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A STUDY OF FARM PRODUCTIVITY  
IN THE SANTO BOMA SETTLEMENT PROJECT  
SURINAM

by  
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## GENERAL SUMMARY

The Santo Boma Settlement Project located near the city of Paramaribo (about 25 minutes by car) comprises four separate polder developments, namely, Magenta, Santo, Boma, and Tawajari. The total area is approximately 4,000 hectares. Early in 1961, Magenta and Santo Polders were opened for settlement. One hundred hectares of Santo Polder were reserved for a government operated banana plantation. It is estimated that when the project is completed there will be land for about 1,000 farm families.

The information in this report was gathered early in 1963. As Magenta and Santo Polders consisted of 360 farm units, it was decided to take a 10 per cent random sample. It was later discovered that there were 347 settlers actually on the land. The farm units of the 36 holdings studied ranged from 2 to 4.5 hectares. Twenty-nine, or over 80 per cent, had units of 4 hectares. As in the other settlement polders in Surinam, the 4-hectare plot is the standard sized unit. Twenty-two, or 61 per cent, of the farmers had been on their holdings for one and one-half years; 7 for six months to one year; 4 between one and one-half and two years. Only two families had been on their plots for a little over two years. Twenty-two settlers were Hindustanis, eight were Javanese, and six were Creoles.

Prior to the development of the project, the area consisted of swamp land, light forest on the more elevated parts, and areas in bush and grass. In the past, farmers in the neighborhood had cut and burned parts of the forest for natural pasture. These areas now proved to be sterile for crop cultivation. The soil types will be discussed later.

The long term agricultural plan for the project called for the production of export bananas, citrus, dairy cattle, and some rice in the lower clay areas. After clearing the land, the farmers usually plant corn to be followed by vegetables, plantains, peanuts, or other quick return crops.

This is necessary while waiting for the more permanent crops to come into production.

Productivity. Although it may be argued that a year and a half is too short a period to make judgments concerning the productive capacities of the settlers, the Department of Agriculture, Animal Husbandry and Fisheries did raise the question as to why productivity on the farms was much below planned expectations. The purpose of the survey was to seek answers to this question.

The physical potential of the farm (soil and water) and the market are the two poles between which the farmer has to operate. The farm plan is the equation or formula that brings these two poles into equilibrium. In the development of a farm it is necessary to have in mind what kind of a farm is wanted, what the fully mature farm will look like. Will it be a citrus farm, a cattle farm, or a combination? Will it be a mixed farm in which annual crops are rotated? Thus for the first five years, annual plans have to be made and carefully followed so that a proper sequence of development can be maintained.

The farm plan then is the key to proper development, the formula that organizes and maximizes the productivity of the farm lay-out around the factors of land, labor, capital, and the market. But the farm plan and all it means is directly and intimately related to the farmer, the man, the entrepreneur, the manager. He is the living creative entity or element who, with the aid of the credit agent, will make the farm plan and put it into operation. If the managerial skill of the farmer is the key factor in farm production, the question at once arises, how can we select settlers who already have managerial capacity to operate commercial type farms or, failing this, how can we select settlers who can most rapidly learn improved managerial practices? Equally important is what kinds of settlers should we

avoid selecting, or if they have to be considered, what special treatment is necessary to add to their economic and social security without wasting the land and credit resources of the project? The real secret of an effective method of selection lies in the selectors power to predict the behavior of an applicant once he comes to the project. What kind of information concerning an applicant is most likely to lead to predictability?

It was assumed that as the 36 farmers in the sample group had been selected as settlers, an intensive study of each farm and farmer in this group would enable the survey team to evaluate the performance of each farmer. As these performances differed it would then be possible to grade the farmers in terms of their performances as good, fair, and poor.

The next step was to explain why certain farmers were rated good and others fair and poor. Here it was assumed that by looking into the background or the past work experience of the farmer and studying him as a person, it would be possible to account for his performance in the project. Thus if there were a correlation between performance in the project and background and personality, then in future selections it would be necessary to study only the background and personality or character of an applicant to estimate his probable performance. Although the assumptions made in this report are borne out statistically, it is believed that the sample was probably too small to lead to convincing conclusions. Similar studies in other settlement projects would be useful in testing this hypothesis.

The fact that 44.4 per cent of the farms in the sample group were classified as poor is indicative of the extent of low productivity. Although low productivity can, to some extent, be attributed to such physical causes as soil and water, the evidence shows overwhelmingly that low productivity is due to the incapacity and unwillingness of certain farmers to develop and manage their farms. The study of these farmers revealed that

their incapacity or unwillingness stemmed from four general causes: (1) old age, physical or mental illness, and alcoholism. These individuals were classes as "social welfare cases." (2) Individuals who continued to work full time or part time outside the project, or who carried on some craft or petty trade to the detriment of farm development, using their farms only as "home places." (3) Individuals who lacked the initiative to break away from subsistence rice farming and to undertake new farm practices. These were classed as "tradition bound." (4) Individuals who held their farm plots owing to "political patronage."

If the sole objective of the Land Settlement Program were maximum production, then it would follow that these types of settlers should not be admitted into the project. A good method of selection that emphasized the study of the background and personality of the applicants could effectively eliminate this type of settler from entering the project. But the Land Settlement Program has social as well as economic objectives, thus by giving individuals and families, with inadequate means of livelihood, plots of land in the project, the financial burden on the social welfare services in the city and in the rural districts would be relieved. Another objective of the program is to select settlers from the congested rural areas near the city so that very small land holdings could later be consolidated into larger ones.

Project planning and farm planning. With these mixed objectives it would thus not be possible to lay the stress completely on the maximum productivity of individual farms, for some farms would be held by individuals who lacked the capacity for managing, for instance, a four hectare plot. As individuals differ widely in their capacities, project planning would of necessity have to be carried on in terms of both people and the land. Elderly couples, widows, and individuals who wished only to grow rice could be given

plots commensurate with their abilities. As to just what size these plots would be could be determined by the credit agents over a period of time. In this way both land and credit resources could be used to the best advantage. This kind of project planning would depend upon a constant feed-back of information from the credit agents to project management.

Another kind of project planning would imply giving project management a greater voice in settler selection. Project management could determine the crop potentialities of a series or block of plots and then select settlers from the list of applicants to fit the soil and water conditions of the land. For instance, it would not be wise to put an individual, who all his life has grown only wet land rice, on a piece of sandy land. A plot of this kind could more profitably be given to a Javanese who is accustomed to growing peanuts or a Hindustani who knows how to grow fodder grasses and raise cattle.

A project plan that endeavors to match the individual capacities, experiences, and interests of the settlers with the variable potentialities of the land would, in a sense, maximize the productivity of the project and also would ease the task of the credit agents charged with individual farm planning and credit assistance.

#### NOTES

1. The Surinam guilder, the symbol expressed as Sf (Surinam florin) is equal to 53 cents U. S.

2. The small farmers of Surinam customarily measure planted areas in square chains. In Surinam, a chain is 20 meters, a square chain would thus be 400 square meters. There are 25 square chains in one hectare. A square chain can also be expressed as .04 hectare.

3. The unit of weight is the kilogram. A half kilogram or 500 grams is called a pound. As American and English products are common in the grocery stores, the English pound (lb.) is referred to as lib.

FARM DEVELOPMENT AND MANAGEMENT EFFICIENCY

The first task of the survey team was to evaluate the performance of the farmers, first, as to the degree of development of their plots, and second, as to the managerial capacity demonstrated in the use of these plots, and then to classify the farms and farmers on the basis of these facts.

After ascertaining the area of the plot and the time the farmer had been in effective control of the land, the criteria selected for determining the degree of development were the following: (a) area cleared, (b) area planted, (c) housing - none, temporary shack, permanent house, and (d) the amount of credit withdrawn by the farmer from the credit allowance made to him by the project. These were clear objective facts that presented no difficulty in comparing the development work performed by each farmer.

Management presented greater difficulties when it came to the question of comparison. One could say that the simplest test of management efficiency would be to compare the cash yields per hectare or the cash sales from farms of equal size farmed for an equal period. Thus we could say that the higher the cash income the more efficient the management. But as crops have to be adapted to differing soil and water conditions, and as the cash income from various crops vary, cash income alone would not be a fair index of management ability or efficiency. It could be said, of course, that soil and water conditions can be changed through proper drainage and irrigation and the use of green cover crops and fertilizers to make them suitable for almost any crop, but with the majority of the settlers having no past knowledge of soil management, this could not be considered, at least in the early phases of the project. The criteria chosen in evaluating management efficiency, therefore, were the following: (a) Is the cropping pattern

adapted to existing soil and water conditions? (b) Are the crops or other enterprises (livestock) readily marketable? (c) Are the crops well cared for? (d) What has been the gross return to date? (e) Is the farmer following the farm plan prepared jointly by himself and the credit agent? (f) Has the farmer used credit, and if so, has he used it to the best advantage?

### Survey Techniques

As has been mentioned, the degree of development of a farm presented no difficulties. The area of the farm plot was given on the project map. The project office also kept bi-annual records of areas cleared and areas planted. In the sample survey, however, these two areas were determined by direct observation. The layout of a polder simplifies this task. A polder is laid out in series or blocks which are indicated by numbers. Each series is made up of a number of farm plots also indicated by numbers. Thus a farmer when questioned about his farm would say that it is in Series 2 - Plot 6. A number of series are drained and irrigated by primary drainage and irrigation canals. Plots in a series are drained and irrigated by secondary canals which link up with the primary system. In other words each plot is flanked with an irrigation canal on one side and a drainage canal on the other. In digging the canals the thrown-up dirt forms a bank along the sides which makes a good path. As the plots are generally rectangular, 100 meters wide, the area depends on the length. Four-hectare plots are 400 meters long, 2-hectare plots are 200 meters long. As a hectare is 100 x 100 meters, it is a simple matter to walk alongside a plot and pace off the cleared areas.

In Surinam crops are distinguished as wet land crops (such as rice) or dry land crops (such as tree crops, vegetables, etc.). Thus land is

classed as wet and dry. A 4-hectare plot may contain 2 hectares of dry land and 2 hectares of wet land. While wet or rice land is left level so that it can be flooded while the rice is growing, dry land requires a tertiary system of drainage formed by making beds running across the plot. The soil from the ditches is thrown into the center of the bed forming a slight convex surface which adds to its drainage capacity. Beds, as a rule, are either 6 or 8 meters wide. Although the width of the plot is 100 meters, allowance has to be made for the canals and paths which cut the length of the beds to roughly 80 meters. If the beds are fully planted, the planted area can be calculated from the number of beds. If only parts of beds are planted, then the planted area can be paced off. It is customary in Surinam to give areas less than a hectare in square chains - as a chain is 20 meters, a square chain is 400 square meters or  $1/25$  of a hectare. If a farmer had made no beds on his dry land and had planted patches of corn and vegetables here and there, they had to be estimated.

Housing and outbuilding development was measured in terms of cash costs. The project staff usually assisted the farmers in building construction by providing credit so that the building costs were well known. As temporary shacks usually consisted of palisade walls of poles cut from trees on the plot, the only cash costs were for the purchase of galvanized iron sheets for roofing, the price of which was well known.

As has already been mentioned, the credit allowance and the amount withdrawn by the farmer were recorded in the project office. Not all farmers received credit. Whether a farmer was to receive credit or not was determined by the project leader and the credit agent under whose supervision the farmer operated. To get credit a farmer had to ask for it. His financial standing was then investigated. If he had sold his old plot before coming to the project or had sold buildings and livestock, he

generally had sufficient funds to make a start on the polder. This information could be checked at the District Commissioner's Office which kept records of these matters. If a farmer, on coming to the polder, had little or no money, the project staff estimated his needs for money to build a house and buy tools and planting materials. This sum was his credit allowance on which he could draw when necessary. Once a farmer received this loan at 7 per cent interest, he had to agree to follow a farm plan prepared by himself and the credit agent. Farmers who received no credit were free to do as they wished, although they could request extension help from the credit agent at any time. Thus the degree of development of a plot or the assessment work carried out by a farmer could be measured with a high degree of accuracy.

In an effort to get an accurate as possible measure of the management efficiency of a farmer, we had to request outside help. The first question was, did the cropping pattern fit soil and water conditions? Although a soil map of the polders concerned existed, it was felt that this information was too general to be of value for specific farm plots used in the sample. Before going on to present the report of the soil specialist, a general statement about the coastal soils of Surinam would be helpful.

### Soils

Practically all the farming in Surinam is carried on in the "New Coastal Plain." This plain is a narrow strip of low lying marine deposits stretching along the coast from French Guiana on and into British Guiana. Basically these deposits are made up of clays created to some extent by the outwash from the local rivers, but much more importantly by sediments created by the outwash from the Amazon River which extends out into the Atlantic for several hundred miles. These sediments are then carried along the north coast of South

America by a northwestward current assisted, no doubt, by the northeast trade wind. The deposits are predominantly marine clays over which lie ridges of sand, which mark the location of old beaches. While the sand ridges stand above high tide level, the clays are usually inundated by high tides, forming salt water swamps or marshes.

