cost approximately $665 per acre to establish the crop and a further $450 per acre annually for maintenance. Total costs range from $6,690 in the first year to $9,366 in the fifth year when inflationary factors are considered

Returns - As an export crop, Coffee fetches the very high price of $32 per box (60 lbs) cherry ripe. The bulk of the returns is obtained between the fourth and seventh year of production, while at that time maintenance costs tend to fall. Gross income ranges from $266.5 in year one to $25,616.3 in year five.

3. Banana - is sold as an export crop as well as having a heavy demand on domestic market. The biggest draw back is the ineffective control of Leaf Sport Disease. This control exercise is done by the Banana Company of Jamaica through aerial spraying of the fields, but still patches are left unsprayed. Under fertilizing of the crop results

in the plant being unable to offer any substantial resistance to the disease.

Production - averages about 230 tons (5 tons per Acre) initially, rising to 248.9 tons in the second year, and through the subsequent years to 390.0 tons.

Costs - It is estimated to cost $800 per acre to establish new acreages in Banana and about $200 per acre for maintenance. Total costs with added inflation ranges from $14,660 in the first year of development to $15,600 in the fifth year.

Returns - range from $31,332.5 to $50,700 over the five year development programme. Total income is calculated on the premise that the price per lb of Banana for the export trade will rise from nine cents (9¢) to ten cents (10¢), although the portion sold on the domestic market carries a higher price per lb than that for export.

35(f) Red Peas - is one of the best crops for intercultivation to be used in the yam fields. Apart from its human food value and its potential as an income earner, it provides a valuable source of Nitrogen to the soil. The use of this crop assists the farmer in cutting down on the use of inorganic nitrogen fertilizer. Because of these outstanding benefits to the farmers, it is suggested that wherever possible the largest possible input in acres should be encouraged.

Production - at present is estimated at 1000 lbs or approximately 16 bushels per acre. It is expected that increased production will rise by 5% in years one and two; 7½% in year three, 8% in year four and 10% in year five. The main drawback towards achieving this target is the incidence of Mosaic disease.

Costs - Since the crop is interplanted with yams there are no direct costs for land preparation and fertilizing. The costings as shown in this study, however, include the cost of planting material

although the farmers will be saving seeds from previous reapings.

Returns - can be very profitable as the farm gate price for this commodity is presently $4.00 per lb. Gross income ranges from $200,000 to $780,000 in five years. From a practical view point gross income will be much higher as the farm family fends to sell a considerable portion in the local markets which fetches higher prices.

35(g) Forestry - will be used mainly for conservation purposes and to establish and protect watershed areas. The emphasis will be on establishing lumber forests, but where possible the planting of food forests will be encouraged.

Production - will be very limited as only 26 acres of forestry will be accounted for over five years. Approximate cost of establishment should be averaging $550 per acre.

Returns - from the project will b not be realized within the time that this feasibility covers. The earliest possible time for the reaping of the lumber is put at between ten and fifteen years.

35(h) Other Crops - include all ground provisions excepting yams. It is envisaged that production will rise from three tons per acre to about 4 tons per acre within five years. This low production profile is taken as from the farming patterns observed in the Area - little or no interest is given to these crops as yam cultivation is supreme.

36 Capital Expenditure entails the purchase of planting material mainly. Total expenditufe exceeds $14,000 over the five year period.

37 Livestock

Apart from providing additional sources of income, livestock production provides a range of protein for the farm family, while at the same time there is a constant supply of organic manure for the farm. The type of livestock that it is recommended for rearing are:

37(a) Cattle - will be kept mainly for milk production. It is estimated that there are about seventy (70) cows in the Project Area and that at least 60 of them have calves and are producing milk. The estimated production is about 306.7 qrts per animal averaging a

200 days lactation period. The formula used for calculating the production is as follows:

" x cows giving y qrts. of milk per day for z days"

applying this formula, each year's projection is as follows: (See App.

	(x)	(y)	(z)		
yr. 1	- 70	x 3.0	x 200	=	42,000 qrts.
yr. 2	- 80	x 3.6	x 200	=	57,600 "
yr. 3	- 90	x 4.0	x 200	=	72,000 "
yr. 4	- 100	x 4.3	x 200	=	86,000 "
yr. 5	- 120	x 4.6	x 200	=	110,400 "

The figures that appear in the production chart have been converted to tons (1 quart milk = 2.5 lbs; Ton milk = 2000 lbs.).

The farm gate price of milk is presently at 73¢ per quart and there is every indication that it will rise; hence the calculated increase of 11¢ per quart as from the fourth year of development. Total earnings from milk should move from $30,660 in the first year to $92,736 in the fifth year.

As the quality of the milk cows improved through the purchasing of new stock and better breeding, the farmers will be encouraged to sell some of the calves in an attempt to ease the burden of finding money to purchase new stock. It is expected that calf sales will be $11,400 in year one and reaching $25,200 in year 5.

37(b) Pigs - when preperly reared can be a profitable business. Losses are generally incurred when:

(a) the operator tries to do more than one section of the business eg. Breeding and Fattening.

(b) there is no control on the quantity of feed used, and

(c) the Mortality rate is higher among the newly born piglets.

Bearing these factors in mind, there will have to be a selection of the farmers to institute a Breeding Programme. The minimum number of farmers suggested should be five (5) and these begin with two sows each, rising to three sows each in years two and three, and rounding off with about four sows each

in year five. These farmers would be breeding fatteners for supply to the other farmers in the Project. Taking into account the mortality rate, the availability of weaners for fattening from five pig breeders should be:-

Particulars	Y	E	A	R	S
	1	2	3	4	5
No. of Sows	10	10	15	15	20
Pig Production	80	175	262	280	400
Mortality	4	8	8	6	6
Estimated No. of weaners available	76	167	254	294	398

This estimate is based on the assumption that each sow will litter an average of 2.5 times annually (except in year one when only one litter is expected) and the litter size should average about 8 pigs per litter. Mortality rate, although appearing to be about 20% in the first year; it is expected to fall over subsequent years as the farmers develop some expertise in pig breeding.

Fatteners averaging between 190 lbs and 200 lbs should [illegible] considerable increase in the production of pork. With production of only 2.3 tons of pork at present, the farmers should be able to market good quality pork to the processors. One of the factors for success, will be uniform production whereby deliveries can be made in economic quantities (number of pigs).

Presently, pork carries the very good farm gate price of $1.67 per lb. and there are indications that the price will even rise higher. It is expected that gross income in the first year should rise from $24,749 to about $145,130 in the fifth year an increase of approximately 83%.

37(c) Poultry - is divided into layers and broilers. Both classes are reared, but broilers are more plentiful as they are easier to rear; provides the cheapest source of protein for the farm family, and augurs for a faster turn over of investment than the layers or any other kind of livestock.

The production of eggs and poultry meat has a very good potential in the Area. The purchase of high producing strains of layers can lift production from the present estimated level of 5300 dozen eggs to an estimated 35,300 dozen within five years. Also poultry meat production which averages 6.1 tons annually at present, can rise to 48 tons within the same period.

Based on these production figures the gross returns are expected to move from $75,944 in the first year of development to $154,852 within five (5) years.

37(d) Rabbits - could be introduced into the Area. This would be an activity of the children in their 4-H clubs and other Community Groups. The rearing of these animals would provide another cheap source of protein for the family, extra income for both parents and children, and should there be increased production, a Cottage Industry could be started by using the skins for handicraft.

Income from this source has been deliberately left out of this study as it is felt that in the first years, the rabbits will be reared mainly as a novelty.

38 Costs - are divided into Capital Expenditure and Operational Costs:-

38(a) Operational costs - cover the cost of feeds, medicines, and any miscellaneous expenses incurred in the daily operations. Feed costs are based on calculations involving the daily intake of feed for each type of livestock, the current price per ton, and also likely rises in prices in later years.

It is estimated that both Layers and Broilers eat an average of three (3) ounces of feed daily and their population range from 13,200 in the first year to 26,400 in year 5. A pig will eat about 3 lbs of feed per day but since a supplementary feed of approximately 30% of the unmarketable and damaged yams that are reaped will be fed to them, the direct feed cost is cut considerably. The cows and calves using grass and silaged feed will only be fed concentrates at special times viz: during milking and as a supplementary feed for calves. Total calculation of the quantity of feed for livestock is as follows:

FEED REQUIRED (TONS)

PARTICULARS		Y	E	A	R	S
	0	1	2	3	4	5
Pigs	20.3	16.9	91.4	146.5	166.4	233.4
Cows	-	17.5	22.5	30.0	32.5	32.0
Chickens	5.2	96.3	122.2	144.4	166.5	192.5
	25.5	130.7	236.1	320.9	365.4	447.9

With the initial costs of $500 per ton for Poultry feed, $484 per ton for pig feed and $544 per ton for cow and calf meal, and rising in price by about 10% every two years total costs rise from $63,886.4 in year one to $235,663.3 in year five.

It is expected that most of the financing of the operational costs will be bourne by the daily turn over of the business of the farm.

38(b) Capital Expenditure

Money is required by the farmer for such capital expenses as the purchase of stock (cows and pigs), providing adequate housing for his livestock, and for Pasture Development. Details of expenses are estimated to be:

Livestock Purchase - (1). an average of ten (10) cows will be purchased annually at about $800 each in years one and two and at about $1000 each in each of the other years.

(2) As stated before, five farmers should form the smallest nucleus

for pig breeding. The bulk of the purchase will be bourne by those farmers doing the fattening process. It is expected that the weaners will be sold at approximately $1.70 per lb.

(3) Rabbits at the present cost of $15 each will account for Capital expenses not exceeding $1,800 in any single year.

Housing - and storage room is calculated to cost about $20.00 per sq. ft. to build over the five years development period the following pattern is expected to emerge:-

Particulars	Y	E	A	R	S
	1	2	3	4	5
No. of persons	20	20	30	40	30
Area Completed (sq. ft.)	1600	1600	2400	3200	2400
Cost @ $20.00 per sq. ft.($)	32000	32000	48000	64000	48000

Pasture Development - appears to be very expensive ($350 per acre) on account of the small independent and individual areas that are to be developed. It has to be like this as the land tenure and the pattern of land usage are not conducive to communal pasturing for livestock.

FARMER FINANCING

39. Lack of funds always force the farmer to seek loans from finance institution to carry on the operations of his farm, but from a recent survey done in the Area, there were various interesting attitudes displayed by the farmers towards this important aspect of farming. While 49 of them or slightly more than 20% made it known that they could not farm without credit, about 56.5% (131) complained that the interest charges were too high. This complaint is absurd as of the $37094 loan

to farmers in 1977 (Survey Figures) $35,084 came from the Farmers Bank (A.C.B.), who lend farmers money at a rate not exceeding 6%. Of the 31 (13.4%) persons not interested in borrowing, the survey revealed that while 27 disliked borrowing, four (4) thought that their operations were too small to warrant any kind of borrowing.

40. The lessons learnt from the above are that:

(a) these farmers will have to be convinced that without proper finances their farms will never be viable, and that money for farm improvement and efficiency that they have not got, will have to be borrowed.

(b) Good Development Programmes will have to be instituted so that the farms will be very efficient. Only high efficiency can bring the kind of returns that can enable the farmer to repay loans and interest and leave enough to make the fruits of his labour worthwhile.