To the basic soil surfaces of clay, swamp, and sand ridge are superimposed two additional deposits. The shallower swamps permit the growth of bushes and small trees. Falling leaves, branches, twigs, and dead trees have in time formed swamp litter. This swamp litter, which is neither humus nor peat but which could in time become one or the other, is locally called pegasse. On many of the sand ridges, especially in the eastern part of the country, there are narrow strips of shell deposits which have formed a dark soil. These strips of shell deposits are locally called shell ridges although they form part of a sand ridge.

Considering top soil only we have, therefore, four basic types of soil. Sand ridge soil, shell ridge soil, pegasse-covered swamp clays when drained and clay top soil in drained swamps. There are, of course, combination soil types like sandy loams and also sandy soil is found in the swamps. More specific soil information is presented in the following report by a soil specialist:

AGRICULTURAL EXPERIMENT STATION

Soil Conditions of Some Farms in the Magenta and Santo Polders

by F. W. van Amson, M.Sc., May 1963

Introduction

At the request of the anthropologist of the Surinam-American Cooperation Technical Service soil reconnaissance studies were made on 36 farms in the Magenta and Santo Polders. The purpose of this study was

to obtain information about some physical characteristics of farms which were selected for sociological studies.

### Methods

On the cultivated areas of the selected farms soil studies were made by means of a soil auger. The morphological features of the soil profiles, as shown in the soil core, were described using the following criteria:

1. Soil texture (light or heavy)
2. Soil color
3. Thickness of the pegasse layer
4. Thickness of the Al layer (the layer in which organic and mineral matter has been incorporated)
5. Thickness of the Ag layer (the grayish white layer that can occur between the Al and the subsoil)
6. The depth of the reduced layer (blue-gray in color indicated lack of oxygen)
7. Depth of the sand layer

### Results

The results of the study are presented in Tables I and II. The "percentage texture" is a rough estimation of the texture of the topsoil of the farms and was partly determined by the field survey and partly derived from the soil map. The clay soils have a gray matrix with yellowish-brown mottles. The sand fraction is very fine. The thickness of pegasse, the Al and the Ag layers, the depth of the clay subsoil, and the sand layer are based on field observations in the cultivated areas. In cases where information was derived from the soil map, question marks are used in the columns referring to the mentioned characteristics.

### Discussion

The Magenta soils differ from the Santo soils in the following features:

1. Magenta has lighter textured, or more sandy soils.
2. Magenta has practically no pegasse.
3. In Magenta soils the Al is very thin and in some areas missing.
4. In Magenta the subsoil layer is of greater depth.
5. In Magenta the sand layer is of less depth.

### Conclusions

1. In Magenta the soils are at a higher level than those of Santo.
2. As a result of burning in Magenta the amount of pegasse has been drastically reduced. The burning of brush and grass has been so severe that in many cases the Al layer is also missing.
3. Santo has younger soils, the subsoil being at a shallower depth.

As a result of points 1, 2, and 3 the agricultural possibilities of Magenta differ completely from those in Santo. An increase in the thickness of pegasse means an increase in land value. If the pegasse layer is missing the cultivation of rice is recommended. On these soils, cultivation of tree crops (cacao and citrus) is only advisable after green manuring with kudzu, or mulching with fodder grasses. The cultivation of bananas must be omitted. The sandy soils are medium to poorly drained. The acidity of these soils (pH plus or minus 5.0) will limit the growth of peanuts. The medium drained soils on the highest parts of the sand ridges are suitable for tree crops, the lower parts for fodder grasses, manioc, or sweet potatoes on small highly elevated and heavily manured beds.

The soils of Santo have more possibilities. Vegetables, musa (plantains and bananas), and tree crops can be recommended on farms with 5 or more cm. of pegasse. On the other hand the cultivation of rice will be limited by a thick layer of pegasse. (End of quotation)

### Soils and Crops

In his report above, the soils specialist has specified the crops that are recommended for the various soil types. He also mentions what could be grown on these soils with manuring and the use of chemical fertilizers. For instance, we know that the Dutch colonists who came to Surinam in 1845, have successfully farmed the sand ridges which contain soils of the lowest fertility. They have done this for nearly a century by combining dairying with plantain cultivation, milk and plantains being in steady demand in the capital city of Paramaribo. The Dutch settler uses the sand ridge for producing fodder grasses. Every year, however, he plants plantain suckers on the better drained areas on well made beds. The plantains are heavily fertilized with barnyard manure. In nine to twelve months the plantain stem produces a heavy well developed bunch of plantains. The stems are then cut down and the land returned to pasture for many years. But what the Dutch farmer can do on a sand ridge and what the small Hindustani and Javanese subsistence farmer does is quite another matter.

Traditionally these small farmers do not use fertilizers of any kind so that crops have to fit the soils in their natural condition. The soils of the highest fertility are on the shell ridges. These soils will produce all of the dry crops from vegetables to tree crops. So far no shell ridge soil has been discovered in the two polders under discussion. The next richest soil is pegasse, particularly if it lays over sandy clay loam. This soil too will produce all dry crops. But the fertility of this soil

TABLE I

SOIL CHARACTERISTICS OF THE MAGENTA FARMS

Series No. and Plot No.	Texture	Thickness of layers (cm.)			Reduced Layer Depth cm.	Sand cm
		Pegasse	$\Delta 1$	$\Delta g$		
1 - 1	Clay-sandy clay	0	0-20	0-10	90	100
2 - 3	Clay	5-10	20	20	90	100->120
2 - 16	10% sand-sandy-loam 90% clay	0	0-20	0-10	90	100->120
2 - 15	10% sandy clay 90% clay	0	0-20	0	100->120	100->120
2 - 26	Clay	0-10	0-20	0-20	80	100->120
3 - 13	15% sandy loam 85% clay	0	0	0	90	>120
3 - 23	30% loamy sand-sandy loam 70% sandy loam-sandy clay	0	0-20	0	>120	>120
4 - 7	30% sand-sandy loam 70% clay	?	?	?	?	?
4 - 17	10% sand 90% clay	0	10-50	0-15	>120	100
4 - 27	Clay	0-25	0-10	0-20	>120	60-90->120
5 - 6	20% loamy sand 80% clay	?	?	?	?	?
6 - 3	50% loamy sand 50% sandy clay-clay	?	?	?	?	?
6 - 13	50% sand-sandy loam 50% clay	?	?	?	?	?
7 - 4	Clay	0	0	0	80	80
8 - 3	20% sandy loam 80% clay	0	0	0	100	80
9 - 6	70% loamy sand-sandy loam 30% clay	0	0	0	80->120	70-100
10 - 7	30% sand-sandy loam 20% sandy clay 50% clay	?	?	?	?	?
11 - 7	50% sand-sandy loam 50% sandy clay	0	0	0	>120	>120

TABLE II

SOIL CHARACTERISTICS OF THE SANTO FARMS

Series No. and Plot No.	Texture	Thickness of layers (cm.)			Reduced Layer Depth cm.	Sand cm.
		Pegasse	Al	Ag		
1 - 3	Sandy clay	0-10	10-20	20	90->120	110
1 - 13	Sandy clay- clay	5-10	10-15	10-20	70	>120
1 - 23	Sandy clay	0	0-20	0-15	80->120	>120
2 - 30	Clay	15-25	15-25	10-15	70	120
2 - 40	Clay	0-5	20-40	0	60-80	120
3 - 29	Clay-sandy clay	0-30	20	0-10	70->120	120
4 - 6	Sandy clay	0-5	20	0-10	70->120	120
4 - 16	Clay	5-20	20	15	60->120	120
4 - 26	Sandy clay	15	15-35	15	70->120	120
5 - 7	Clay	5-15	10-20	0-10	70	100->120
5 - 17	Clay	0-15	10-15	0-25	45-60	>120
5 - 27	Clay-sandy clay	10-30	15	15	50-70	>120
6 - 6	Clay-sandy clay	0	10-20	10-20	100	>120
6 - 16	Clay-sandy clay	0-5	10-15	10-15	60-80	100->120
6 - 26	30% sand-sandy loam 70% clay-sandy clay	0	20	0	>120	100
6 - 36	30% sandy loam 70% sandy clay	0	0	0	95	55-80
7 - 7	Clay	0-5	20-30	0	70->120	100->120
7 - 17	40% loamy sand-sandy loam 60% sandy clay	0	0	0	60	100

drops fairly rapidly, so that after three or four years, it requires fallowing. As this soil, when dry, is powdery and fluffy so that one sinks ankle deep into it, it is subject to burning. Large areas of pegasse soil have been lost by careless land clearing and burning of the brush and tree trunks. The marine clay soils are recognized as being chemically very rich but they present difficulties for dry crops due to their texture. During wet weather the surface is covered by a sticky mud, preventing adequate drainage. During dry weather the surface bakes into a hard crust and cracks, thus preventing adequate aeration of the soil. Vegetables and tree crops do not do well on this soil. Plantains and bananas, when planted on clay, tend to climb so that the roots come near the surface to avoid the excess water. When dry weather comes, they either wither from a lack of water or are blown over by the wind unless they are propped by poles or are protected by a screen of trees. Even under the best conditions, plantains can be grown on clay soil successfully for only one year. Clay soils under natural conditions are not suitable for dry crops but, on the other hand, are ideally suited for irrigated rice production. If from 2 to 4 inches of water can be maintained on the paddy field during the growing season to keep down the growth of grasses, rice can be grown year after year. The rice plant is a surface feeder and evidently the stubble and the growth of grasses during the dry season provides enough organic material for the plant when the field is prepared for planting. Although there is a loss in fertility, some rice paddies have been in use for fifty years without the use of fertilizers. In general then, clay land is wet rice land. Under natural conditions the sand ridges are ideal for such planted fodder grasses as horse grass and sheep grass as well as kudzu. On the better drained portions, three crops of peanuts can be grown in a year, as well as the hardy manioc, but without manuring fertility declines in a few years. Loams consisting of a mixture of sand and clay in varying degrees

are found usually as narrow strips along the margins where sand ridges slope into the level clays. These soils are of varying richness with light texture and for two or three years produce satisfactory crops of corn and even vegetables. The worst soils are cut-over lands that have been burnt and left in natural pasture for many years. For reasons not quite clear, these soils can be used for pasture only in their natural state.

#### Marketability of Crops

Although soil and drainage conditions determined the limits of the cropping pattern, there was, however, some choice left to the farmer within these fairly narrow limits. On the pegasse soils he could grow tomatoes, cabbage, Chinese cabbage, a variety of beans, various squashes, hot and sweet peppers, egg plants, okra, spinach, mustard greens, taro leaves, and various other edible leaves which are not generally known in English, besides poor varieties of celery, parsley, and leaf lettuce. All of these products were readily saleable in the city market. What the farmer had to watch were prices which fluctuated widely during the year. The successful vegetable growers early in the season selected the crops that promised to give the best income. Tomatoes and cabbage were the big money makers as a rule. The really successful vegetable grower was one who grew vegetables in the dry season, using a motor driven pump to water his crop. On sandy soils he could choose between grasses and milk cows, peanuts or cassava and sweet potatoes, depending upon current prices. Rice was primarily a subsistence crop, the surplus being sold or exchanged for other needs.

As Magenta and Santo Polders are but twenty minutes or so by car or truck from the central city market, transportation costs were low. It was also a common sight to see a small farmer take a rice bag full of peanuts or a bundle of vegetables on the back of his bicycle and ride to the city market.

When prices were high buyers would come into the polders to buy produce. Every morning milk was collected by a private buyer who then took the milk to the highway where it was picked up by a truck from the government operated Milk Processing Plant. The buyer would pay the farmers once a week for their milk. Rice and milk prices were supported by the government. At the time of this survey the vegetable farmers were discussing the possibility of forming a cooperative and buying a truck to make deliveries to the central market, and also to buy fertilizers and insecticides at wholesale prices. In contrast to the more distant settlement polders, farmers in Magenta and Santo Polders are fortunate in being so near the principal market in the country and also being near a paved highway that leads directly into the city.

#### Farm Maintenance

Although a farmer may have planted his crops to accord with the soil conditions of his plot and market prices, the real test of management efficiency is the care which the farmer gives to his plot and crops. As has been mentioned, dry land crops have to be grown on beds flanked by ditches. The 6-meter wide bed is recommended by the project. The ditches should be 90 centimeters across the top and the sides should slope towards the bottom of the ditch for 70 centimeters. This provides a V-shaped ditch 30 centimeters in depth. This V-shaped ditch prevents the sides from caving in during heavy rains and also from people walking over them and is easy to keep clean. Very few farmers made ditches as prescribed. The common practice was to dig a narrow ditch about 30 centimeters wide and from 20 to 30 centimeters deep. Ditches of this type were soon caved in and choked up with weeds and grass, thus preventing adequate drainage. Good beds and good clean ditches are the first prerequisite for good dry land farming. Vegetable beds

should be constantly weeded. The successful vegetable growers also used chemical fertilizers and insecticides. This group of farmers was a select group which will be described later. Plantain and banana beds need only be weeded about a meter around each young plant. As the plants mature they cut out much of the sunlight thus discouraging the growth of grass and weeds. Another practice is to plant kudzu on plantain and banana beds and even more common on tree crop beds. This creeping vine is a legume which kills grasses and weeds, adds nitrogen to the soil, and also is a first class fodder crop for livestock. It has, however, to be controlled for it will climb over young trees and will in time kill them.

Plantain and banana plants need constant pruning if good weight bunches of fruit are expected. While the main or mother stem is maturing, good practice demands that all suckers that grow from the stool or base be cut, leaving a daughter stem about half the height of the mother stem and a grand daughter stem about a foot high. Most small farmers neglect to prune their plants leaving as many as six large stems and numerous young sprouts to grow from the same stool. This results in small shrivelled bunches of fruit. These plants are also subject to sigatoka, a fungus leaf blight, and require spraying to rid them of this disease. This too the small farmer generally neglects to do.

#### Use of Credit

Another test of good management was the way in which the farmer used credit allowed to him. It was believed by the Polder Development Administration that farm plots could be put into production more rapidly if the settler could build a house and live on his plot while clearing the land and putting it into production. A generous allowance was thus made for housing and also for the maintenance of the settler and his family while he was developing his

farm. Credit was also made available for the purchase of tools, planting materials and livestock. In analyzing the way in which credit was used it was often found that the more successful farmers used little credit for housing at first but concentrated on the development of the farm. A rough -and-ready way of measuring the efficient use of credit was to determine how the farmer used his credit allowance. If over fifty per cent was put into direct productive uses, the farmer would be rated more efficient than one who put over fifty percent into non-productive uses. The rate of payment of the loan was also an index of the use of farm credit.

### The Farm Plan

As has been mentioned, when a farmer requests and is granted a credit allowance he has to agree to follow a farm plan. The farm plan has two phases or steps. In the first two or three years, the farmer is encouraged to grow such annual crops as vegetables, peanuts, corn, plantains, and bananas, and to keep some milk cows. These enterprises bring quick returns enabling the farmer to keep his family and to save a little for further farm development. If he has rice land he is encouraged to produce enough rice for home use, for rice is a low income crop.

All these annual crops deplete the soil fairly rapidly requiring eventually heavy manuring or fallowing. The small farmers generally consider the use of fertilizers as a waste of money and the land area is too small for fallowing. Because of the differences in soil and drainage, crop rotation has only limited applicability. The long term farm plan, then, has to conform fairly closely to the soil types. If the farm plot consists of 80 per cent clay and can be adequately irrigated during dry years, the long term recommended crop is rice. The yield can be improved somewhat by the use of the improved rice varieties (noble rice) which have been developed

in Surinam in the last ten years. For the first two or three years, corn can be grown on the rice land during the dry season, although the yield drops every year. Ultimately, after the rice is harvested, the rice land can be used as pasture during the dry season.

If the farm plot consists of 80 percent well drained sandy soil, such tree crops as oranges, grapefruit, and lemons are recommended. If the sandy soils are low lying and poorly drained fodder grasses are recommended. Pegasse soils will maintain their fertility for a longer period and can be used for producing vegetables and musa (plantains and bananas) but I was informed by the farmers that in time the pegasse layer will disappear due to water and wind erosion. We can thus speak of three basic farm types: (1) A rice farm, (2) a tree crop farm, and (3) a cattle farm, or combinations of these depending on the types of soils on the plots. All this could be changed with proper soil management and water control but as far as the small traditional farmer is concerned this is still in the future.

#### Performance in Project Rating

It was in terms of the above-described criteria that the 36 farmers and their farms in the sample were rated. In the rating more emphasis was given to management efficiency than to farm development. Although the amount of land cleared is important, more important, however, is the way in which the land is being utilized. A man may have cleared only two hectares of his four-hectare plot in a year and a half, but if his beds are well made, the ditches are of required width, depth, and are kept clean, if his crops conform to soil type, if his plantings are so made that land is not wasted, and if the crops are well weeded, he gets a good grade. On the other hand, even if he has cleared two hectares or even more in two years but his beds and ditches are poorly made, his plantings have been made haphazardly so that land is wasted,

and the crops are not well maintained, he gets a fair grade. If he has no beds and he has planted patches here and there, he gets a poor grade even if he has cleared more than two hectares. If he has cleared less than a hectare and has planted only a little in his yard in a year and half, he is liable for eviction from the polder. Of the 36 farms graded, 10 were rated as good, 10 fair, and 16 poor.

BACKGROUND EXPERIENCE AND PERSONALITY RATINGS OF FARMERS

The second task of the survey team was an attempt to account for the good, fair, and poor ratings. Why did some farmers with equal soils and equal times on the polder do better than others? As a working hypothesis it was assumed that the explanation lay in the individual farmer - his background, his past work experience, his present interests, his character, and his physical and mental condition. By looking into the farmer's past it was believed that we could get an indication of what he would do in the future. As far as former farm experience was concerned it soon became apparent that farmers wanted to do what they had done before. A skilled commercial vegetable farmer wanted to grow vegetables on pegasse soil, a traditional rice farmer wanted to grow rice on clay soil, both neglecting to use other soils for other crops. As the commercial vegetable farmer made three to four times as much money out of a hectare as the rice farmer, we could say that vegetable farming was a more efficient operation. But is the vegetable farmer potentially a better all around farmer than the traditional rice grower?

The main objective of the Polder Administration was not to move farmers onto the project just to continue their old farming methods but rather to educate and train them in modern farm practices so that they could use all their land to the best advantage and in the long run to learn proper soil management techniques. It was thus necessary to introduce another factor, namely, teachability. Here again it was assumed that the more an individual had been exposed to the learning process in the past, the more adaptable he would be on the project to the suggestions and advice of the project staff as to new farming practices and the proper use of credit. If this were true, it was then necessary to ask, what kinds of background experience,

farming or other, provided an individual with the most learning experience? While farming experience and learning experience were assumed to be important criteria in evaluating the farmers' future performance on the project, it was recognized that individual personalities differ as to character, physical and mental capacities, and interests. Although character, no doubt, also could be explained in terms of the individual's life history, in the present study the individual was accepted as he was. The ultimate objective in the study of the farmer's background and character was to determine in how far these facts would be useful in strengthening the selection process of applicants for land in the project. If differences in background and character could be correlated with differences in performance on the project, it was argued that a knowledge of an applicant's background and character would give an index of his future performance. These conclusions would be statistical in nature. For instance, out of 10 applicants with commercial vegetable production experience, or 10 individuals with a rural background but with many years of experience in a variety of occupations, one could expect to get a greater number of adaptable farmers than from 10 men who all their lives had grown nothing but rice and had never been exposed to any other occupational activity. In general judgments concerning character presented no difficulty. For instance, a man known to be sober and hard working would certainly make a better prospective farmer than one known to be a shiftless alcoholic, to give an extreme example.

What has been said so far refers to maximizing productivity on the project. This can be done by selecting the best prospective farmers from among the applicants. But the Land Settlement Program had other objectives as well, which conflicted with the aim of maximum production. One of these objectives was to select farmers from the highly congested farming areas

near the capital city of Paramaribo, where for a generation and more rice farming had been practiced. In the course of time these small farms had been reduced even more by being divided among the heirs, and their fertility, without the use of fertilizers, had gradually diminished. By moving farmers out of these congested areas it became possible to consolidate small holdings into more economic units and to undertake a program of soil improvement. Unfortunately these small farmers were usually part time farmers who worked in the city for their cash needs. This kind of background was not favorable to improved mixed farming on the project.

The second objective was to settle some of the elderly, and families in which the husband was unstable on the project where they could at least produce most of their own food, thus relieving the burden on the social welfare services in the city. The third situation, which cannot be considered an objective, was patronage, which in all countries is a factor in government operations. Politically deserving individuals would sometimes get plots of land without having to comply with the regulations governing farm development. Although the number of these individuals was not large enough to have much effect on productivity, they did prove an embarrassment to the project administration charged with seeing that the regulations were carried out. In addition they created dissatisfaction among settlers who observed the different treatment accorded these individuals.

#### Ethnic Background

Although the ethnic background of the farmers was not a decisive factor in evaluating the individual performance of the farmers, there are, however, certain characteristics that differentiate members of the various ethnic groups that should be taken into consideration. The rural population of Surinam is made up predominantly of Creole, Hindustani, and Indonesian

farmers. As the following table, taken from the 1959 Agricultural Census, made by the Ministry of Agriculture, shows, only about 11 per cent of the farm holdings belong to Creoles although they are the largest ethnic group in the country. The Indonesians, or Javanese as they are commonly called locally, constitute 38 per cent. The Hindustanis own 49.6 per cent of the farm holdings.

TABLE III  
NUMBER AND AREA OF THE FARMS ACCORDING  
TO RACE OF HOLDER, ABSOLUTE AND IN PERCENTAGES

Race	Holdings		Area (hectares)		Average area per farm (hectares)
	Total	%	Total	%	
Creole	1779	10.9	15284	14.4	8.59
Hindustani	8047	49.6	47876	45.2	5.95
Indonesian	6175	38.0	13599	12.9	2.20
Others	238	1.5	29073	27.5	122.15
Total	16239	100.0	105832	100.0	6.52

From this table it can be seen that the Creoles do not constitute a significant element among the roughly 16,000 small holdings in Surinam. Although the average size of the Creole holding (8.59 hectares) is larger than those of the other two ethnic groups, much of this land is rented out to Hindustanis and Javanese or is worked by Javanese laborers. By preference the Creole is a tree crop farmer. The greatest concentration of Creole farmers is in the Coronie District where they produce such subsistence crops as manioc, corn, plantains, and vegetables, getting their cash income from growing coconut palms and making coconut oil for sale. The coconut meal which is left after the oil is pressed

out is fed to hogs, many of which are sold in Paramaribo. A few Creoles have good herds of dairy cattle in the neighborhood of the capital. Some Creole farmers have small plantations of citrus, coffee, and cacao trees. The few Creoles who have come to the project begin with corn the first year, then go in for plantains, with the long term objective of tree crops and cattle. Although some rice is grown by Creoles they generally avoid rice and peanut cultivation.

By preference the Hindustani is a rice farmer, growing enough vegetables, peppers, and such fruits as oranges, papaya, and plantains for home use. In addition he keeps a cow or two, some goats and a few chickens and ducks. The husband manages the rice farm leaving the care of livestock and vegetable growing to his wife and children. Excess products are sold in the market or are traded for groceries and other requirements at the local general store. As rice is a five-month crop the husband is free to look for wage work or to remain idle at home. In general, a Hindustani does not go into tree crops on a commercial scale.

By preference a Javanese is also a rice grower but if he has sandy soil he will grow peanuts, generally three crops a year. As the Javanese do not use milk, they do not keep cows. Instead they buy bull calves from the Hindustanis and after feeding them on cut grass for a year they sell them, receiving twice as much as they paid for them. The custom is to buy calves in pairs, some Javanese having as many as a dozen young bullocks. The Hindustanis will not castrate bull calves and the Javanese have followed this custom although it is not against their religion. It is from the sale of peanuts and bullocks that the Javanese makes his cash income, although he too will look for wage work whenever possible.

A Javanese farmer has a smaller farm than the Creole and the Hindustani. He also works more slowly, but he tends his farm better. To a Javanese a rice field is not only an economic asset, it also has esthetic value. He keeps his field well weeded and his ditches are clean. He has a neat house which the women keep clean; there are tables and chairs, and pictures on the walls. The women have flowers in the front yard and the canal bank in front of the house is often covered with red moss roses. The sense of community is strong among the Javanese. They may be poorer individually than the Creoles and Hindustanis but communal interdependence gives them greater social and economic security. On coming to the project a Javanese farmer adapts easily to a plot that has both clay and sandy land.

#### Educational Background

It was believed that the more education an applicant had the more adaptable he would be in the project. In school an individual is exposed to the learning process which it was assumed would provide a basis for further learning. The survey, however, did not bear this out. Why this was so was not investigated. In discussing the matter it was thought that up to six years of primary education was not enough to make an impact on the individual, and also that when individuals received secondary education they usually left the land. For instance, when a young Hindustani was asked if he had an education, he replied, "Do you think I would be in this swamp if I had an education?" The Hindustanis, particularly, emphasize education and want at least one of their sons to get a higher education in Europe. Some even send their sons to India for an education. Here again we have evidence for the widely observed fact that you educate people off the land.

### Kinds of Background Work Experience

While the degree of education proved to be of no value as an indicator of a settler's performance in the project, and ethnic affiliation revealed only the settler's general preference in land use, past work experience did help somewhat in anticipating the performance of a new settler.

Full time subsistence farming. If we stress past experience in agriculture, the individual who has learned the least is a man who has been a traditional small scale rice farmer all his life. By the time he is fifteen years old he knows just about all there is to be known about the traditional practices of wet land rice farming. On one hectare to one and a half hectares he can grow enough rice for home use. Green vegetables and papaya he grows in his yard. A cow or two provide milk for his children and a few goats provide meat for festive occasions. Kerosene, matches, cooking oil, and salt he gets by trading eggs or a chicken at the Chinese general store. Cheap cotton cloth and tools are obtained by selling a bag of unhulled rice to the storekeeper or a visiting buyer. If the rice harvest is good he has enough to eat with a little left over to pay his bill at the store. If the rice harvest is poor he eats less and gets along with a minimum of purchases from the store. In case of dire need his relatives help him by supplying rice. Like other farmers he catches a few fish in the canals around the fields.