41. Financial Assistance is given to nearly all the farmers by the Ministry of Agriculture. The assistance is channelled through the Project Land Lease section of the Ministry in the form of Cash and/or kind. Repayment is from the sale of crops through the Agricultural Marketing Corporation; but the mechanics of this arrangement have broken down due primarily to poor marketing strategies with the farmers, low prices offered, and partial supervision of the loans.

42. Capital expenses, spread over five (5) years for crops and livestock, are set out in App. XV). The total expenditure amounts to $608,255. The average loan per farmer is about $2,634 and because of the sizes of the holdings, there is a range of $1,500 - $3,500. The upper limit of the rante is to accommodate the purchase of livestock. The loan is repayable over five (5) years at 6%. per annum, and all efforts should be made to have these repayments collected weekly, as small amounts are more easily collected than large amounts.

The weekly repayment averages $10.06 at the lower limit and $23.49 at the upper limit, while the average weekly repayment is $17.67. Weekly repayments are recommended as the farmers will find it impractical to save the small amounts for paying monthly or quarterly, as invariably at the end of the month or quarter, the amount saved if often used for other purposes.

43. The total loan requirement should be financed by one of the Government Lending Agencies eg. Jamaica Development Bank or the Agricultural Credit Board; or an overseas lending agency (eg) Inter-American Development Bank. An individual should be legally responsible for his loan, but for better supervision the total loan should be disbursed through the Farmer Organisation - the Cooperative. Disbursements should be made only on the recommendations of the Agricultural Extension Officer who is intimately involved with the Farmers' Development Programmes. Appendices 1 and 2 show the loan requisition form that is to be signed by the Agricultural Officer when disbursing loans to the farmer and the loan repayment card on which will be recorded the releases from the lending agency and the issues to the farmer respectively.

44. As it has already been suggested, the collections of the loan should be on a weekly basis. It is believed that by using this method, the high percentage of deliquency among the farmers would be greatly reduced. To make this type of service a reality, it is proposed that the Assistant Manager at the Store be given this responsibility along with his other duties. It is also proposed that a fee not exceeding 2% of the total loan be paid to the Cooperative to cover the expenses of supervision and collection of the said loan.

BENEFITS

45. The projections as to the estimated Incomes and Expenditures of the 231 farm families over a five year period are set out below in relation to the sizes of the farms and also the average income and expenditure for each year over the same period:

1. ESTIMATED EXPENDITURE (See also Appendix XVI).

CROPS

Size of Farm(acs)	No. of Farms	Y 0	E 1	A 2	R 3	S 4	5
0.5 <2	77	121445.4	203926.4	236834.4	299145.5	312242.0	311511.2
2 - <5	126	198728.7	333697.6	387547.1	489510.8	510941.4	509745.6
5 - <10	26	41007.5	68858.2	79970.0	101010.1	105432.4	105185.6
10 +	2	3154.4	5296.8	6151.5	7770.0	8110.2	8091.2
Average	231	1577.2	2648.4	3077.1	3885.0	4055.1	4045.6

LIVESTOCK

0.5 <2	77	11642.7	25091.6	43935.3	63028.0	73806.7	94840.4
2 - <5	126	19051.6	41059.2	71893.6	103136.7	120774.6	155193.4
5 - <10	26	3931.3	8472.5	14835.3	21282.2	24921.7	32024.0
10 +	2	302.4	651.7	1141.2	1637.1	1917.1	2463.4
Average	231	151.2	325.9	570.6	818.5	958.5	1231.7
Crop and Livestock Average	231	1728.4	2974.3	3646.3	4703.5	5013.6	5277.3

2. ESTIMATED INCOME (See also Appendix XVI).

CROPS

Size of Farms (acs)	No. of Farms		Y	E	A	R	S
		0	1	2	3	4	5
0.5 - 2	77	226040.2	462259.9	557041.9	828086.5	1000940.4	1303892.7
2 - 5	126	369883.8	756425.3	911523.0	1355050.6	1637902.5	2133642.7
5 - 10	26	76325.2	156087.7	188092.0	279613.6	337929.9	440275.5
10 +	2	5871.2	12006.7	14468.6	21508.8	25998.5	33867.4
Average	231	2935.6	6003.4	7234.3	10754.4	12999.2	16933.7

LIVESTOCK

0.5 - 2	77	6798.9	47584.5	66863.9	86973.0	110541.0	139306.2
2 - 5	126	59075.4	77865.5	109413.6	142319.5	180885.3	227955.7
5 - 10	26	13405.4	16067.5	22577.4	29367.5	37325.6	47038.5
10 +	2	492.0	1235.9	1736.7	2259.1	2871.2	3618.3
Average	231	170.7	617.9	868.4	1129.5	1435.9	1809.17
Crop and Livestock Average	231	2765.1	6621.3	8102.6	11883.8	14434.8	18742.8

46. Average annual expenses, after allowing for a forty percent increase due to inflation moves from $1,728.4 to $5,277.3 an increase of $3548.9. The first three categories of farm group sizes are expected to absorb the greatest expenditures in crop culture; while livestock development should range proportionately throughout all the farm groups.

47. From the direct agricultural development of the area, the benefits to the farmer are:

(a) Annual average increase in income of approximately $3,200.

(b) Allowance for better and more efficient land usage

(c) Development of new techniques in crop and Livestock culture.

(d) Development of good soil conservation practices resulting in:-

i. Preservation of Soil Structure

ii. The increase and maintenance of Soil Fertility.

(e) Provision of a relatively cheap and easily available source of protein for the farm family.

(f) Provide a source of financial assistance for the farmers that could not be negotiated on an individual basis.

(g) His dependence on his locally grown food will increase, therefore his earnings will be channelled into other areas of economic activity which will eventually make him more financially independent.

(h) The Co-operative will, by showing its capacity to provide Agricultural Inputs, promote agricultural improvement, foster the central aim of Government's Food Production Policy, and assist in the revival of the country's economy.

VII. ECONOMIC (COOPERATIVE STORE)

48. Capital

The Cooperative is being promoted as a farmer orientated enterprise and as such, the strategy has to be employed whereby farmer participation becomes one of the main criteria. Capital will be acquired through shares contributed by the members and also by loans. Whichever method is used to acquire Capital, the eventual possibility is that all will be owned by the members.

48(a) Through a system of share acquisition by the inclusion of a share cess on Agricultural Supplies, it is expected to realise $3200 in the first year, $5000 in the second year, $6500 in the third year, $8000 in the fourth year and $9500 in the fifth year.

48(b) Entrance fees collected over the years will form the first contributions to the Statutory Reserve. - a legal requirement of all Cooperatives in Jamaica. It is recommended that this Reserve will be invested to be sure it remains intact while at the same time serving as a Ledge and/or a collateral in future business dealings.

48(c) Members will be encouraged to save with the Cooperative at an interest rate of between 6% and 8% on savings. The net saving envisaged for each year is shown accordingly.

OPERATING STATEMENT

49. Sources of Income

a) Shop Sales are expected to be about $478,500. This figure is arrived at by estimating that sales will originate from:

a) Two thirds of the first years operational expenses.

b) One third of the first year's Capital expenses

c) 400 farmers outside the Project Area spending approximately $500 each annually.

The second and third years should record a 20% increase in sales for each year and 10% for year four and year five, as long as a stock turn of three times annually can be maintained.

b) Sales of Irish Potato and Peanuts through the Cooperative Store represent about 90% of the total production of these crops.

50. Expenditure

a) Salaries and wages increase by about 36% in five years but should be compensatory for the responsibilities that the positions carry. Yearly reviews will however be necessary to maintain good labour relationships.

b) Other Expenses may spiral as the months progress, but a 5% contingency provision should be more than enough to take care of any form of increased expenditure. The figure appears to be out of proportion to the indirect costs, but a closer look at the direct costs show that they are not only high but are never constant.

CAPITAL REQUIREMENTS

51. The total capital resources generated by the business and contributed by the members are inadequate to provide the total Capital Requirements of the Society in its first year of operation.
This will be satisfied by a loan requirement of about $130,000, either directly from a Government Lending Agency or an International Body.

52. The loan should be for a minimum duration of ten years repayable at 10% interest per year. However, there should be a moratorium of about twelve months to allow the Society to build up a good working capital and have adequate reserves to fight inflation.

53. Stock requirement of $130,000 is needed for the purchase of Fertilizers, Spraying Materials, Animal Feeds and Medicines, Building and planting material and any other farming requests. Apportionment as to the quantity of each category to purchase will be the decision of the Committee of Management, the Manager and the Advisors, but also based on the farmers needs.

VII. BENEFITS

54. ECONOMIC BENEFITS

Apart from those economic benefits derived directly from the change in cropping pattern due to the transfer of the new technology as already mentioned; other benefits to the farmer and the community as a whole are:-

a) Interest payable on his deposit of between 6% and 8% annually.

b) Dividend of 5% payable on his share contribution

c) Bonus payment on his purchases of 5¢ in the Dollar in the first year and rising to 9¢ in the Dollar within the fifth year.

d) Acquisition of farm supplies at a cheaper rate and more easily acquired.

e) Savings accruing on transportation charges in acquiring supplies.

f) Better money management through closer loan supervision

g) Better utilization of the working day as time is not wasted in travelling afar to obtain supplies.

h) Provide a source of employment for the farmers' children and/or other persons from the area.

i) Provide a marketing outlet for farm produce at competitive prices.

j) Provide a meeting place where problems as they affect the farmers can be discussed in a meaningful manner.

55. Social Benefits can also be many and varied. Some that comes readily to mend are:-

a) Enhance the ability of the farmers to participate in the decision making process.

b) Informal growth of the Rural Community resulting in improved social conditions.

c) Lessening the incidence of malnutrition and general improvements in the health conditions of the farm family.

d) Develop and maintain good human relationships through meetings and other every day contacts.

56. As these benefits, both economic and social begin accruing to the farmers, there will be a general upliftment in morals and attitudes towards work, the home and people. These changes in morals and attitudes should result in a gradual upward change in the standards of living of these people.

IX. CONCLUSION

57. In closing, the following conclusions can be arrived at:-

a) should the Allsides Pilot Project succeed, this type of Agricultural Development among farmers can be introduced to farmers in other areas of the Island. Adjustments may be necessary, but these adjustments should not form barriers against the programme.

b) The objectives of the Allsides Development Project may appear to be formidable, but through the Cooperation of all the Officers, farmers and Agencies involved, these stated objectives can be achieved.

c) Already, work has commenced at the Project. The Inter-American Institute of Agricultural Sciences along with the Ministry of Agriculture have been establishing the Soil Conservation Practices recommending for hillside farming; conducting trials and demonstrations in crop culture and also engaged in the studying and demonstrating the conditions conducive to the rearing of livestock.

The Cooperative Store has been established with the help of a loan from the Ministry of Agriculture, a grant from I.I.C.A. along with substantial contribution in kind from the Antillee Chemical Company Limited. A Stores Manager has been engaged and a programme of training has been instituted by the Cooperative Department, This Manager is presently operating the store under the guidance of the Steering Committee and the Cooperative Officer of the Cooperative Department (Western Region).

It is only left for the rudiments of this feasibility to be implemented, as what has been already established can be regarded as the nucleus of the development.

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A P P E N D I C E S

I. Members' Individual Loan Account

II. Farmers' Loan Requisition Order

III. Estimated Operating Statement

III(a) Operating Statement - Salaries, etc.

III(b) Operating Statement - Occupancy Cost

III(c) Operating Statement - Other Costs

IV. Capital Requirement

IV(a) Capital Requirement - Equipment

IV(b) Capital Requirement - Stock

IV(c) Sources of Capital - Shares & Deposits

V. Capital Expenditure - Land & Building

VI. Livestock Loan Funding

VII. Silage & Pasture Development

VIII. Cooperative Education and Training

IX. All-Sides Development Project Organizational Chart

X. Progressed Structure at Agricultural Cooperatives

XI. Anticipated Memberships

XII. Proposed Land Use (Acres)

XIII. Estimated Crop Production (Tons)

XIV. Estimated Production - Livestock

XV. Capital Expenditure

XVI. Estimated Operational Expenses ($)

XVII. Estimated Income ($)

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APPENDIX I

MEMBERS INDIVIDUAL LOAN ACCOUNT

Membership No. _____ Lot No. _____

LOAN APPROVED:

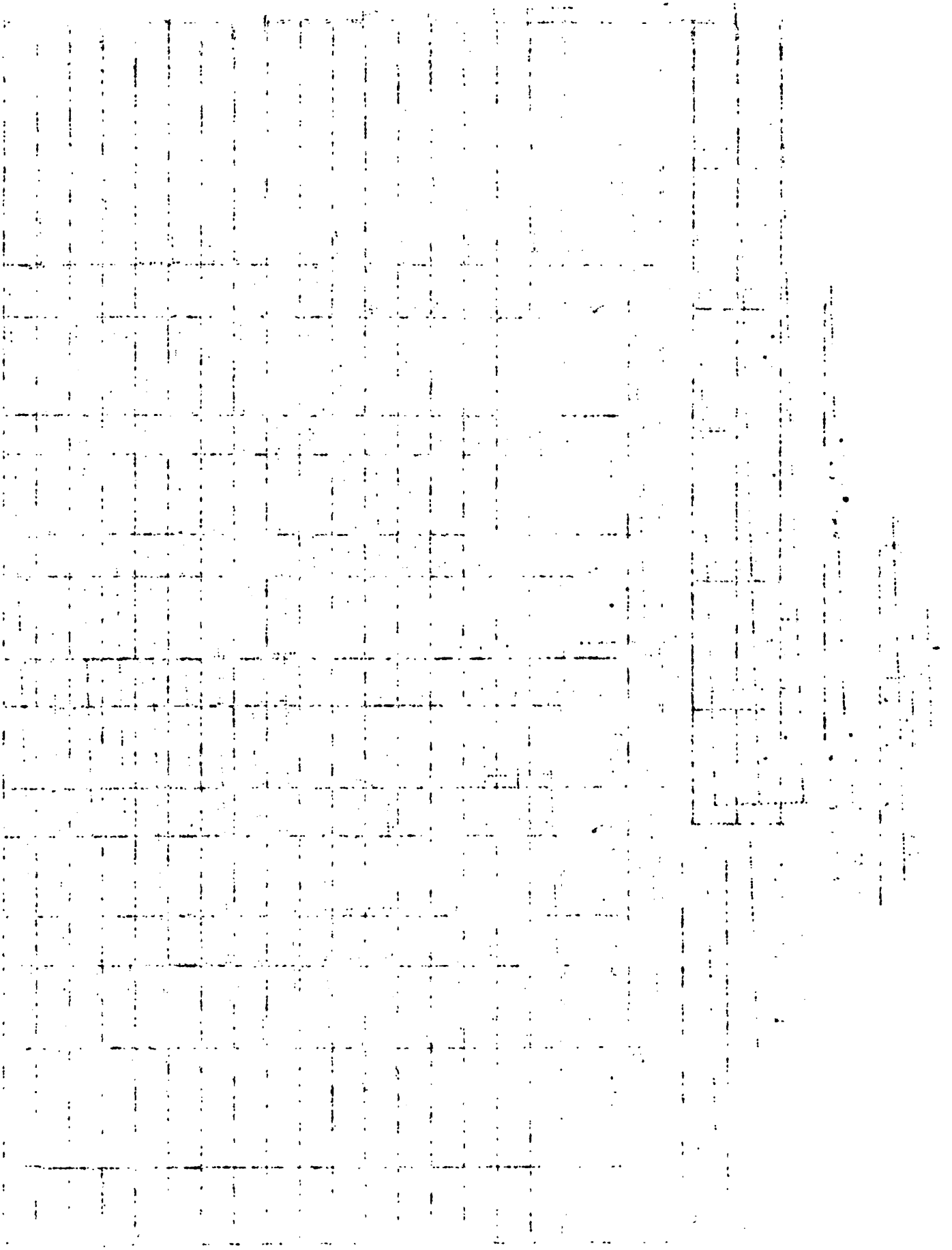
Name _____

Address _____

No.	Date	AMOUNT	No.	Date	AMOUNT

Date	Voucher No.	LOANS						INTEREST						SIGNATURE OF RECEIVER
		Issued		Repaid		Balance		Amt. Due		Paid		Balance		
		$	¢	$	¢	$	¢	$	¢	$	¢	$	¢	

APPENDIX I



APPENDIX 2

FARMERS' LOAN REQUISITION ORDER

NAME OF FARMER: ..... DATE: .....

REQUIREMENTS

i. Cash Disbursement: $

ii. Planting Material

iii. Land Ploughing

iv. Agricultural Supplies

a)

b)

c)

d)

e)

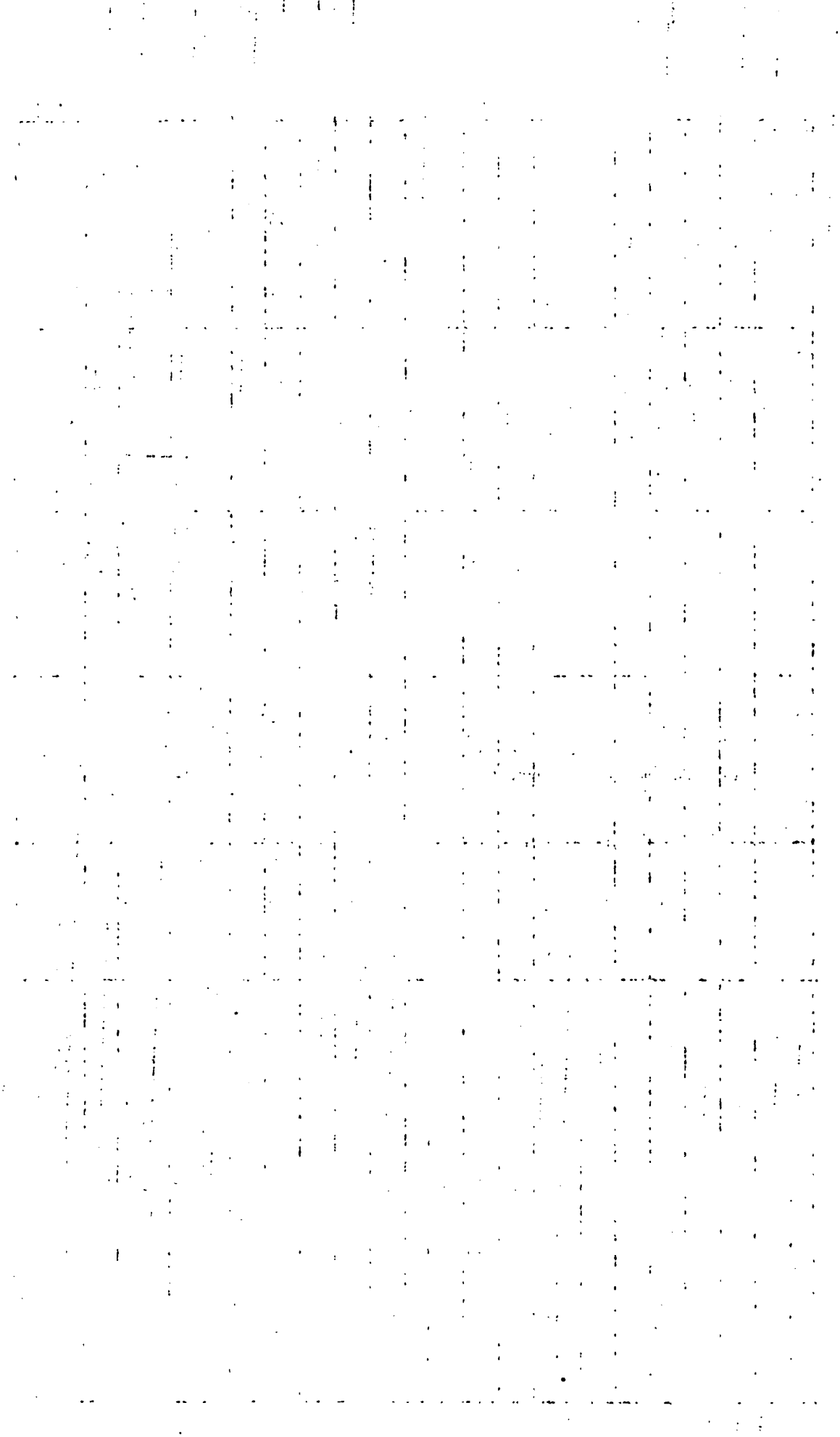
f)

.....
Agric. Extension Officer.

ESTIMATED OPERATING STATEMENT

1 ESTIMATED INCOME	YEAR 1 $	YEAR 2 $	YEAR 3 $	YEAR 4 $	YEAR 5 $
Shop Sales	478500	574200	688600	757500	833200
Irish Potato Sales	13500	17010	23760	35280	42525
Peanut Sales	7425	12484	19602	20907	26185
TOTAL	499425	603694	731962	813687	901910
2 ESTIMATED EXPENDITURE					
A. Purchases : Shop Purchases	383800	459360	550880	606000	666560
Irish Potato Delivered	13000	16510	23260	34680	41925
Peanut Delivered	7125	12184	19302	20507	25785
Sub-Total	402925	488054	593442	661187	734270
B. Operating Expenses					
Management	9198	9518	10878	11198	12558
Other Wages & Salaries	8624	9614	10604	11594	12584
Occupancy Costs	1140	1140	1360	1360	1560
Other Costs	3670	4020	4420	4870	5470
Depreciation - 10% Eqpt. Costs	410	410	410	410	410
Miscellaneous - 5% of costs.	21298	25638	31056	34531	38343
TOTALS	447265	538394	652170	725150	805195
Estimated Net Surplus	52160	65300	79792	88537	96715
Estimated Share Interest (Dividend) - 5%	250	705	1530	2168	3030
Estimated Members Bonus	24972	36222	50238	65095	81172
Estimated Retained Surplus	26938	28373	28024	21274	15543
Bonus Payment - Per Dollar	5¢	6¢	7¢	8¢	9¢

APPENDIX III



APPENDIX 3 (a)

OPERATING STATEMENT - SALARIES, ETC

A. MANAGER

PARTICULARS	Y	E	A	R	S
	1	2	3	4	5
Basic Salary	6628	6528	6828	7128	7428
N.H.T.	190	200	210	220	230
Pension (N.I.S)	180	190	200	210	220
Allowances	1040	1040	1560	1560	2080
Travelling	1560	1560	2080	2080	2600
Total Costs	9198	9518	10878	11198	12558