Subsistence farming plus part time agricultural wage work. Many of the farm plots of both the Hindustanis and the Javanese are so small (less than a hectare) that they cannot provide adequately for their families. After planting his rice field the husband leaves the plot in the care of his wife and children and looks for wage work on larger farms. As his farm is small he can plant it quickly after which he can assist in planting rice on the larger farms. He also takes care of livestock and

plantains, cleans ditches and canals, and whatever other tasks are required. As these jobs follow traditional patterns with which he is already familiar he does not learn anything new. After 4 or 5 months he returns home to harvest his rice crop and with his earnings amounting to about sixty guilders a month he has sufficient to tide him over until the next rice harvest. During the dry season he looks for whatever wage work is available, but as this is an off season for agricultural activities he usually finds only short time jobs.

Agricultural statistics show that farm produce from 30 per cent of the 16,000 small holdings do not enter the markets of Surinam. These farms belong to full time subsistence farmers and part time farmers who are engaged in agricultural wage work. These farmers are usually illiterate, inexperienced, and poor and can be said to be truly subsistence farmers. If they enter the project they want to continue their old practices and it is extremely difficult to bring about a change in their habits.

Full time agricultural laborers. These individuals are landless men who have been raised on small subsistence farms. If they are itinerant laborers employed only at planting or harvest time on various farms, they earn little and learn little. However, some of the better workers are taken on as full time workers by Dutch settlers, government experimental farms, and other commercial farmers. Here they learn dry land farming, the use of manuring, the techniques of vegetable and tree culture, cattle keeping, and the raising of poultry for the market. If a young Hindustani or Javanese has had five or more years of this kind of experience, he is a good prospect on a settlement project. At least we can say that from among them you can expect to recruit a few individuals who will make good on the project. They have, so to speak, gone to school, learning different

agricultural practices and have thus broken away from the traditional small rice farm. In the La Poule project, for instance, the best farmers were the ones who had formerly been year around laborers on Dutch settler farms for more than five years.

Full time work experience away from the land. These were middle-aged men with a rural background who had worked for many years in the city or in the bauxite mines, logging camps and lumber mills. Their work experience ranged from carpentry, brick making, masonry, machine tending to road work, canal cleaning, and small scale commerce in the central city market. In questioning these people about their reasons for coming to the project, they explained that they had gone as far as they could without an education. Their wages were not sufficient to enable them to save for their old age. Even if they had a government job their retirement pay was insufficient to take care of them. Their object was old age security. They believed that in ten years they could develop a farm on the project where, when they became too old to work, one or two of their children could take care of them. These men had foresight and an incentive to make good on the project. Above all they had experience at various kinds of jobs which they had had to learn. Their children had also learned city consumption habits. In the houses of the settlers who had raised their children in the city, whether they were Creole, Hindustanis, or Javanese, one found linoleum on the floor, tables, chairs, cupboards, clothes closets, radios, clocks, beds, mosquito nets, and a wide array of dishes and kitchen utensils. The teenagers either had or badly wanted light motorcycles so they could ride into the city in the evening to take in a movie. As all these conveniences cost money there was an added incentive to make as much money as possible out of the new farm on the project. In general these

farmers wanted to learn new methods of farming. As one credit agent said, "I would rather have a man who knows nothing about farming than one that has farmed all his life in the old way. These people want to learn and will take my advice." In this group are also found some of the worst prospects for farm development. These settlers will be discussed under another heading.

Full time city workers with farm home place. It is customary for lower paid city workers to live on small plots of land near the city and to ride into the city every morning on a bicycle or a motorcycle. By living on the land they avoid paying high city house rents and also are able to grow much of their own food. Some of these city workers want to get a farm plot in the project and still continue working full time in the city. Having divided interests, with the city job coming first, these individuals, on coming to the project, tend to neglect their farms or to develop them only partially. As a group they were not promising settlers for the project.

Young men with agricultural school training. The agricultural school for boys accepted students with some secondary education for a three-year course in practical agricultural training after which they were offered a four-hectare plot near the school or they could look for land elsewhere. About six of these graduates in their late teens or early twenties took up land in the project. They were not a success. They may have been too young to have much interest in the land. By the time the survey was finished all but one had left the project and he was attending a teacher's college while his father with a full time job in the city was taking care of the son's plot as well as his own using paid laborers to do the development work. It appeared that the father, a Creole, had in mind the establishment of a home place devoted entirely to tree crops.

Commercial vegetable farming near Paramaribo (Kwatta type farm).

During the survey, the survey team would occasionally encounter farms on the project that were quite different from the general run of farms. On pegasse soils or sandy loam soils these farmers were producing vegetables using modern methods. In talking to them it became apparent that they had a good knowledge concerning soils and drainage. They used chemical fertilizers and insecticides, their vegetable plots were well bedded and weeded, and plantings were made in regular rows. Such plants as cut beans had stakes to climb on. They were grossing from 500 to 2,000 guilders per hectare.

The contrast between these farmers and the rest was so great that we wanted to know from where they came. Practically all the good vegetable farmers we discovered came from Kwatta. The city of Paramaribo is a few miles up the estuary of the Surinam River. From this port city roads radiate along the river, up and down, and into the interior. Whatever the highways are now called or will be called in the future, the local people still use the old names. The Leonsberg road goes down the river and ends at Leonsberg. The road up the river is called Domburg road although it now goes much beyond Domburg. Pad van Wanica (Wanica path) and Kwatta weg (Kwatta way) were roads leading inland. When the farmers stated they came from Kwatta, all they meant was that they came from farms located somewhere along this highway. To satisfy our curiosity, the survey team spent a week visiting farms, interviewing farmers, and discussing the area with the extension officers located in the extension office for this region.

One of the first facts discovered was that along Kwatta road there were some large privately owned commercial farms, operated by Hindustanis. Prior to this we labored under the impression that only the approximately forty Dutch colonist mixed-farms were middle sized enterprises lying between

the approximately 25 large plantations and the 16,000 small subsistence farms of 4 hectares or less. It seemed important to discover the causes for this development, for here small subsistence farmers had broken away from the traditional pattern under their own initiative.

It became apparent as a result of this short survey that the Kwatta area is favored by a number of factors which have made it the principal center of vegetable farming near Paramaribo. Among these we can enumerate the following:

1. Proximity to the Central Market in Paramaribo. Since the last century there has been a growing demand for vegetables, dairy products, meat, and eggs, not only by the general population but by the military garrison and the hospitals in the city.

2. Easy access to the city. The Kwatta road has been an all-weather road since early in this century and is now a surfaced highway.

3. Early opportunity to buy land, leading to the private ownership of land holdings.

4. Before the Hindustanis and Javanese came, Dutch colonists occupied areas of Kwatta road adjacent to the city. Some of the newcomers worked for the Dutch farmers learning vegetable farming practices from them. Much of the land along Kwatta road at that time was in cacao plantations but after the destruction caused by "witches broom" between 1910 and 1920 the land became available for sale. As the city expanded the Dutch farmers went in for residential housing developments or sold their lands as house lots, many of them retiring from farming.

5. Along Kwatta road, there are stretches of shell ridge soil on the main sand ridge extending from the city out to Kilometer 24. This dark soil, rich in calcium, is particularly suitable for vegetable production.

In weighing these factors it was necessary to distinguish the general from the particular. The extension people pointed out that there were other areas around the city that were as near to the market and were connected to the city by good roads but that vegetable production did not develop in these areas or certainly not to the same extent. The two factors, one physical and one social, which distinguished Kwatta from the other areas, were soil and the early presence of Dutch farmers. Neither the heavy clay soils used for rice paddies, nor the sand ridges were as good for vegetable production as the shell ridges. Next to the soil, it seems that the important social factor was the presence of the Dutch colonists who provided a demonstration of mixed farming practices. In a sense the Dutch sparked the process which was followed by the Hindustanis and Javanese. No doubt the Dutch were there because of the good soil and other factors contributing to commercial farming. The lesson to be learned from the Kwatta development is that all the conditions necessary for success were there - the physical, the economic, and the social - that is, shell ridge soil, a good road, an expanding market, and Dutch farming know-how.

There are not many of these Kwatta farmers who have come to the project. The reasons given for coming are: insufficient land, having to rent land, or a desire to give the Kwatta farm to a son or brother. As there is no shell ridge soil on the project they prefer pegasse soils where they go in for vegetable and plantain production. A young Hindustani farmer from Kwatta stated that once he gets his four-hectare place into full production he expected to gross 10,000 guilders a year (about \$5,000 U.S.). These farmers bring to the project a knowledge of commercial farming, an adaptability to new conditions, and a willingness to listen to sound extension advice.

We have noted the conditions that made the Kwatta development possible. But it is also interesting to know just how certain families made this change, how contract labor families in three generations broke away from the traditional rice farm to become owners and operators of middle sized commercial farms with organized marketing and a farmers' cooperative, this change taking place without the assistance of the government. The following four interviews give a general picture of this change.

Interview 1. This is the story of a family that made good on the land. The grandfather and grandmother came to Surinam from the Central Provinces in India in 1898 as contract laborers. For five years they worked on the Jagtlust coffee plantation in the Commeweyne District - the grandfather earning 60 Surinam cents a day and the grandmother 40. They saved what little they could from their pay and the grandmother earned extra money by sewing for the neighbors and the plantation people.

When their contract expired after five years they bought a 1.2-hectare piece of land near Meerzorg (across the river from Paramaribo). After they cleared the land and put up a small shack their savings were gone. For awhile the grandfather continued to work at Jagtlust to earn money to get the little farm going. Other small Hindustani farmers also helped them. The grandmother's savings and energy were important in buying this farm and in getting it started. The family lived on this farm for ten years and saved. As the land was mostly sandy and high they used it for pasture, in time accumulating eight head of cattle. They also planted a square chain in vegetables, a few square chains of rice for home use and also some pineapples. The grandfather had farm experience in India in keeping cattle and growing wheat and rye. The land belonged to a semindar, or land owner, a share of the crop going to him as rent.

By 1913, the family had saved enough to buy six hectares of dry land in Kwatta, outside of Paramaribo. This land cost them Sf.25.00 a hectare. During the First World War when food was scarce and prices were high they made good money from plantains and sweet potatoes. They were located on a good road to the city. As their savings increased the family bought 14 hectares across the road and a little later two hectares in the same area and later still ten hectares. In 1921, the grandfather made a trip to India but died on shipboard in Trinidad on his way back.

The family then consisted of the grandmother, two brothers, and a number of sisters who later married out. The grandmother remained in charge of the family, keeping the land together. In 1926, the brothers bought a leasehold from another man to 275 hectares, also across the road, paying Sf.4,500.00 in installments. They pay Sf.143.00 rent for this land every year to the government to this day. In 1928, the brothers bought another 48 hectares in the same area and then again 1936, they bought four hectares on which the present owner's house is now located.

By 1938, the brothers had a total of 359 hectares of land. As the grandmother was now old, the brothers divided the land, each getting about 180 hectares. Excepting for the leasehold, the land was private property. The grandmother died in 1941, a respected old lady, for it was her savings and energy that got the family started on the land. The present owner's father died in 1946, but the uncle still lives next door.

The present owner and his two younger brothers, according to Indian joint family custom, hold this land in common. The older brother sent the two younger ones to Holland for an education. One is now a teacher in Paramaribo and the other has just returned from Holland with an engineering degree. For this help the younger brothers have left the land in full charge of the older one.

In 1952, the present owner bought 4 hectares of land, in 1960, he bought 7 hectares, and again in 1961, another 8 hectares, so that today he has 199 hectares. He uses 114 hectares of this land, the rest being swamp which at present cannot be used. It can only be brought into use in conjunction with major drainage works which is usually carried out by the Government of Surinam. The present land use pattern is as follows:

Forty-eight hectares in natural fenced pasture on which he keeps a herd of 55 beef cattle of Creole stock and a Zebu bull. He said that he sells a head of stock a month, that is, 12 a year. When asked how he could do this because Hindus are not permitted by religion to kill cattle, nor sell them directly to a butcher, he said that they can sell cattle to a middle man, usually a Mohammedan, who picks up the cattle, later selling to a butcher in Paramaribo.

Eleven hectares of fenced natural pasture on which he keeps 35 dairy cows. Three additional hectares are in Guatamala and sheep grass from which forage grass is cut for the milk cows. He has a grass chopping machine run by electricity. He milks about 16 cows leaving about 3 cows to feed the calves. His year round milk sales average 150 liters a day. This milk is picked up by the Milk Plant truck every day and is sold for 20 Surinam cents a liter. He said his uncle has a larger dairy herd and sells 300 liters a day. Cows are milked morning and evening.

He keeps 350 laying hens, getting an average of 250 eggs a day. The hens are mostly White Leghorn but there are mixtures of Hampshire and other breeds including a few black Minorcas. In talking about chickens, he mentioned that he cannot sell black hens in the market or any hens with black legs because the Creoles will not buy them for they are used in old African magical rites (obeah). The layers are kept in wire cages, each hen having a space of one cubic foot. A slot is cut in one side

through which the hen sticks her head out and feeds from the trough. The long cages are suspended from the rafters of the chicken shed. The eggs are picked up by a buyer.

Four hectares of special shell ridge land is used once a year (during the big rainy season of May to August) for growing watermelons which give a very high money return but require extra rich soil.

Four hectares he has parcelled out for house lots along the road ready for sale.

Two hectares are used for growing such vegetables as tomatoes, cabbage, Chinese cabbage (paksoi, kaisoi), mustard greens (amsoi), egg-plants, peppers, and a type of summer squash or vegetable marrow (sopro<sup>1</sup>). He plants two crops a year during the rainy seasons. The land on which a crop of tomatoes and cabbage are grown needs to be fallowed for 6 months or, better still, a legume crop should be rotated with the vegetables. He used cattle manure and chemical fertilizer (N.P.K.). Income from vegetables is quite variable due to fluctuation in prices but on his land he grosses on the average Sf.2,500.00 from cabbage, Sf.1,750.00 from tomatoes, and less for other vegetables. Cabbage sometimes grosses as much as Sf.5,000.00 per hectare.

He has 8 permanent laborers who live on his land in houses provided by him. Four are Hindustanis and four are Javanese. Two are milkers and dairy cattle feeders who are paid Sf.20.00 a week, the rest are field workers who are paid Sf.3.00 per day. Four of his workers are insured against accidents.

Vegetables are sold to a wholesale agent in the Central Market who later sells them to retailers with stalls in the market. A number of vegetable growers use the same agent. A trucker picks up the vegetables and delivers them to the market. The farmer collects his money once a

week from the agent. Tomatoes are sold in boxes, cabbage and eggplants in sacks, and leafy vegetables in bunches, taro leaves, for instance, in a bunch of 30 leaves. The agent gets 5 per cent commission.

Asked why he did not increase his vegetable acreage, he said that there was risk in vegetable growing and that by not expanding the farmers can keep the price up. Also he added that they use their best land which is limited for this purpose.

This farmer has a Volkswagen car and 2 oxcarts, a yoke of oxen, and a donkey. He has no tractor or other machinery besides the grass chopper.

This man, of about 40 years of age, went to school for ten years, reads and writes Dutch well and speaks a little English. He does not drink nor smoke, is a vegetarian, and practices Yogi exercises. He said he tried smoking once when he was a sergeant in the Dutch army in Surinam during the war, but he got so sick he never tried it again. He has traveled in the United States, Holland, Germany, Belgium, and France. On these trips he observed dairy farms and plants, farming, self-help housing schemes, and 4-H activities. He belongs to the Kwatta farmers' cooperative, is the president of the local farmers' organization, and in the last election was the leader of the small Farmers Party. He spends quite a bit of his time in other civic activities.

We then came to the heart of our problem, namely, why have the Kwatta farmers become commercial farm operators cultivating vegetables, keeping dairy cattle and poultry and farming on a scale much more extensive than the small farms elsewhere in Surinam?

This man's explanation went as follows:

1. The Kwatta area is not suitable for rice. The land is made up of sandy ridges with patches of shell ridge. This kind of soil is suitable for grasses and if fertilized is very good for vegetables.

2. Kwatta is close to Paramaribo, has been on a good road for a long time. The one big local market in Surinam is the city with its central market.

3. In this area a group of Dutch farmers settled about a hundred years ago, coming from Groningen to Saramacca where they failed to establish a colony. Thus the Dutch farmers were in Kwatta before the Hindustanis came there. These Dutch farmers were selling vegetables and milk to the city.

Our man then said that his grandfather and father observed the Dutch farmers growing cabbages, tomatoes, plantains, sweet potatoes, and other vegetables which they had never seen before. When they saw that the Dutch were making good money from these crops his family and the other Hindustanis decided to copy the Dutch. They had to learn by trial and error to be successful. They went into milk production the same way.

We then asked him why this did not take place in other places near the city, like Domburg, for instance. He explained that the soil in Domburg is mostly heavy clay and has remained in tree crops like coffee, cacao, and rice, that the good road is quite recent, and above all the Dutch vegetable and dairy men did not go there. It seems very clear, therefore, that it was the soil, the market, and Dutch farmer initiative that sparked the development of the Kwatta farming area, the Hindustanis picking up the practice.

Our man then said that in India farmers tend to be mono-culturalists, either cereal growers, cattle keepers, vegetable growers, or fruit growers. Vegetables, fruits, and other perishables are produced near cities and towns and it is these farmers who develop a commercial sense selling their own products.

He also said that Hindustanis like to stick together, that contract laborers who came from the same locality in India formed a band. Also on the long voyage over to Surinam on shipboard bands grew which were strengthened if these workers went to the same plantation for five years. He added that these social ties made Hindustanis who had friends in Kwatta to come and settle there after their contracts expired. These newcomers then copied the vegetable growing and dairying habits of the earlier settlers. At present, land is expensive in Kwatta so that it is difficult for new farmers to begin farming there.

When we asked about other places as in Commeweijne across the river he said that Hindustanis, although they will travel by water, do not like to go in for water transportation on their own. He said in India the pandits or priests degraded the occupation of sailing by river and sea to keep farming people at home.

Although we mentioned one Hindustani farmer who had a boat and transports farm produce and also the Hindustani fishermen, he agreed that there were exceptions of farmers who do this but insisted that this belief is still strong among Hindustani farmers in Surinam. Fishermen he said were a different occupation with different beliefs. To emphasize his point he added that a Hindustani prefers one hectare near the city to 25 hectares across the river.

Another factor which was mentioned was easy access to wage work. In the early days Kwatta was not as near to the bauxite works at Paranam as people at Domburg and even along Pad van Wanica. This made the farmers at Kwatta keep closer to their farms.

Today this man is a well-to-do farmer. He has four sons 12, 9, 5, and 3 years of age and 5 daughters 14, 10, 7, 3, and 1. He says his sons will be sent abroad for a university education. This is one of the rare

examples of a family which in three generations has made out well on the land.

Interview 2. This man's father, who is now 90, came from near Bombay, India, in 1893, and for the first five years worked on the Marienburg sugar plantation. After his contract expired he rented a small place (he did not remember the size) from the government in the Pad van Wanica area. After three years, the family moved to Aldenburg near the city to another small place where he cultivated rice and vegetables. His father then bought a 2-hectare plot in Kwatta in 1925, where he grew some rice, plantains, sweet potatoes, and tomatoes. In 1933, his father sold out and bought two plots near by, 4 hectares on one side of the road and 6 hectares on the opposite side of the road. In 1938, the family got a long lease on 440 hectares near by.

These landholdings are now divided among three brothers. The 440 hectares of leased land is practically all swamp and will be valuable with large scale future drainage works. Our informant has about 150 hectares of this lease, of which only 3 hectares is shell ridge and usable. His big tomato farm is on this land. He lives on a 2.5-hectare plot near his father. Thus, although he controls 152.5 hectares he is, at present, only operating 8.5 hectares. He claimed that he learned his vegetable farming from his father. He was not quite clear how his father acquired this knowledge but stated that his father did some vegetable farming near Bombay in his youth and that he sold the vegetables in the city. He uses his land about as follows:

He lives on the 2.5-hectare farm which is entirely used for cattle. He has 4 milk cows, 4 calves, and 3 bulls. The pasture is natural and he cuts grass from 0.5 hectares on his 3-hectare farm across the road to supplement the feeding. On the average he sells 20 liters of milk a day

at 20 Surinam cents a liter to the milk plant pick-up. His father lives with one of his brothers across the road. Both have large good houses.

On the farm across the road he is presently using 2 hectares for vegetables, 0.5 hectare for grasses, and 0.5 is fallow. He has two water pumps for use during the dry seasons. His main crops are: tomatoes, cabbage, cut beans, and green onions (shallots). His planting year starts in August when he plants cabbage on the lower slopes and waters them using pumps. In October he harvests the cabbage and grosses as much as Sf.5,000.00 a hectare. As soon as the cabbage harvest is over, he plants tomatoes on the area which he harvests in December, grossing about Sf.2,500.00 per hectare. The land is then fallowed for six months because he says either fallowing or a rotation of beans must intervene between cabbage-and-tomato plantings. He uses cattle manure, chemical fertilizer, and insecticides. He uses cattle manure, chemical fertilizer, and insecticides. In May when the heavy rains come, he plants the higher parts of the ridge in cabbage and tomatoes which he harvests in late July or early August.

He uses a worker and a watchman full time, the watchman having a cabin on the plot. During harvest time he gets extra laborers for Sf.18.00 a week as needed. He has no machinery but hires a tractor to do the plowing when needed.

Later we talked to this man's father. He said he came from "two days walk from Gonra" near Bombay when he was 20 years old. A labor recruiter met him in the city and talked him into going to Surinam for five years.

In India his father rented land from a zamindar on which they produced cereals such as wheat and rye and kept six or seven head of cattle which were sold to middle men who then sold them to butchers. The middle men were Muslims who eat beef and, therefore, deal in cattle.

He told us that in India farmers tend to specialize in single crops, probably related to the desires of the zamindar who tells his farmers what to plant. He said that things were not as good in Surinam as he was led to believe in India. After his 5-year labor contract, he wanted to go back to India but by then he had married and had children so that he never had a chance to go back. He worked at Marienburg for five years digging ditches, planting and cutting cane. He then went to Cabell's place and rented 1.8 hectares of dry and swamp land at Sf.2.00 per chain facing the road, that is, he paid rent by road frontage. This rent came to Sf.20.00 per year. On this place he produced rice for home use and such vegetables as tomatoes, cabbage, and beans for the city market, also kept cows and sold milk. The vegetables were strange to him but his Hindustani neighbors who had moved there earlier had learned to plant them from the Dutch farmers who were there before them. The government had traveling extension agents who advised the farmers and also distributed vegetable seeds. Some Hindustanis learned about vegetables by working for the Dutch settlers. He now had four children and felt that he needed more land so he bought three hectares in Kwatta for which he paid Sf.460.00, paying half down and the rest in four years. The down payment came from the savings from the rented land on which he lived for two years. On his own land he now produced vegetables, plantains, and sweet potatoes. He also had cows and sold milk to the city. What rice he grew was for home use. He lived on this place for 17 years. He sold out and bought a 4-hectare place for Sf.600.00, then three years later, he bought another 6 hectares across the road for Sf.1,200.00 for which he paid cash. He said he and his sons never worked out but in the early days they used to make charcoal for sale. After his four sons grew up he divided his 10 hectares among them giving each a piece of sandy land on one side of the

road and a piece of shell ridge on the other. Now only two sons work the land, the other two, although having houses on the land, work in the city. About 18 years ago he got a long lease on 100 hectares of land which now belongs to his wife from whom he is separated. His son who is the big tomato grower will inherit 25 hectares of this land.

The houses in which this family live are well built and well cared for. It was the father who acquired the land and taught the sons to farm. It seems that most of the vegetables are grown on the shell ridge land while the sandy parts are used for keeping cattle. The old man said they sold their vegetables to middle men and their milk to Dutch farmers who later sold the milk in the city.

Interview 3. This man, who is 78 years old and has been in Surinam 56 years, came from east of Bombay, India, in 1907. One day when he was in the city a man came to him and said: "Let us go to Surinam for five years and make some money and then we can come back." The man led him to a depot where he found many young Indians like himself from other country districts. At first he became frightened but the others said, "Let us stick together and become friends and go to Surinam together." He was quite worried because he did not have a chance to go home to tell his people nor his wife.

His people in India rented land from a zamindar, or large land owner. As the rent was paid in money they planted what they wanted which consisted of cereals and peas and they kept a few cattle and water buffaloes. He said their caste did not grow vegetables but bought some from other farmers nearer the city. Although it was against religion they sometimes sold cattle to Muslims who sold them to butchers. When he was a boy he helped herd cattle. When he grew up he served in the local police force for awhile.

In Surinam he worked at Marienburg on a 5-year contract term. He worked mostly on the plantation railroad but he also worked for a time at cutting cane. He earned 60 Surinam cents a day. Women also worked at lighter plantation tasks like weeding and planting, earning 40 Surinam cents a day. While at Marienburg he remarried.

After leaving Marienburg he worked for three years for the District Commissioner of Commewijne as an assistant police officer or guard. Then he went to Leiding 11 and rented three hectares of government land. He remained on this place for five years planting rice, corn, oerdi beans, plantains, but no vegetables. He kept a cow or two and used the milk at home. Then his wife died in the influenza epidemic of 1918. In the same year, a friend of his in Kwatta died also. He married the friend's wife and finished making the payments on the farm she inherited. That is how he got his present 4-hectare place where he has lived since 1920. As his wife knew how to grow vegetables, he learned from her and thus continued to do what his dead friend had done. They also grew rice for their own use and kept a cow or two. The vegetables they took to the central market in a donkey cart.