B. OTHER STAFF

Asst. Manager	4200	4500	4800	5100	5400
Sales Clerk	2080	2380	2680	2980	3280
Handy Man	1560	1860	2160	2460	2760
Misc. (10%)	784	874	964	1054	1144
Total Costs	8624	9614	10604	11594	12584

APPENDIX 3 (b)

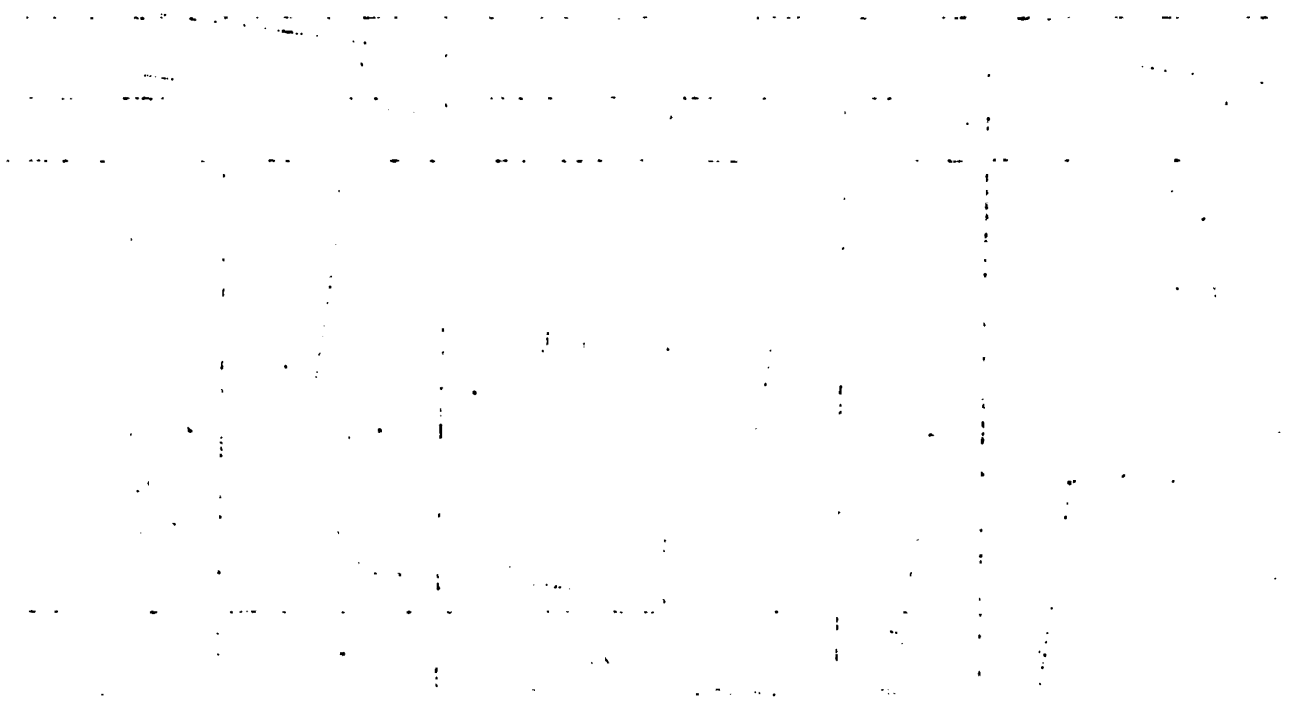
OPERATING STATEMENT - OCCUPANCY COSTS

Particulars	Y	E	A	R	S
	1	2	3	4	5
Rent	480	480	580	580	680
Light & Power	360	360	420	420	480
Water	300	300	360	360	400
	1140	1140	1360	1360	1560

APPENDIX 3 (c)

OPERATING STATEMENT - OTHER COSTS

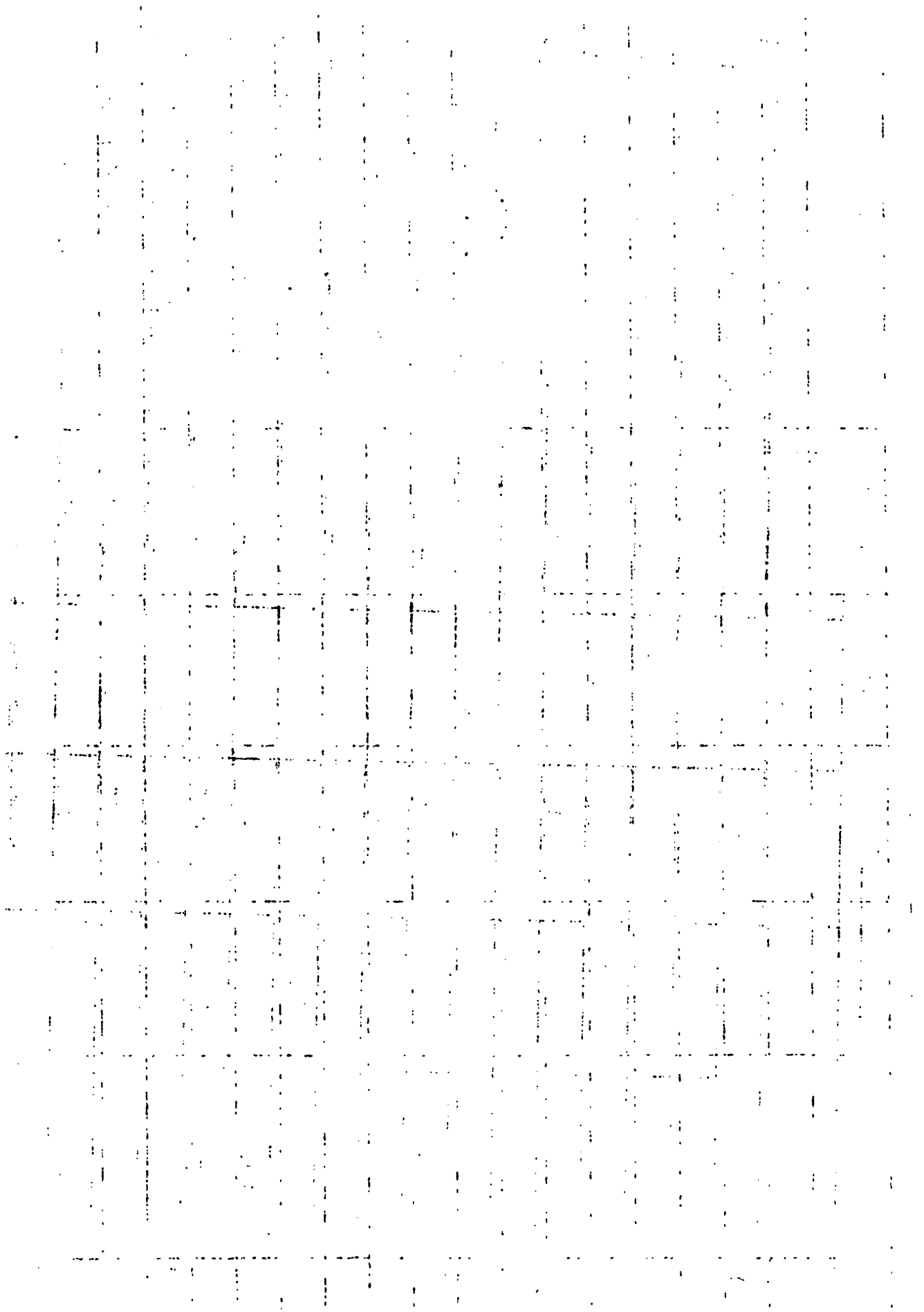
PARTICULARS	Y	E	A	R	S
	1	2	3	4	5
Promotion	300	300	300	200	150
Postage	50	50	50	50	50
Stationery	500	500	600	600	600
Travelling	300	350	400	450	500
Bank Charges	20	20	20	20	20
Packaging	600	800	900	1100	1500
Professional Charges	500	500	500	600	600
Audit Fees	400	400	450	500	550
Insurance	1000	1100	1200	1350	1500
	3670	4020	4420	4870	5470



APPENDIX IV

CAPITAL REQUIREMENTS

R 1	YEAR 2 $	YEAR 3 $	YEAR 4 $	YEAR 5 $	NOTES
	7526	11687	19299	20011	a) Should a loan Administration
	0	6500	8000	9500	Fee of 2% of the Annual
		6000	4500	7500	Capital Expenditure be made
		400	250	250	to the Society the loan
		28024	21274	15543	needed by the Co-operative
		410	410	410	would be reduced to about
		53021	53733	53214	$120,000.00.
		-	-	-	b) For the first five (5)
		53021	53733	5321	years operation, shop will
					be occupied on a leased
		-	-	-	basis.
		-	-	-	c) Loan is repayable over ten
		-	-	-	(10) years at 10% rate of
		13,000	13,000	13,000	Interest.
		20722	20722	20722	d) It eis expected that there will be on average stock
		33722	33722	33722	turn of three (3) times
		19299	20011	19492	annually.



APPENDIX 4 (a)

CAPITAL REQUIREMENT - EQUIPMENT

One (1) Filing Cabinet	-	$400.00
One (1) Adding Machine	-	$300.00
One (1) Manager's Desk & Chair	-	$500.00
One (1) Conference Table	-	$600.00
Ten (10) Chairs	-	$600.00
One (1) 30 lbs. Balance Scale	-	$200.00
One (1) Heavy Duty Scale	-	$1,500.00
		$4,100.00

APPENDIX 4 (b)

CAPITAL REQUIREMENT - STOCK

1.	Fertilizers	)	
2.	Spraying Material	)	
3.	Animal Feeds	)	
4.	Medicines	)	
5.	Building Material	)	$130,000.00
6.	Planting Material	)	
7.	Msicellaneous	)	

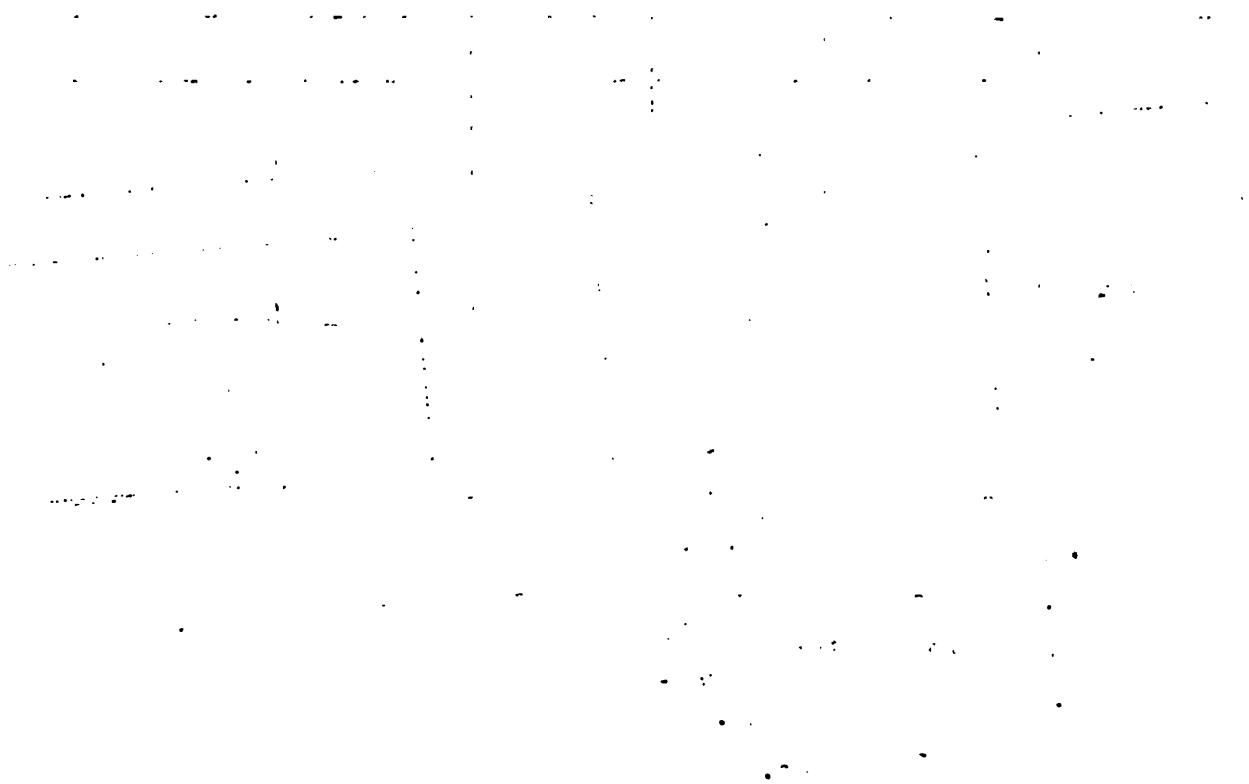
(a) Appertionment as to the quantity of each categery to purchase will be the decision of the Manager, Committee of Management, and Advisors and based on the farmers needs and demands.

(b) Stock turn to average about three (3) times Annually.

APPENDIX 4 (c) - SOURCE OF CAPITAL
SHARES AND DEPOSITS

	1	2	3	4	5
Shares	3200	5000	6500	8000	9500
Entrance Fees	300	350	400	250	250
Deposits	1500	3750	6000	4500	7500

1. Shares are based on a Share Cess on Goods sold.
2. Entrance Fee is $1.00 per member
3. Member will be encouraged to save regularly
4. The totals shown are to be achieved in the period stated.



APPENDIX V

CAPITAL EXPENDITURE - LAND & BUILDING

Since the draft of this study has been prepared, difficulties have arisen in regards to the rental of premises to house the offices and farm store of the Cooperative.

To this end, the Capital Expenditure required to acquired land and buildings has been prepared.

1.	Purchase Quarter of an Acre (¼ AC.) of land ($2,500.00) plus legal and other fees incurred ($1,500.00)	$ 4,000.00
2.	Farm Store	
	a) Display Area - 20 x 6' x 8' = 960 c.ft.	
	b) Store room 20 x 10 x 8' = 1,600 "	
	2,560 c.ft.	$146,000.00
		$150,000.00

NOTES

a) Office space (8'x6') is included in the Display Area, and will be marked off.

b) Cost of Farm Store is calculated as follows:

1.	2560 c.ft. @ $50.00 per c.ft. (inclusive of Material and Labour)	$128,000.00
2.	Contingencies (Inflation etc.)	18,000.00
		$146,000.00

APPENDIX VI

LIVESTOCK LOAN FUNDING

Under section 42 of the text, reference is made "in toto" to the conditions under which loans should be made to the farmer. A further breakdown of this, with particular reference to loans for livestock purchase and pasture development is now given.

Livestock farming being regarded as a long term investment does not begin generating income until about five (5) years after its inception. This being the circumstances, it is recommended that:

I. the life of the loan should be for a minimum of ten (10) years.

II. there be a moratorium of between twelve and eighteen (18) months.

APPENDIX VII

SILAGE AND PASTURE DEVELOPMENT

For the successful development and maintenance of the livestock industry, it is imperative that adequate feeds be readily available.

As supplementary feeds, concentrates should be provided for milk cows, while growing calves are given milk replacers and grains to assist their optimum growth.

It is also important to provide sufficient fodder (grass) which is the main feed of the animals. This commodity can be fully supplied when pastures are properly developed.

PASTURE DEVELOPMENT

Efficiency in pasture development can be achieved by having a type of grass that maintains an adequate ratio between leaf and stalk; can withstand relatively severe drought and overgrazing conditions, and can be silaged.

It is estimated that the cost per acre for pasture establishment is approximately $350, but direct income can be obtained during the establishment by planting short term cash crops eg. peas and/or corn.

SILAGE

The idea of preparing silage in metal containers (eg) discarded oil drums, has been highlighted by the I.I.C.A. technologists and would appear to have the following advantages:

i. Cost of oil drums are cheap
ii. The quantity to be silaged in two such containers is sufficient for one cow over the period of need (approximately two (2) months).
iii. Drums can be placed at strategic points of the farm for greater effieiency.

APPENDIX VIII

COOPERATIVE EDUCATION AND TRAINING

Cooperative education and training will be centered on the three (3) areas of the Pre-cooperative, namely:

a) Members
b) Committee of Management
c) Staff

The strategy employed will be such as to create a functional appreciation of the various areas of education and management. The costs involved for this exercise can be classified as:

1. Manpower costs:- This is the cost of providing the personnel for implementing the programme. Such costs will have to be bourne by the State. Set out below are the details of such costs.

Particulars	Y	E	A	R	S
	1	2	3	4	5
COOPERATIVE OFFICER					
Salary (P.M.A. I)	5392	5692	5992	6292	6592
Car Upkeep	1800	1800	1800	1800	1800
Travelling etc.	2400	2400	2400	2400	2400
Sub-Total	9592	9892	10192	10492	10792
SUPERVISOR					
Travelling etc.	1200	1300	1400	1500	1600
Misc.	1208	1338	1468	1578	1708
TOTALS	12000	12530	13060	13570	14100

There is the possibility of about a thirty (30%) percent rise in Salary in the public sector.

2. Implementation Costs - include the costs for transportation, teaching material, and catering. These costs are inclusive of formal and informal courses, but as other subjects unrelated to cooperative education are taken at the formal courses, one third of the costs as set out below can be regarded as the true costs for implementing the programme. These costs are to be met by the Cooperative.

PARTICULARS	Y	E	A	R	S
	1	2	3	4	5
FORMAL COURSES					
Transportation	450	540	630	720	810
Living & Catering	3000	3200	3500	3750	4000
Sub-Totals	3450	3740	4130	4470	4810
INFORMAL TRAINING					
Catering	600	650	700	750	800
Training Material	300	350	400	450	500
Easel & Board	150	-	-	-	-
Misc.	450	480	520	570	620
TOTALS	4950	5220	5750	6240	6730
COOPERATIVE INPUT	1650	1740	1920	2100	2300

It should be noted that :-

a) three formal courses of three days duration will be held each year

b) the number of participants for each course should not exceed thirty (30) persons.

c) Informal Courses will be conducted on a two-monthly basis.

Attached to this appendix is a copy of an Annual Cooperative Training Programme that is to be implemented in the Pre-Cooperative as of the 1st April, 1980.

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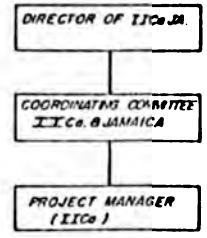
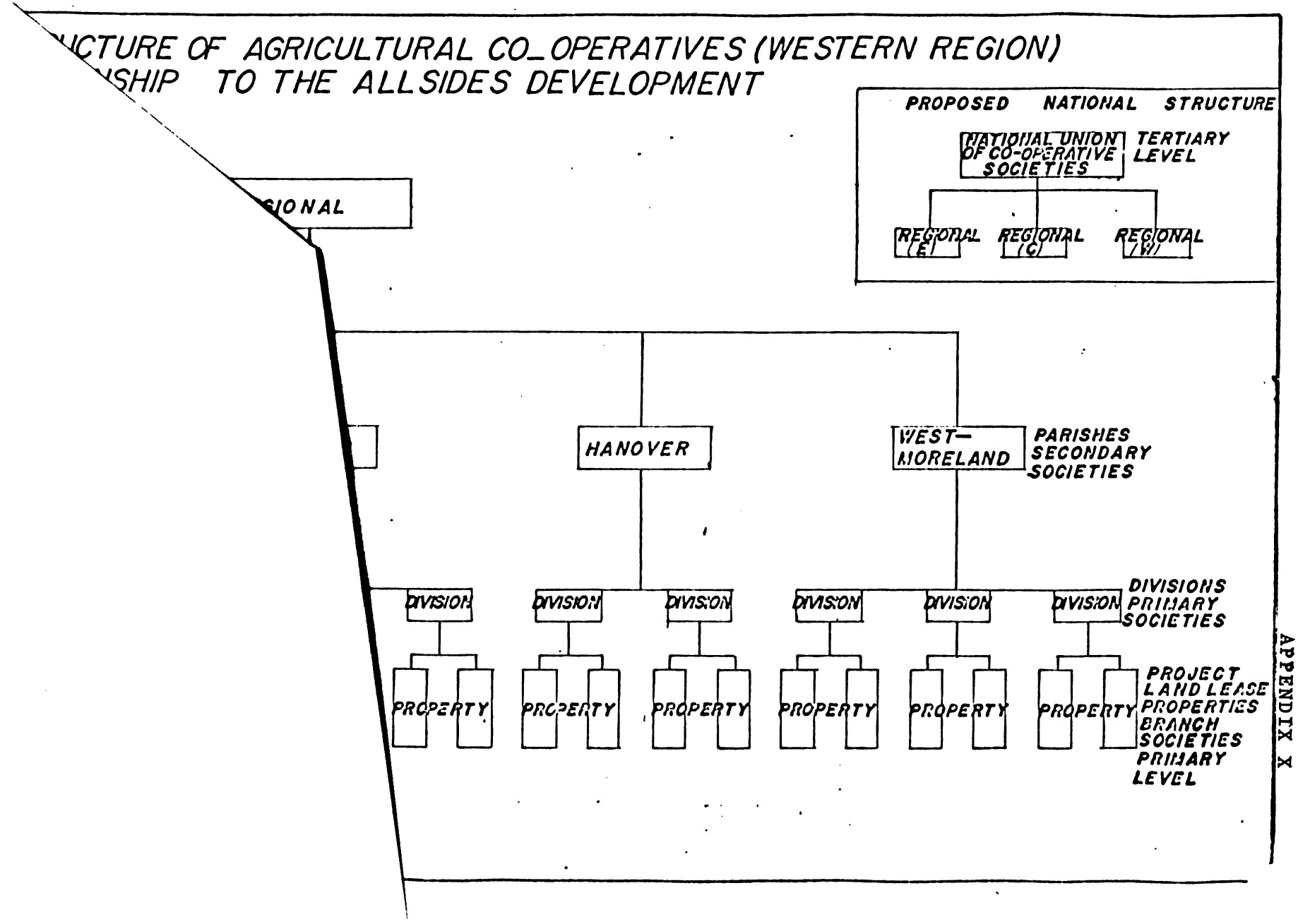
ALLSIDES PLOT DEVELOPMENT PROJECT
ORGANIZATION CHART