His wife (his third) died and left him with a step-daughter. He remarried and had a daughter by this wife. He remarried twice after that but has only these two girls. For the last ten years he has lived alone. He sold one hectare of land and is now renting out two hectares for Sf.90.00 a year. On the one hectare on which he lives he says he grows enough to get by. He still sells some tomatoes and cabbage every year and his fruit trees add a little income. But he says he is too old to work hard and does not need much to live on.

Interview 4. This man is 85 years old. His grandfather, who married a Dutch woman, came from Germany in 1830 and became the administrator of Osembo plantation in the Para District. In 1850 he settled on the Peut et Content plantation of about 200 hectares (a part of what is now known as the Kwatta area). He also got a long lease on land back of the present place, some of which he sold later. He died in 1873, the property going to an only son, our informant's father. Our informant said that he bought the property from his father who died in 1926 and he has now sold it to his three sons but maintains a use right to the land. The long lease part of the property belongs to two of his sons. The grandfather and father used the land as a plantation for cacao until 1910 when the witches broom disease ended cacao production in the whole area. The father then worked as an accountant in the city. In 1914, our informant began to use the old plantation as a dairy cattle enterprise. He also grew plantains, cassava, and sweet potatoes. His chief market was the military garrison and hospital. He said he crossed Florida Zebu cows with Holstein bulls, for this produced an animal both good for milk and beef and also made it resistant to heat and pests. He said he always had about five hectares in plantains and root crops. During the First World War prices were high and farming paid well. One of his sons now has about 1.5 hectares in tomatoes, cabbage, and other vegetables but the main enterprise is still cattle. One of his sons is an inspector of police.

Speaking of the general Kwatta area, he said that practically all the old plantations, after 1910, were sold to five men, four of whom were Fernandes, Stolk, Van Dijk, and P. A. May. He said that they paid Sf.6,000.00 for all the land, which was later sold to small owners, most of them being Hindustanis. The Dutch farmers at that time had their lands closer to the city. In this way, the Kwatta area became a center

of small privately owned farms. Our informant stated that he believed that the Hindustani contract laborers learned about plantains, cassava, sweet potatoes, and vegetables while they worked out their contracts on the plantations, for these crops had to be produced for food. What they learned from the Dutch farmers were better cultivation practices such as bedding, manuring, the use of the spade, and better imported vegetable seeds. He added that on a cacao plantation the plantain was used primarily as a shade tree for young cacao plants. To the Dutch farmer the plantain was of direct economic importance.

Our informant lives in a modern house with his wife and is still active at 85 in looking after his orchard. When we went to interview him we found him in an orange tree pruning the branches. He came down quite spryly for his age.

#### Background Classification

Considering background work experience alone, the problem at this point is to see what correlation there is between background and the performance rating of farmers on the project. Specifically what percentage of good farmers are related to the different backgrounds. The higher the percentage of good farmers the better the background. As the sample of 36 farms was small, it became necessary to lump some of the background data together. In this way three major groupings were established. All farmers who had had commercial farming experience as, for instance, in Kwatta, or who had worked for Dutch colonist farmers for more than five years as permanent agricultural laborers, formed one group. All farmers who had worked for a number of years at various jobs away from the land formed another group. The third group consisted of subsistence rice farmers with or without outside wage work. As each of these groups would contain good, fair, and

poor farmers, the relative ratings would depend upon the percentage ratings of good, fair, and poor in each background group. On the basis of these percentages the background groupings were rated A, B, and C (A being the group with the highest percentage of good and fair farmers and the lowest percentage of poor farmers). The classification of the 36 farmers came out as follows:

Group A - Commercial farming background (4 cases)

Good - 3 - 75 per cent

Poor - 1 - 25 per cent

Group B - Work experience away from the land (9 cases)

Good - 2 - 22.2 per cent

Fair - 4 - 44.4 per cent

Poor - 3 - 33.3 per cent

Group C - Subsistence rice farming with or without wage work  
(23 cases)

Good - 5 - 21.7 per cent

Fair - 6 - 26.1 per cent

Poor - 12 - 52.1 per cent

When broken down by background experience, the ratings are considerably different than when the 36 farmers are graded as a single group in terms of performance giving good - 10 - 27.7 per cent, fair - 10 - 27.7 per cent, and poor - 16 - 44.4 per cent. Although groups B and C show little difference in good ratings, the difference is considerable in the poor ratings as well as in the fair ratings.

## The Farmer as a Person

A well developed, well managed farm is a reflection of the farmer's energy and capacity. He is a good farmer because he is intelligent, willing to learn, honest, hardworking, sober, and wants to have a good farm. As our background classification shows, a good farmer may have had only one of the three background work experiences. Fair farmers were those individuals who were developing their farms more slowly and had not yet adopted the best management techniques. A year to two years in the project is too short a time to make a final evaluation of this group. Some may well go on to become good farmers and some may remain as just fair farm managers.

The explanation for the presence of many poor farmers required more specific analysis. Differences in background were only indicative of what background produced the highest percentage of poor farmers but it did not explain why in particular cases.

In studying these poor farmers, it became apparent that there were a variety of reasons for their incapacity to develop and manage a farm. These reasons can be grouped into classes. One group could be called social welfare cases. This group included widows, old people, people sick either physically or mentally, alcoholics with large families, and ex-prisoners. A second group consisted of individuals who neglected their farms and worked outside either full or part time. A third group consisted of individuals who had neither the will nor the capacity to break away from the old pattern of subsistence farming. They just wanted to plant rice and neglected dry land cultivation. We generally referred to them as "tradition bound." Of the 16 poor farmers in the sample, 7 were social welfare cases (4 too old, 3 sick); 5 worked outside; and 4 were tradition bound.

### SECTION III

#### CASE RECORDS OF 36 FARMS AND FARMERS

The case histories are grouped according to the backgrounds of the farmers. In each case the groups being indicated by the letters A, B, and C as defined above. Each case history is divided into two parts, the first part relates to the farmer and his family, his past work experience, his performance so far in the polder, and his character. The second part gives a picture of his farm operation to date. All items, excepting the character sketch, are self-explanatory. It is thus necessary to clarify the character sketch.

The information concerning character was obtained through one or more interviews at which a credit agent who had supervisory responsibility over the farmer and his farm was always present. As the credit agent had had fairly intimate contact with the farmer over an extended period his knowledge and attitude concerning the farmer was considered. The personal characteristics considered were:

Cooperativeness. How well does the farmer cooperate in carrying out the regulations established by the project administration. Also does the farmer cooperate with other farmers in performing work for his own welfare. For instance, during dry periods the project provides the farmers in a given series with a pump. But the task of moving and setting up the pump for a given number of farms is left to the farmers themselves. Other community activities consist, for instance, in a number of Mohammedans getting together to build a small mosque, or young men getting together to make a football field or to cooperate in some other form of recreation. Cooperativeness toward the project administration and in community activities is to some extent indicative of the farmer's desire to make a permanent home in the project.

The next two characteristics, work capacity and management skill are revealed by the condition of the farm.

Information concerning teachability was generally obtained from the credit agent. Farmers who came to the project office seeking advice concerning their farms and then carrying out the suggestions given, indicated a desire to learn new and more efficient ways of doing things. There were, of course, many farmers who never asked for advice and ignored it when it was given by the credit agent. During one interview a farmer was asked why he did not plant improved grasses. His reply was, "You don't need to plant grass, it just grows."

The final note made by the survey team was the personal impression made by the farm and the farm family. It soon became apparent that the house and family of a poor farmer reflected his poverty and inefficiency. The house was usually unclean and lacked creature comforts, and the wife and children wore ragged clothing and looked ill fed and cared for. A good farm, on the other hand, is reflected by a well kept house and the clean well fed appearance of the wife and children.

Farm No.: Series 4 - Plot 3 - Santo.

Case: 1

Husband: Hindustani, 36 years old, no education.

Group: A

Wife: 30 years old, no education.

Grade: Good

Sons: 15, 5, and 6 months years of age.

Daughters: 10, 8, 4, and 3 years of age.

Labor Units: 1 1/2

This man has a very good 4-hectare plot, is a first holder, has had the plot 1 1/2 years, is presently building a house on credit. Four of the children are attending school.

Past Experience

For the past 8 years, this man has been living on a 4-hectare place in Kwatta where he learned to grow vegetables from his father. His father lives and is growing vegetables in the same area on a 5-hectare place, which belongs to his brother, who is a laborer for the government.

This man's Kwatta farm is sandy and not too good for vegetables any more, he says, so he is using it as a pasture for cows. He has 10 milk cows of which 5 are now giving milk. He sells about 20 liters a day at present. He wants to keep the Kwatta place for his 15 year old son and is using his project plot for crop production. For some time he will be operating both places. This man has a typical Kwatta farmer background - vegetables and cattle.

Performance in Project

This man has about 3 hectares cleared and 2 1/2 planted. First year he planted plantains mixed with cabbage and tomatoes. This year he planted more plantains mixed with vegetables. After 3 years he says he will re-plant the plantains. Claims he can gross from 4 hectares of plantains and vegetables about Sf.10,000.00 per year. He needs 4 laborers off and on paying Sf.3.00 a day. He uses chemical fertilizers and insecticides and has a water pump. To date he has grossed over Sf.1200.00.

This man has a plot with a thick layer of pegasse. He is a good farmer.

Cooperation: good

Work capacity: very good

Management skill: good

Teachability: good

Personal impression: good

Farm No.: Series 4 - Plot 3

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 3 ha.

Surveyed: Feb. 1963

Planted: 2.5 ha.

Occupied: Yes

Soil: Clay, good pegasse

	Credit Used	Cash Costs	Crops	Area		Harvested	Income
				in ha.	Home		
First Year							
Credit Allowance							
None							
Housing-Presently building			Plantains and Vegetables	.75			207.00
Outbuildings							
Second Year							
Tools		425.00					
Plant Materials		300.00	Plantains and Vegetables	1.75			1000.00
Cattle							
Clearing		500.00	GROSS CASH INCOME				1207.00
Fertilizer, etc.		96.00					
<b>TOTAL</b>		<b>1321.00</b>					

Farm No.: Series 5 - Plot 17 - Santo.

Case: 2

Husband: Hindustani, 25 years old, 6 years schooling, speaks, reads, and writes Dutch.

Group: A

Wife: 23 years old, 1 year schooling.

Grade: Good

Son: 7 years old

Daughters: 5 and 4 years old.

Labor Units: 1 1/2

This man has a 4-hectare plot, is a first holder, has been on the place 1 1/2 years, has not asked for credit. He borrowed 300 guilders from his family and put up a house which cost 500 guilders.

#### Past Experience

He was born on his father's place near Duisburg but does not remember the size of the holding. Yet it seems to have been of good size because they produced about 100 bags of paddy and kept between 8 and 10 head of cattle. The family sold out and moved to Uitkijk on to a 10-hectare plot where his father died. The place is now under the control of his mother and is worked by the eldest son. This man lived on the place for 2 years helping his brothers. They planted 10 sq. chains of paddy from which they averaged 20 bags, all of which was for home use. One hectare was in plantains from which they averaged 500 bunches, getting from 500 to 700 guilders a year. They also sold about 100 guilders of tomatoes and cabbage a year. They used cattle manure and insecticides on vegetables. He said he wanted a piece of land of his own because his mother's place was not large enough for the whole family. Says he has never worked out as a wage laborer. This man's background is rice-plantains-vegetables and cattle.

Performance on Project

This man has 2 hectares in cultivation and is clearing a third hectare. This year his plantains are still young but he sold 50 guilders worth and best of all he sold 1000 guilders of vegetables. Last year, he sold corn for 75 guilders and chickens for 150 guilders. So far he has grossed 1275 guilders. This year he expects to get up to 800 guilders from his plantains. He has bought a Bromfeits (small, light, Dutch-type motorcycle) and this year intends to buy a water pump for his vegetable field. He has also had bad luck - his small son was drowned in the drainage canal and thieves broke into his house and stole many things including some money.

Cooperation:	good	Teachability:	good
Work capacity:	very good	Personal impression:	intelligent, friendly, looks honest and claims he does not drink.
Management skill:	good		

Farm No.: Series 5 - Plot 17

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 2 ha.

Surveyed: March 1963

Planted: 2 ha.

Occupied: Yes

Soil: Clay, pegasse 0-15 cm.

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested		Income	
					Home	Sold		
			First Year					
Credit Allowance None								
Housing		500.00	Plantains	1				
Outbuildings			Corn				75.00	
Tools		20.00	Chickens				150.00	
			Second Year					
Plant Materials			Plantains			30 bu.	50.00	
Cattle			Vegetables	0.5			1000.00	
Clearing		250.00	Corn	0.5				
<b>TOTAL</b>		<b>770.00</b>						
			Livestock No.					
			Cows	2				
			Hens	10				
			Ducks	3				
							<b>GROSS CASH INCOME</b>	<b>1275.00</b>

Farm No.: Series 6 - Plot 16 - Santo

Case: 3

Husband: Hindustani, 44 years old, 1 year schooling,  
does not understand Dutch very well but  
reads and writes Hindi.