INTER-AMERICAN INSTITUTE FOR AGRICULTURAL SCIENCES



APPENDIX IX

...ICTURE OF AGRICULTURAL CO_OPERATIVES (WESTERN REGION)
...SHIP TO THE ALLSIDES DEVELOPMENT

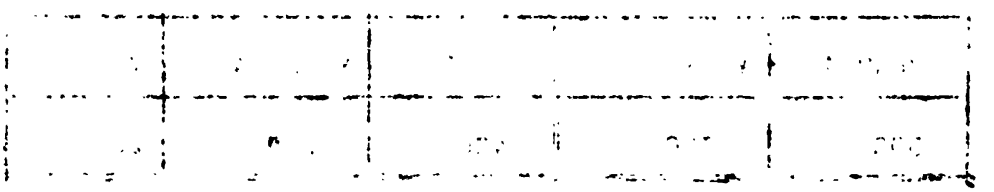


APPENDIX X

APPENDIX XI

ANTICIPATED MEMBERSHIP

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
300	350	400	250	250

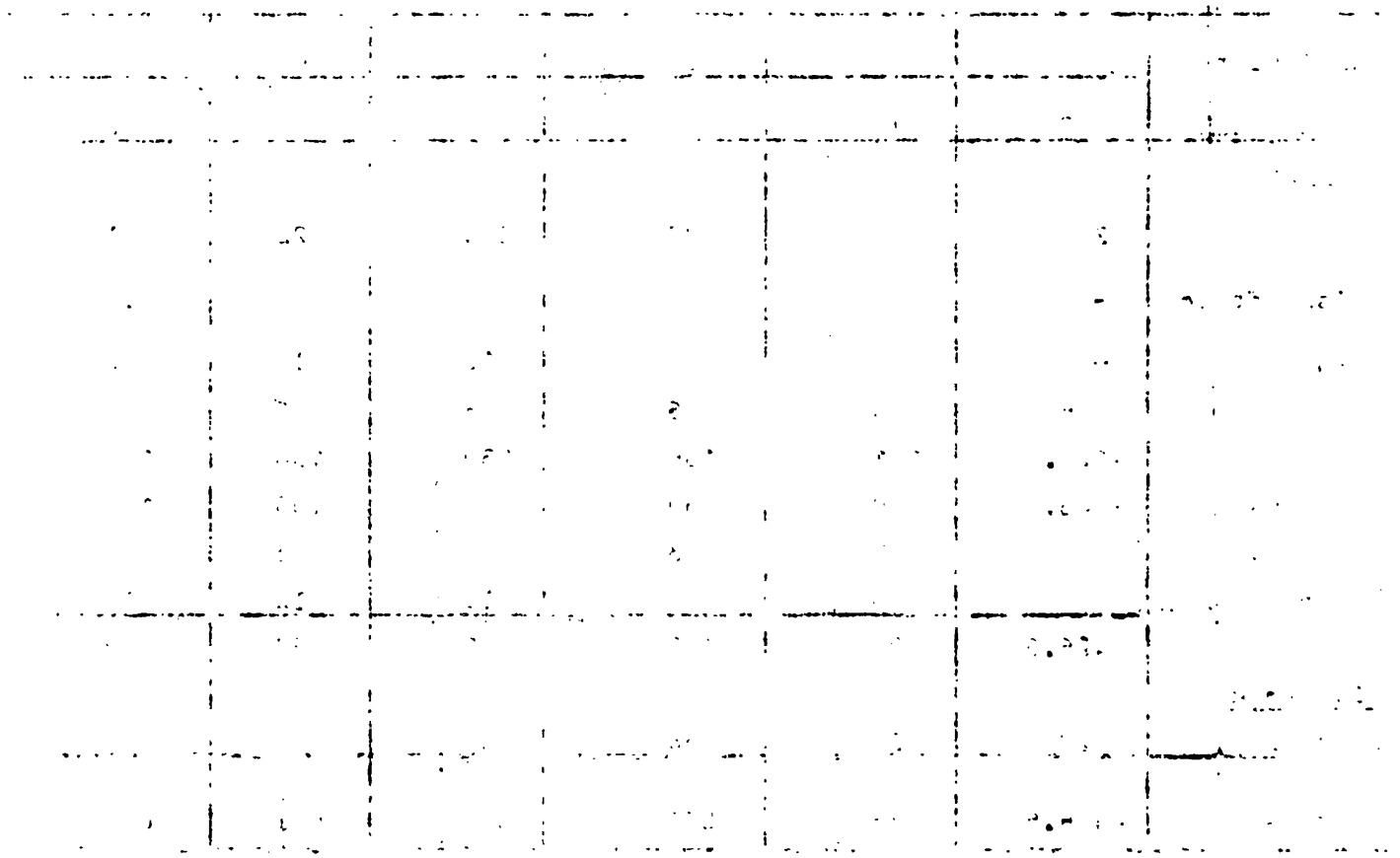


APPENDIX XII

PROPOSED LAND USE (ACRES)

Particulars		Y	E	A	R	S
	0	1	2	3	4	5
Crops						
Yam	265	286	320	384	422	431
Irish Potato	-	5	6	8	10	12
Peanuts	-	5	8	12	12	15
Coffee	6	6	6	6	6	6
Banana	126.6	131	136	130	130	130
Red Peas	43.7	50	60	80	100	130
Forestry	10	3	3	4	3	3
Other	5	5	8	10	12	15
	406.6	425	467	528	567	579
Livestock (Pastures)	20	20	34	53	34	22
Totals	426.6	445	501	581	601	601

1. Total Acreage of Project Area is about 622 acres.
2. Uncultivable Areas (Drains, Gully Courses etc) = 21 Acres or Approx. 3.4% of total acres.
3. Irish Potato, Peanuts, Coffee, and Red Peas are intercultivated with other crops, hence their respective acreages are not included in the annual totals of the land use.

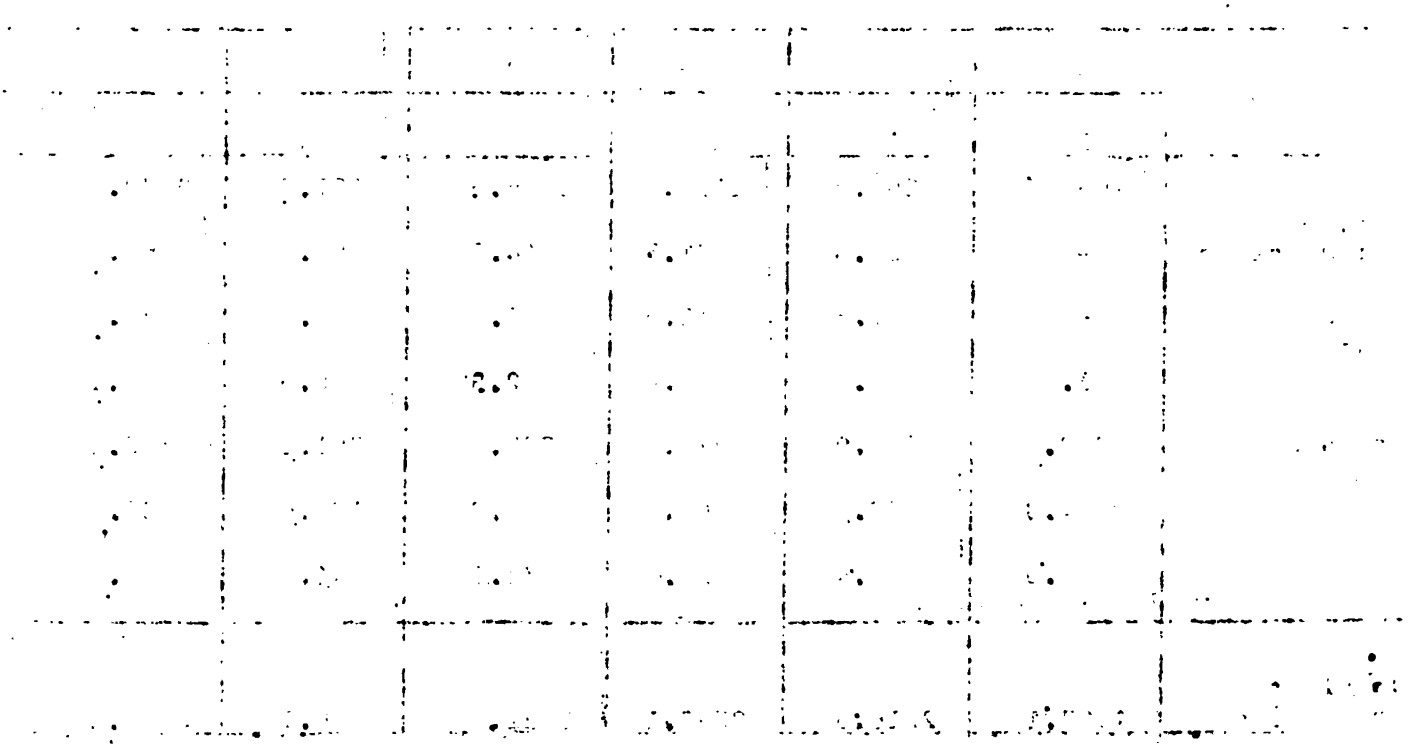


APPENDIX XIII

ESTIMATED CROP PRODUCTION (TONS)

CROPS		Y	E	A	R	S
	0	1	2	3	4	5
Yams	1650.0	1867.0	2193.6	2816.6	3327.5	3670.3
Irish Potato	-	25.0	31.5	44.0	56.0	67.5
Peanuts	-	7.5	12.6	19.8	20.2	25.3
Coffee	3.6	2.5	2.5	2.8	8.6	24.1
Bananas	230.5	248.9	272.0	325.0	351.0	390.0
Red Peas	* 4.0	50.0	60.0	80.0	100.0	130.0
Other	15.0	15.4	25.9	34.7	44.8	61.0
Total Production	1903.1	2216.3	2598.1	3322.9	3908.1	4368.2

*Heavy losses due to Mosaic disease.

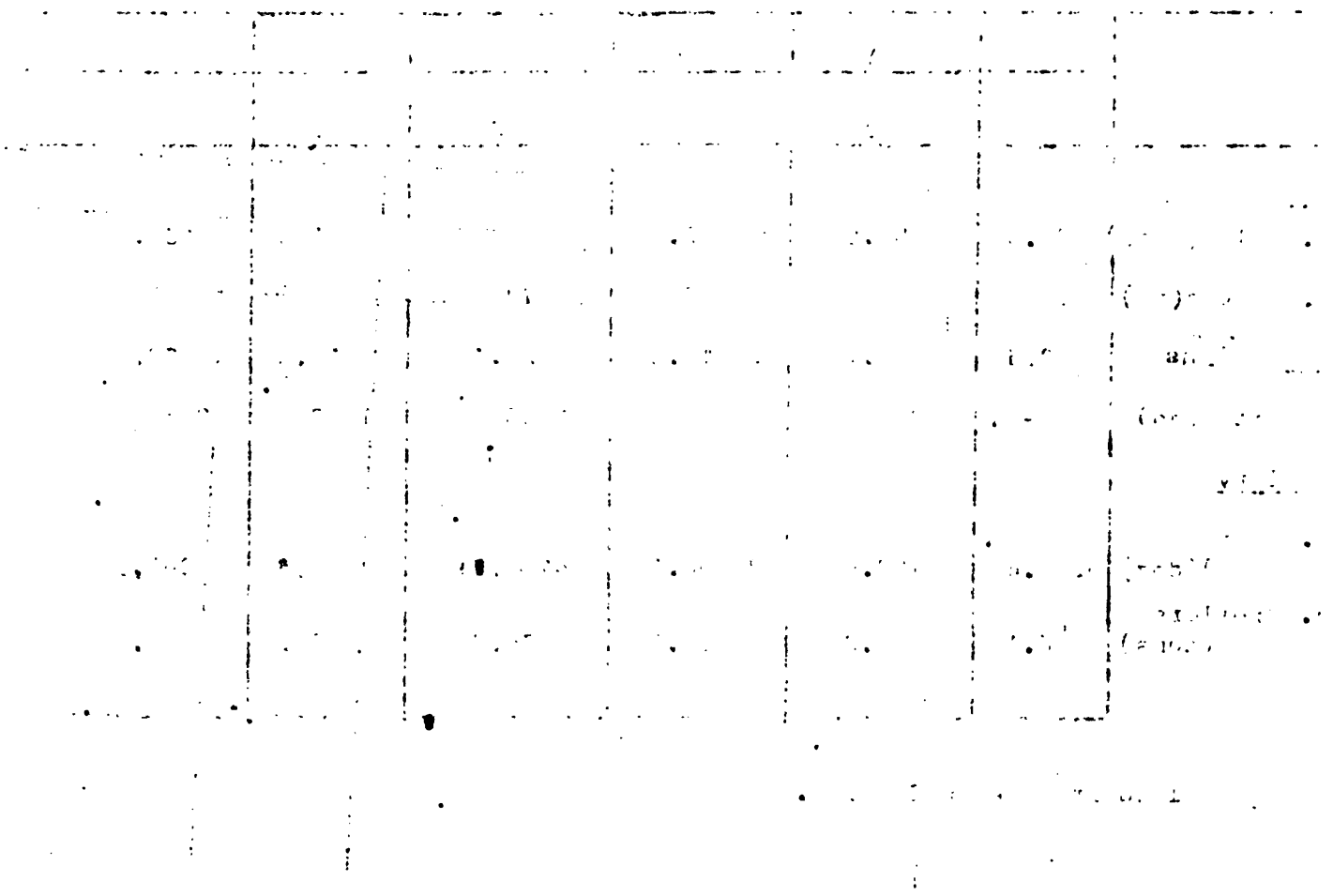


APPENDIX XIV

ESTIMATED PRODUCTION - LIVESTOCK

LIVESTOCK		Y	E	A	R	S
	0	1	2	3	4	5
Cows						
a. Milk (tons)	26.8	52.5	72.0	90.0	107.5	138.0
b. Calves(no)	50	60	60	70	80	90
Pigs (tons)	2.3	7.4	16.3	24.7	28.6	38.6
Rabbits (No)	-	220	660	1200	1650	2450
Poultry						
a.Layers (eggs)(doz)	5251.4	15120.0	20800.0	24120.8	27600.8	35280.0
b. Broilers (tons)	6.1	24.0	30.0	36.0	42.0	48.0

1 Quart Milk = 2.5 lbs.

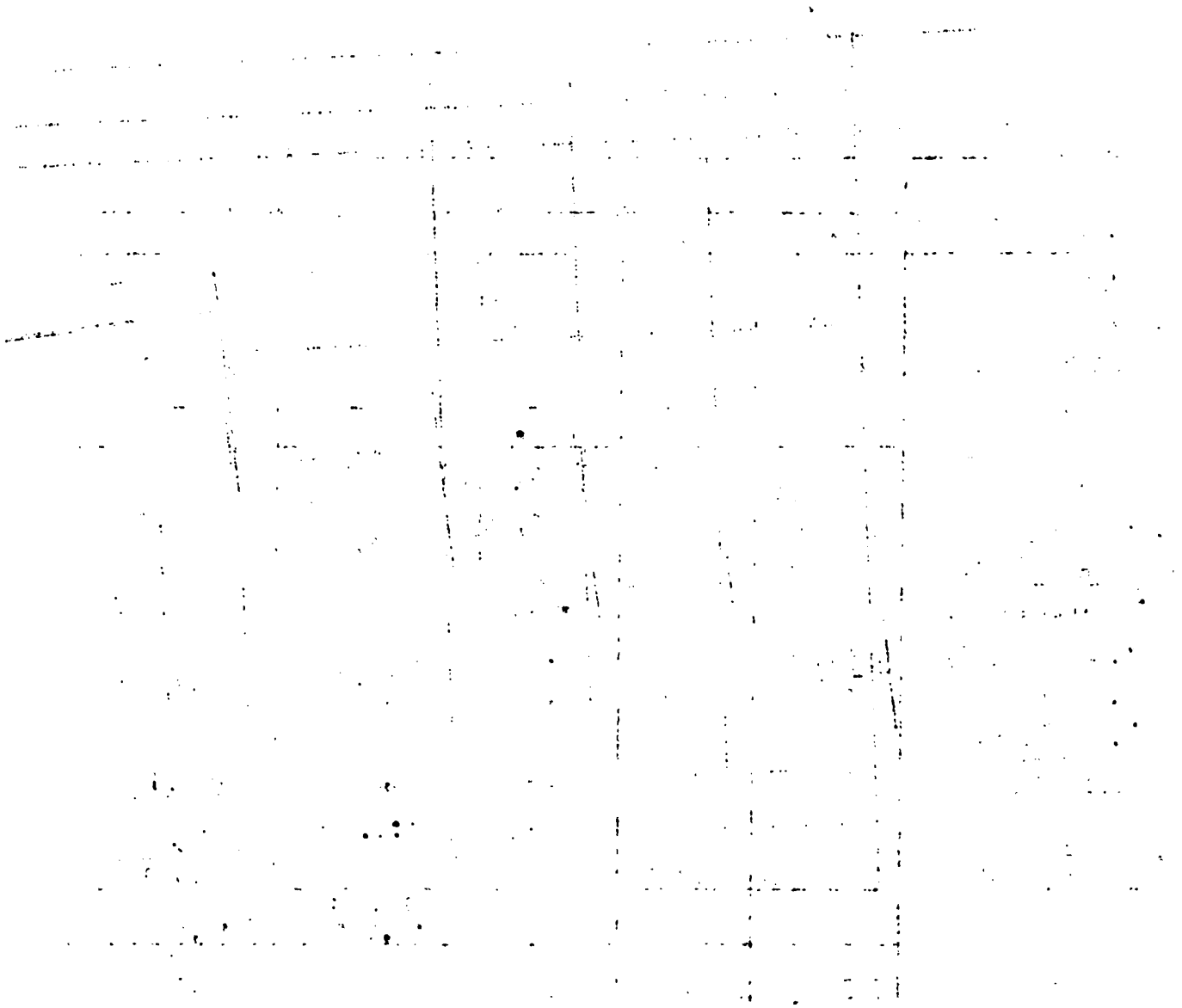


APPENDIX XV

CAPITAL EXPENDITURE

PARTICULARS	Y	E	A	R	S
	1	2	3	4	5
A. CROPS					
1. Yams	12000	20400	40800	27600	26600
2. Irish Potato	2600	3120	4160	5200	6240
3. Peanuts	270	-	-	-	-
	14870	23520	44960	32800	32840
B. LIVESTOCK					
1. Purchases					
a. Cows	8000	8000	16,000	10,000	10,000
b. Pigs	7510	14195	25,400	30,000	40,000
c. Rabbits	980	1800	1,800	1,800	1,800
d. Poultry					
2. Housing & Storage	32000	32000	48,000	64,000	48,000
3. Pasture Development	7000	7000	12,750	22,500	6,000
	55490	62995	97,950	127,300	115,800
Total	70360	86245	142,910	160,100	148,640

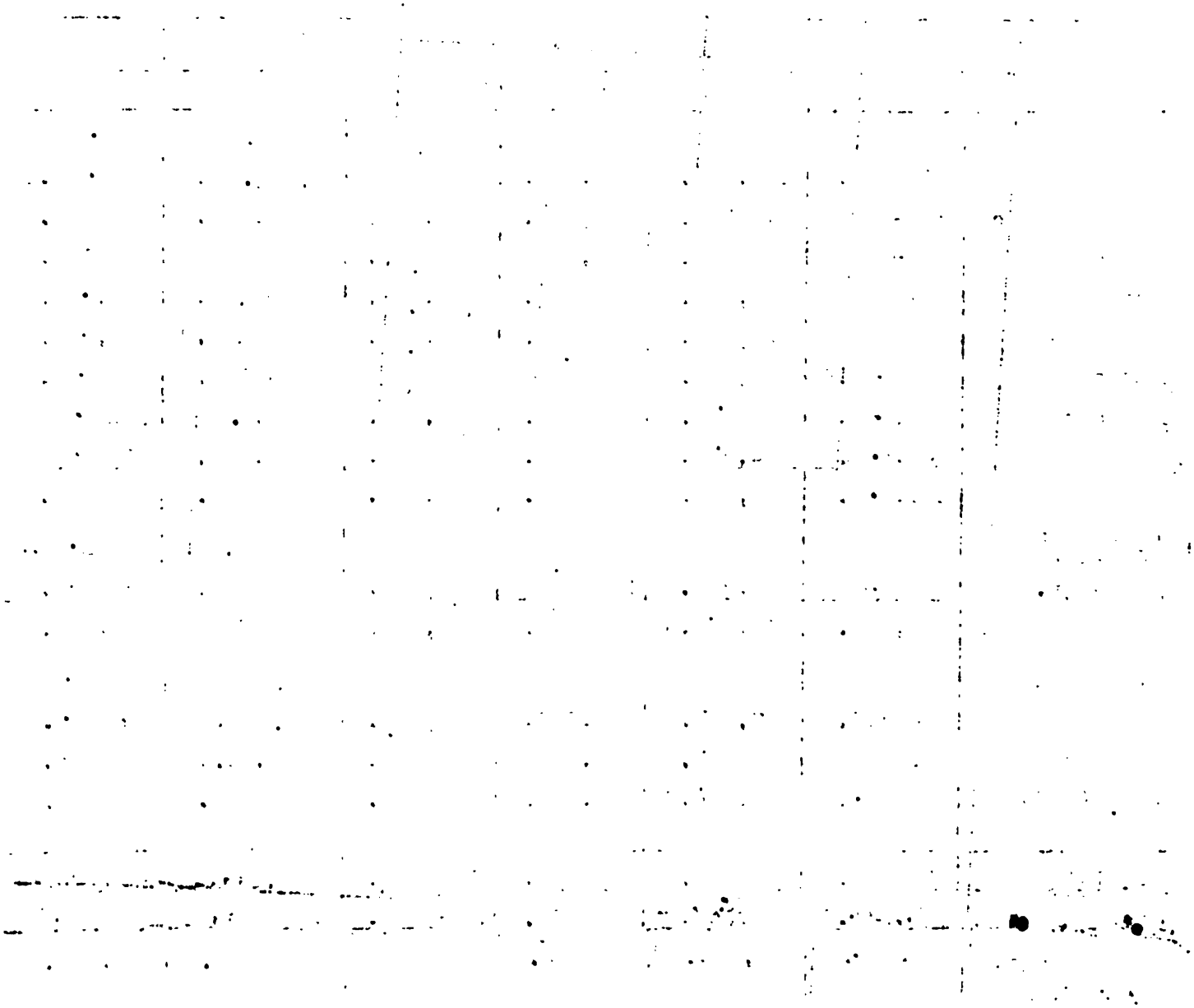
Purchase of poultry is regarded as an operational expense



APPENDIX XVI

ESTIMATED OPERATIONAL EXPENSES ($)