Group: A

Grade: Good

Wife: 40 years old, no education

Sons: 23 and 20 years of age

Daughters: 18, 16, 4, 3 and 5 months years of age.

Labor Units: About 4.

This man has a 4-hectare plot, is a second holder, has been on the place for 9 months, and has taken out credit. All his children live with him.

#### Past Experience

Came from Kwatta area where he has a 10-hectare place of his own and on which he lived for 10 years before coming to the project. He also had a 6-hectare place near Zorg en Hoop which he sold for 600 guilders some years back. His land use on the 10-hectare place was as follows:

Rice, 6 hectares, average yield 250 bags, sold 200 bags	- Sf.1,400.00
Plantains, 3 hectares, average annual sales	- 1,500.00
Vegetables, 2 to 3 hectares (on rice land)	- 6,000.00
Milk, 12 head of cows of which 3 milking	- 1,000.00
Average annual gross in cash	<u>- Sf.9,900.00</u>

This man has a tractor which he uses on his old and new place. He says for a full day's operation the tractor expenses are 7 guilders. He wants to keep the old place for his eldest son to operate. He says he likes to grow vegetables but the old place is not very good for that any more even when he uses fertilizers and insecticides. His son will use the place mostly for cattle and rice. He says he

will grow vegetables and plantains on the project and later he will put 3 hectares into citrus. This man has a background of rice and commercial vegetable growing.

Performance in the Project

The plot is all cleared. Has not had time to sell any vegetables yet. This man is a successful commercial farmer who in 9 months has performed well. He uses only family labor.

Cooperation: good

Work capacity: very good

Management skill: good

Teachability: good

Personal impression: A good well kept house, family well dressed.

His place gives a good impression.

Farm No.: Series 6 - Plot 16

Area: 4 ha.

Time on Place: 9 months

Cleared: 4 ha.

Surveyed: Feb. 1963

Planted: 2 ha.

Occupied: Yes

Soil: Clay-sandy clay, pegasse 0-5 cm.

	'Credit ' Used	Cash Costs	'Crops	'Area ' in ' ha.	Harvested		'Income
					'Home	'Sold	
					First Year		
'Credit Allowance ' None							
'Housing		2500.00	'Vegetables	1.5			
'Outbuildings			'Plantains	0.5			
'Tools							
'Plant Materials							
'Cattle							
'Clearing							
<b>TOTAL</b>		2500.00					

Farm No.: Series 1 - Plot 3 - Santo

Case: 4

Husband: Hindustani, 28 years old, 4 years schooling, can speak and read Dutch.

Group: A

Wife: 27 years old, 6 years schooling

Grade: Poor

Children: 2 years and 1 month old at home, 7 and 5 years old away at school.

Labor Units: This man has a 4-hectare plot, is a trust holder, has been in the polder 1 year and 9 months.

1½

Past Experience:

Born and raised on father's 3-hectare place at Kwatta, where also lived his 3 brothers and 2 sisters. Two of the brothers still live there with the father. The land was mixed clay and sand. Had 18 square chains of rice, averaging 20 to 25 bags of paddy, all for home use. Six square chains of tomatoes, beans, and eggplants. Used cattle manure, chemical fertilizers, and insecticides on the vegetables. The rest of the land was pasture for 2 oxen and 2 cows. Used all milk at home. Cash income from vegetables about Sf.500.00 per year. Neither he nor his father worked outside. Occasionally, sold a bull calf. This man has a background of commercial vegetable growing.

Performance in the Project

This man has a temporary shack on his plot which cost about Sf.250.00 to build. He does not live full time on the plot. He works with his father on the father's place and then the father come to help the son. In other words, the father and son are trying to run both the 3- and 4-hectare places. The son claims he is sick a lot but this may be just an excuse for not living full time on his plot.

During the first year he put in ¾ hectare in plantains and ¼ hectare in vegetables. Last year he got Sf.300.00 from plantains and

vegetables. At present he has the same area in the same crops. Has about 2 hectares cleared and about 1 hectare in cultivation. He nor his father have ever grown plantains before and they appear in poor condition and neglected. The vegetables, on the other hand, look good, due no doubt to past experience.

This boy is father dominated. This and the attempt to run both places will slow development. This young man is not a promising farmer.

Cooperation: poor

Work capacity: poor

Management skill: poor

Personal impression: poor, does not appear intelligent, a weak character.

Farm No.: Series 1 - Plot 3

Area: 4 ha.

Time on Place: 1 year, 9 months

Cleared: 2 ha.

Surveyed: Feb. 18, 1963

Planted: 1 ha.

Occupied: Part time

Soil: Sandy clay, pegasse 0-10 cm.

	Credit Used	Cash Costs	Crops	Area Harvested		
				in ha.	Home	Sold
Credit Allowance				First Year		
None						
Housing		250.00	Plantains	.75		
Outbuildings			Vegetables	.25		300.00
				Second Year		
Tools			Plantains	.75		
Plant Materials		100.00	Vegetables	.25		
Cattle			GROSS CASH INCOME			300.00
Clearing						
Fertilizer, etc.		8.00				
<b>TOTAL</b>		<b>358.00</b>				

Farm No.: Series 1 - Plot 1 - Magenta

Case: 5

Widower: Creole, 56 years old, 6 years  
of schooling, literate in  
both Dutch and English.

Group: B

Grade: Good

Labor Unit: 1

This man lives alone in a one-room shack although he has a wife and 8 grown children from whom he is separated. He is a first holder of a 4-hectare plot, has been on the plot 1 year, has taken out credit.

#### Past Experience

This man was born and lived 18 years on a farm in Perica on the Cottica River, where his father had 200 hectares which is still owned by this man but no one lives there now. While his father was alive they produced large quantities of plantains, bananas, corn, and rice, using Javanese labor. They brought their produce to market in a boat. In those days the prices were low and he could not remember how much they produced and sold.

He first went to work at Moengo for 2 years, started at Sf.1.75 and ended by making Sf.2.40. Later he worked 3 years for the Tropical Timber Co. on the Corantijn River for Sf.1.80 and keep. He then got married and went to live with his father for 5 years. Later he worked for the Van Emden Gold Mining Co. for 6 years, where he started as a laborer but ended up as a foreman. During the war he worked on the Zanderij Road. After the war he worked for 14 years by himself, lumbering on the Coppename River, selling logs to Bruynzeel. He was sick for 3 years after which he came to the project.

#### Performance in Project

Has about 3 hectares cleared, 1.5 hectares in plantains and other fruit trees, and 1 hectare in corn. He started planting in

May 1962. His first corn did not produce. Has not yet sold plantains but expects to sell both corn and plantains this year. Has never kept cows and does not want any at present. Wants to put in 3 hectares of citrus. He has a Hillman motor car.

Cooperation: good

Work capacity: good

Management skill: fair

Teachability: fair

Personal impression: good

He wants to get his son to stay with him for he needs more labor power.

Farm No.: Series 1 - Plot 1

Area: 4 ha.

Time on Place: 1 year

Cleared: 3 ha.

Surveyed: Feb. 16, 1963

Planted: 2.5 ha.

Occupied: Yes

Soil: Clay, sandy clay, no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested Home	Sold	Income
				First Year			
Credit Allowance Sf.2,450.00							
Housing	882.55		Plantains	1.5			
Outbuildings	300.00		Corn with Vegetables	1			
Tools		10.00					
				Second Year			
Plant Materials	550.00	400.00	Corn with Vegetables	1			
Cattle							
Clearing	355.00	250.00	Hens	5			
TOTAL	2087.55	660.00	Cock	1			
			Ducks	3			
			Goose	1			

Farm No.: Series 5 - Plot 3 - Santo

Case: 6

Husband: Creole, 34 years old, 6 years primary school, speaks and reads Dutch well and speaks a little English.

Group: B

Grade: Good

Wife: 34 years old, 6 years of schooling.

Sons: 7, 6, 5, 3, and 6 months, years of age.

Daughters: 2 and 1 years of age.

Labor Units: 1 1/2

This man has a good 4-hectare plot, is a first holder, has been on the place one year and 6 months, and has taken out credit. Three of his boys are going to school.

#### Past Experience

This man was born at Klein Henar in Nickerie and came to Paramaribo in 1956. He has a varied work experience. He learned carpentry in Nickerie and also worked in the power houses of Nickerie and the Wageningen project. In Paramaribo he has worked at house building for contractors, earning 4 to 5 guilders per day. He can also make simple furniture such as chairs, tables, and closets. He wanted to come back to the land so he could be free and independent and have a place to retire. His house cost Sf.1565.00, it has linoleum on the floor of the front room and is well furnished, clean and neat. He made his own furniture. His house shows city influence which has also been observed with other settlers who have lived for some time in the city.

#### Performance in Project

First year he cleared and planted 2 hectares of corn in November which he harvested in March, getting 100 bags which he sold over a period of some months for Sf.500.00. This is what he lived on.

Second year he planted 3,500 plantain suckers on his corn land plus 2 beds of cassava, sweet potatoes, taro root, and taro leaves.

Third year has added another 1 1/2 hectares of corn. Has already harvested 80 bunches of plantains from first planting which he sold for Sf.160.00. The corn is now being harvested but about 1/4 of this crop failed due to heavy rains. So far he has made 760 guilders from corn, plantains, and vegetables.

His future plan is to have 3 hectares of citrus with 1 hectare in vegetables, some fruit trees, pigs, and chickens. He also wants 2 cows to supply milk for home use. He knows that plantains or bananas will fail after 3 years unless they are supplied with fertilizer.

Cooperation:	good
Work capacity:	very good
Management skill:	fairly good
Teachability:	good
Personal impression:	good



Farm No.: Series 1 - Plot 20 - Santo

Case: 7

Farmer: Creole, 20 years old, 6 years primary school and 3 years at Alliance agricultural school which he passed with a diploma, is unmarried.

Group: B

Grade: Fair

Labor Unit: 1

This man has a 4-hectare plot, is first holder, has been on project 1 year and 5 months, and has taken out credit.

Past Experience

Born and lived in Paramaribo most of his life where his mother owns a house. Worked for 6 months at the citrus central in Paramaribo. No early farm experience.

Performance in Project

He built a cement block house with the help of credit which cost him Sf.1,700.00. Has about 2 hectares cleared and about 1 1/2 planted. Made Sf.400.00 from plantains and Sf.100.00 from vegetables to date.

There seems to be something wrong with the soil or drainage in this and neighboring plots for plantains and citrus do not grow well. May be the land has been burned in the near past. The soil is being examined.

This man wants a new plot and if he does not get it he will likely leave. He has used up all his credit which will make it difficult for a new holder to develop his plot.

He thinks that he should try chickens and hogs on this place. He has a 150-egg incubator in operation and wants to sell 100 chickens every 3 months. Also wants 5 sows to start a hog operation, growing cassava and corn for feed. Wants 2 cows for milk for home use and manure for his vegetables. These are just ideas but he has no credit left and not enough income to start anything new.

Cooperation: good  
Work capacity: good  
Management skill: good  
Teachability: good  
Personal impression: good

The original project plan for this plot was 4-hectares of plantains to be switched over into 4 hectares of citrus. The man seems to be promising but the land use has not been properly planned. It is necessary to decide what to do with this piece of land and others like it.

Farm No.: Series 1 - Plot 20

Area: 4 ha.

Time on Place: 1 year, 5 months

Cleared: 2 ha.

Surveyed: Feb. 18, 1963

Planted: 1.3 ha.

Occupied: Yes, now left

Soil: Fair, thin pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested Home	Sold	Income
			First Year				
Credit Allowance Sf.1,900.00							
Housing	1220.55	479.45	Plantains with Vegetables	0.6			100.00
Outbuildings							
Tools			Second Year				
Plant Materials	114.00	88.00	Plantains with Vegetables			400 br.	400.00
Cattle	150.00						
Clearing	210.00	150.00	Citrus	0.7			
Incubator		100.00					
Old debts	70.00		GROSS CASH INCOME				500.00
<b>TOTAL</b>	<b>1764.55</b>	<b>817.45</b>					

Farm No.: Series 7 - Plot 9 - Magenta Case: 8  
Husband: Javanese, 46 years old, 6 years schooling, Group: B  
can understand Dutch and can read a little. Grade: Fair  
Wife: 39 years old, no education.  
Son: 18 years old, 6 years primary school,  
speaks and reads Dutch  
Daughter: 22 years old, 6 years primary school,  
speaks and reads Dutch

Labor Units: 3

This man has a 4-hectare plot in the project on which he has been 16 months, and has taken out credit.

Past Experience

This man was born in Indonesia and came to Surinam as a small child. Before coming to the project this family lived for 13 years in Paramaribo. Before Paramaribo they lived at Kronenberg in Commewijne where the man's father had 2.8 hectares in two separate parts. All of this land was planted in Resora rice. The yield was from 90 to 115 bags of paddy, of which they sold about half, or 45 to 55 bags, at 7 guilders per bag. They did not work out so that rice was the source of all money income. The father wanted to move into the city so he sold out and settled in Paramaribo in a rented house. The family rented a stall in the market where the wife and daughter prepared food for sale - fried cassava, plantains, fish, etc.- which the husband sold. They did quite well for two years after which they had too much competition so the wife became a house maid and got odd jobs from time to time. Then the father died and it cost them much money for the feasts which they had to give for their dead. The husband was out of steady work for two years. Later he got a steady job on city relief planting flowers and pruning trees in the city parks and along the streets, at Sf.3.75 per day. After working

as a maid for five years the wife stopped working. When the husband saw that he could not advance in the city he wanted to return to the land where all his family could work and they would be sure of a living. Rice farming - city life background.