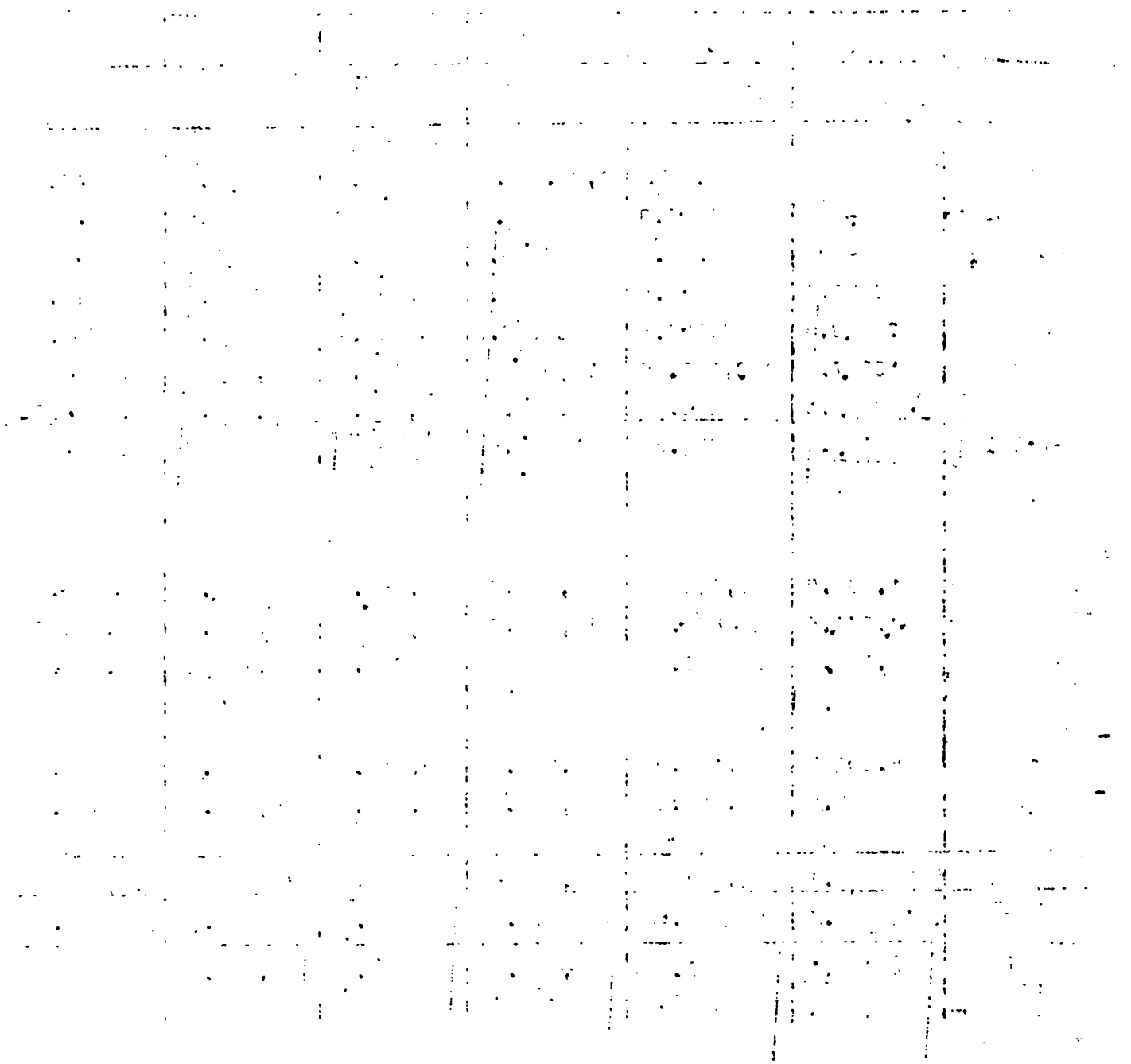
PARTICULARS		Y	E	A	R	S
	0	1	2	3	4	5
CROPS						
Yam	318,000.0	370,500.0	428,200.0	544,000.0	555,800.0	528,900.0
Irish Potato	-	10,285.0	12,342.0	16,456.0	20,570.0	24,684.0
Peanuts	-	4,700.0	7,520.0	11,280.0	11,280.0	14,100.0
Coffee	2,700.0	6,690.0	6,690.0	6,690.0	6,690.0	6,690.0
Red Peas	20,976.0	24,000.0	28,800.0	38,400.0	48,000.0	62,400.0
Banana	12,660.0	14,660.0	15,100.0	13,000.0	14,300.0	15,600.0
Forestry	5,500.0	1,650.0	1,650.0	2,200.0	1,650.0	1,650.0
Other	4,500.0	4,500.0	7,200.0	9,000.0	10,800.0	13,500.0
	341,180.0	436,985.0	507,502.0	641,026.0	669,090.0	667,524.0
Inflation c Costs- 40% per year.	-	174,794.0	203,001.0	256,410.4	267,636.0	267,009.6
	364,336.0	611,779.0	710,503.0	897,436.4	936,726.0	934,533.6
LIVESTOCK						
Feeds	30,372.5	63,886.4	109,028.4	154,917.7	177,003.9	235,663.3
Medicines	3,037.0	7,592.5	15,185.0	22,777.5	29,610.8	32,571.9
Misc.(10%)	1,518.5	3,796.0	7,592.5	11,388.8	14,805.4	16,286.0
Sub-Total	34,928.0	75,274.9	131,805.9	189,084.0	221,420.1	284,521.2
Gross Expenses	399,264.0	687,053.9	842,308.9	1086,520.4	1,158,146.1	219,054.8
Average Exp. per farmer	1,728.4	2,974.2	3,646.3	4,703.5	5,013.6	5,277.3

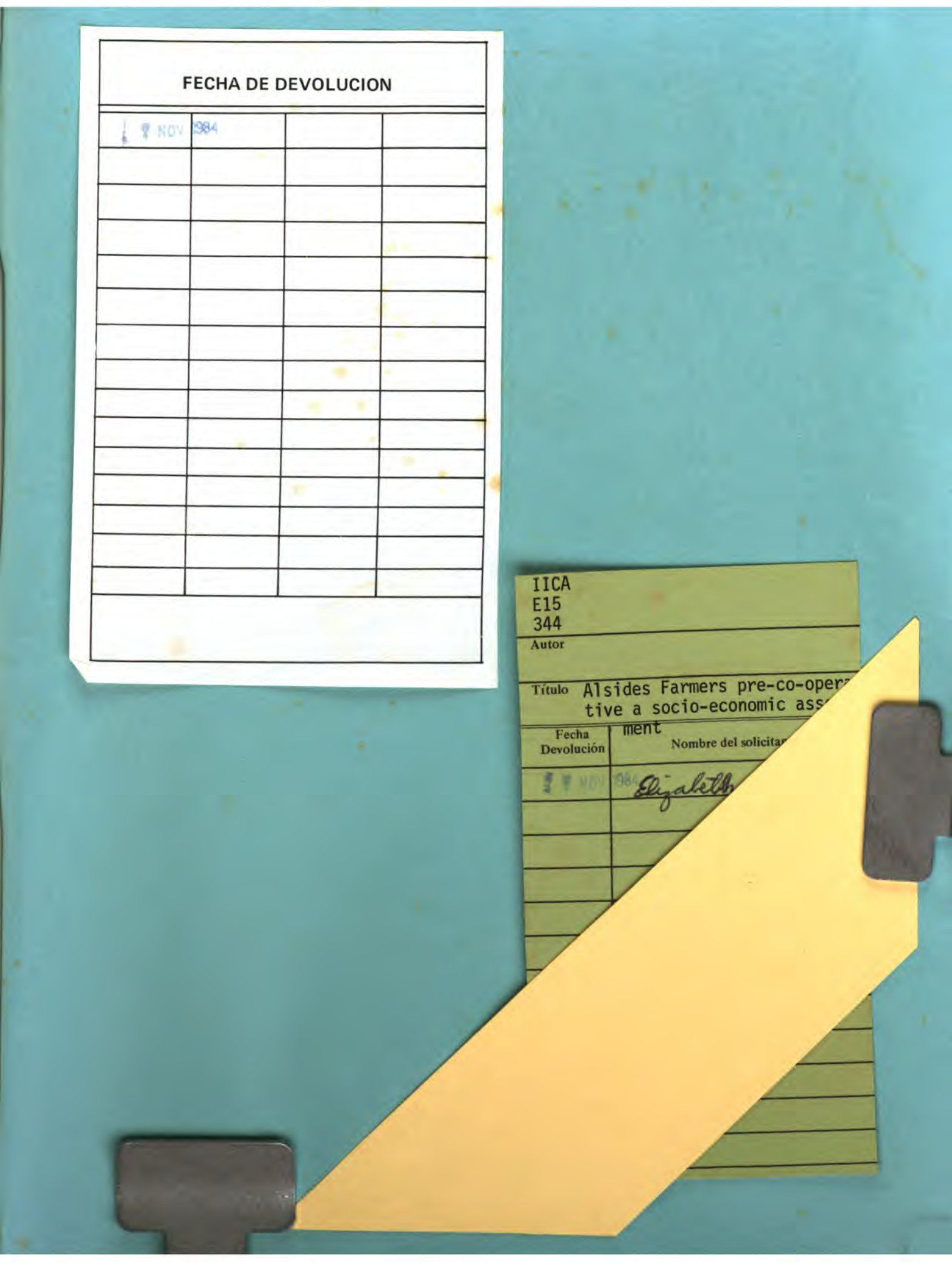


APPENDIX XVII

ESTIMATED INCOME ($)

Particulars		Y	E	A	R	S
	0	1	2	3	4	5
CROPS						
Yams	624898.3	1,120,290.6	1,316,160.0	1971648.0	2329229.0	2936317.0
Irish Potato	-	1500.0	18900.0	26400.0	39200.0	47250.0
Peanuts	-	8250.0	13860.0	21780.0	23230.0	29095.0
Coffee	3839.8	2666.5	2666.5	2986.5	9172.3	25616.3
Banana	27675.0	31332.5	34000.0	40625.0	45630.0	50700.0
Red Peas	12707.3	200,000. 0	270,000. 0	400,000.0	525,000.0	780,000.0
Other	9000.0	9240.0	15,540. 0	20,820.0	31,360.0	42,700.0
Sub-Total	678120.4	1386779.6	1671125.5	2484259.5	3002821.3	3911678.3
LIVESTOCK						
COWS						
Milk	11,809.0	30,660.0	42,048.0	52,560.0	72,240.0	92,736.0
Calves	7,872.6	11,400.0	13,200.0	17,500.0	20,800.0	25,200.0
Pigs	3,936.3	24,749.4	54,383.6	82,715.1	107,207.1	145,130.7
POULTRY						
Layers	6,301.7	18,144.0	24,960.0	28,944.0	34,776.0	44,452.0
Broilers	9,443.5	57,800.0	66,000.0	79,200.0	96,600.0	110,400.0
Sub-Total	39,363.1	142,753.4	200,591.6	260,919.1	331,623.1	417,918.7
Gross Income	638,757.3	1529533.0	1871717.1	2745178.6	3334444.4	4329597.0
Average Income per farmer	2,765.1	6,621.3	8,102.6	11,883.8	14,434.8	18,742.8

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Nombre del solicita
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