Performance in Project

This man built a good home for Sf.1,150.00, just the amount of credit taken out for this purpose. By rural standards this house is well furnished and shows city influence. There is linoleum on the floor, a dresser, a sideboard, good chairs, a large mirror on the wall, a sewing machine, pictures on the wall, a clock, and a battery radio. All of this they brought from the city. The first year they cleared 1 hectare and planted it in corn mixed with vegetables from which they sold 80 guilders worth. The rest they kept for home use. They bought a good cow. Second year they planted corn and later made beds and planted 500 plantain suckers, mixed with soy beans, about 1 hectare in all. Also planted a hectare of rice but due to lack of water only got 16 bags of paddy. This year they will have about 1 hectare in vegetables planted among the plantains, 1 hectare of beans, and a hectare of rice. They intend to have 1 hectare of grasses of which they have already planted 5 sq. chains.

Cooperation:	good
Work capacity:	very good
Management skill:	fairly good
Teachability:	very good
Personal impression:	very good, man seems eager to make good

Probably thinks of the plot as a place to retire. Children are good workers and want to stay on the farm. Thirteen years of city life have exposed him to many things and forms of adjustment. With good extension

Farm No.: Series 7 - Plot 9                      Area: 4 ha.  
Time on Place: 1 year, 4 months                Cleared: 4 ha.  
Surveyed: Feb. 1963                              Planted: 4 ha.  
Occupied: Yes  
Soil: Clay, no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested		Income
					Home	Sold	
First Year							
Credit Allowance Sf. 2,150.00							
Housing	1150.00		Corn	1		16 bag	80.00
Outbuildings		150.00	Corn with Soybeans	1		6 bags	57.00 60.00
Tools	14.50	14.50	Oerdi				
Plant Materials	100.00	110.50	Rice	1		16 bag.	
Cattle	300.00						
Second Year							
Clearing	100.00						
Tools (hire)		26.25	Plantains with Vegetables	1			
<b>TOTAL</b>	<b>1664.50</b>	<b>301.25</b>	Oerdi	1			
			Rice	1			
			Grasses	1			
			Cows	1			
			Chickens	8			
<b>GROSS CASH INCOME</b>							<b>197.00</b>

Farm No.: Series 6 - Plot 6 - Santo

Case: 9

Husband: Hindustani, 31 years old, 6 years schooling, speaks and reads Dutch.

Group: B

Wife: 24 years old, no education.

Grade: Fair

Sons: 7 and 2 years of age.

Daughters: 3 and 1 years of age.

Labor Units: 1 1/2

This man has a 4-hectare plot, is a first holder, has been on the place for 1 1/2 years, and has taken out credit.

#### Past Experience

This man was born on his father's 3-hectare place at Leiding 9A about 12 kilometers from the city. There were 8 children in the family. They grew 5 square chains of vegetables and sold some but he did not remember what they received in cash. The rest of the land was in rice, the average production being 60 bags of which they sold 25 to 30 bags. They had 2 or 3 cows and sold some milk. They grew no other crops.

Before coming to the project he lived 12 years in Paramaribo in a house he rented for Sf.7.50 a month. He worked as a common laborer on contract jobs and also worked as a gardener in the city. After he got married he also planted rice on his father-in-law's place. But he does not like city life so he wanted to get back on the land.

#### Performance in Project

Has cleared about 2 1/2 hectares. Has about 2 hectares of plantains and a square chain of vegetables. Wants to plant 2 hectares of bananas but has no experience in this field. To succeed he needs a great deal of extension help. His bed ditches are not well cared for and the weeding and sucker cutting is very badly done.

Cooperation: good

Management skill: poor





Has not sold any plantains as yet but has sold Sf.75.00 of vegetables. He has and, perhaps at present, is working out, using the money to have his land developed. Says his father is not helping him. Says he wants to plant 2 hectares of citrus and 2 hectares of plantains.

Cooperation: poor, wants things his own way.

Work capacity: maybe good, if he really begins to work on his place.

Management skill: fair, so far.

Teachability: should be high because he has had plenty of outside experience.

Personal impression: good, seems intelligent and very active.  
House and family make a good impression.

This is an interesting case of a young man who could do well on this good piece of land. There is, however, a strong tendency to work outside.

Farm No.: Series 5 - Plot 27

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 1.5 ha.

Surveyed: Feb. 27, 1963

Planted: 1.5 ha.

Occupied: Yes

Soil: Clay, sandy clay, pegasse 10-30 cm.

	'Credit' 'Used	Cash 'Costs	Crops	'Area' 'in ' HA.	'Harvested' 'Home'	Sold	'Income	
				First Year				
'Credit Allowance None								
'Housing		500.00	Plantains with	1				
'Outbuildings			Cassava & Vegetables				50.00 25.00	
'Tools				Second Year				
'Plant Materials		275.00	Plantains	0.5				
'Cattle								
'Clearing		500.00	Hens	15				
<b>TOTAL</b>		<b>1275.00</b>					<b>75.00</b>	
			<b>GROSS CASH INCOME</b>					

Farm No.: Series 2 - Plot 16 - Magenta

Case: 11

Farmer: Creole, 31 years of age, claims he went to school 8 years but when tested could scarcely read simple Dutch.

Group: B

Grade: Poor  
(Welfare case)

This man is not married, has a 4-hectare plot, is a second holder, has been on the project about 1 year, has credit, all of which he has spent. There is something wrong with this man. He said the police beat him up in a public disturbance in 1960. He is wall-eyed and hard of hearing. Either he is ill or mentally deficient. He is said to have a police record for drinking and fighting.

Past Experience

When young this man lived with his grandmother on a 1.6-hectare plot along Pad van Wanica. He said they got about 20 bags of paddy. Also grew some plantains and vegetables. His grandmother made enough for grocery money. For the last 12 years he has worked in a garage for about 30 to 40 guilders a week. He has really no farm experience.

Performance in the Project

He built a Sf.1250.00 house on credit. Also got money for outbuildings which are not of the value of the credit allowed and a pump which he has sold. He has planted some plantains which look very poor and a few vegetables. He said he has sold Sf.45.00 of vegetables but no plantains. He works out for a living.

This man seems to be a social welfare case. The plot also seems to be made up of poor soil or has been burnt over. Needs looking into. There is no need to give this man a rating.

Farm No.: Series 2 - Plot 16

Area: 4 ha.

Time on Place: 1 year

Cleared: 2 ha.

Surveyed: Feb. 1963

Planted: 0.25 ha.

Occupied: Yes

Soil: 10% sand-sandy loam, 90% clay,  
no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested Home	Sold	Income
Credit Allowance	Sf.2,450.00			First Year			
Housing	1250.00		Rice	1			
Outbuildings	285.00			Second Year			
Tools			Plantains with Sw. potato				
Plant Materials	1.50		Vegetables				
Cattle	150.00		Cassava	0.25			45.00
Clearing	150.00		GROSS CASH INCOME				45.00
Pump	382.13						
<b>TOTAL</b>	<b>2218.63</b>						

Farm No.: Series 7 - Plot 17 - Santo

Case: 12

Widower: Mixed blood, 72 years old, 7 years of schooling, speaks and reads both Dutch and English.

Group: B

Grade: Poor  
(Welfare case)

This man was born in Berbice, British Guiana, his father was an Arawak Indian and his mother Chinese. His wife, 59 years old, 4 years of schooling, his sons, 22, 20, and 19 years of age, and his daughters, 39 and 23 years of age, live in Paramaribo. The elder daughter is married and lives away from home. The youngest son is going to the technical school.

This man has a 2-hectare plot on which he has lived alone for 7 months, he is a second holder, and has no credit. He lives in a palm thatched hut made of box lumber.

#### Past Experience

He came to Surinam in 1921 and has been a balata bleeder (collector of wild rubber) for 35 years. He says he is now too old to go into the forest. Before coming to the project he lived in an Indian village at Sawari Weg where he says he rented 2 hectares from a private owner. The land was not good and the leaf cutter ants were bad. He kept chickens and worked at odd jobs. He prefers to live alone and away from the city. He says he gets 10 guilders per month from the government and occasionally gets some help from his sons. He said his sons had low paying jobs and were not able to help him much. This man has no real farm experience.

#### Performance on the Project

This man's plot is sandy in front and he has no luck with peanuts. At the back of the plot he has about 1/4 hectare in vegetables, corn and a few plantains where the soil is sandy loam. Says he intends to plant a little rice in the back part of his plot.

This man is a social case who wants to use his plot as a place to retire. With a little help in the way of plantain and banana suckers and advice he should be able to make out. He gave the impression of being an intelligent, cheerful man and said he liked the plot and thought he could live satisfactorily on it.

Farm No.: Series 7 - Plot 17

Area: 2 ha.

Time on Place: 7 months

Cleared: 1 ha.

Surveyed: March 4, 1963

Planted: 0.25 ha.

Occupied: Yes

Soil: 40% loamy sand-sandy loam,  
60% sandy clay, no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested Home	Sold	Income
Credit Allowance				First Year			
None							
Housing			Plantains and				
Outbuildings			Vegetables				
Tools			Peanuts				
			Corn	0.25			
Plant Materials							
Cattle							
Clearing							



Farm No.: Series 2 - Plot 3

Area: 4 ha.

Time on Place: 1 year, 3 months

Cleared: 4 ha.

Surveyed: Feb. 16, 1963

Planted: 1.3 ha.

Occupied: Yes

Soil: Clay, pegasse 5-10 cm.

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested, Home	Sold	Income
				First Year			
Credit Allowance Sf.2,050.00			Plantains	1			
Housing	1250.00		with Vegetables				
Outbuildings	55.00						
				Second Year			
Tools	145.00	25.00	Vegetables	0.3			
Plant Materials	165.00	210.00					
Cattle			Hens	8			
Clearing	76.00						
Fertilizer		2.50					
Prep. of beds, etc.	140.00						
<b>TOTAL</b>	<b>1831.00</b>	<b>237.50</b>					

Farm No.: Series 6 - Plot 36 - Santo

Case: 14

Husband: Hindustani, 29 years old, 3 years of schooling, does not speak or read Dutch.

Group: C

Grade: Good

Wife: 27 years old, 4 years of schooling, speaks and reads Dutch. This couple have been married for 12 years but have no children. He has a 4-hectare plot, is a first holder, and has been in the project for a year and 4 months. Has no credit although has asked for it.

### Past Experience

Until he moved into the project, this man lived with his father and married brother, who has 8 children, on a 1-hectare place at Welgedacht, where he was born. They produced about 20 bags of paddy and kept 3 milk cows on cut grass and rice stubble. His brother worked for Bruynzeel for many years at 21 guilders per week. Asked what he did, he said he planted rice and milked the cows, selling about 5 liters of milk per day at 20 cents a liter. The whole family lived on the rice and the money income from milk and his brother's wages. Just before coming to the project he worked a year at Bruynzeel. Rice plus cattle background.

### Performance on Project

He said he paid 200 guilders for clearing but also worked himself. The front part of his plot was sandy grassland, the back half being covered with forest, the land having a thin layer of pegasse over clay. He paid 30 guilders for having some beds made. He paid 50 guilders for 500 plantain suckers. All the planting he did with the help of his wife. He also has 6 head of livestock - 1 bull, 2 calves, and 3 cows.

His house cost him 700 guilders. This money he borrowed from his father-in-law. All his land is cleared. The first year he planted plantains in his yard area of .25 hectare and cleared 1 hectare. Second year he finished clearing and planted 1 hectare in corn. He is now making

13 beds for plantains where he will plant 800 plantain suckers. With the yard area he has now planted about 2 hectares. To date, he has sold 350 bunches of plantains for 700 guilders, tomatoes for 17 guilders, and 5 liters of milk per day at 20 cents per liter. Since coming to the polder he has had a full time job on relief work at 21 guilders per week and intends to continue working.

This farm needs careful planning for the front half is sandy and the back half is none too good judging from the plant growth. He wants to put 2 hectares in rice but this is against the plan for the Santo polder where rice is not to be planted. Perhaps grasses and citrus would be the land program.

Cooperation:	poor
Work capacity:	fairly good
Management:	poor
Teachability:	poor

Personal impression: None too bright. His wife seems to run the farm for she answered the questions and also picked up a machete and followed us into the plot when we looked it over. As long as he keeps working out full time he will develop his farm slowly. The wife seems more intelligent and energetic than the husband. Wife deserves good rating.

Farm No.: Series 6 - Plot 36

Area: 4 ha.

Time on Place: 1 year, 4 months

Cleared: 4 ha.

Surveyed: March 1963

Planted: 2 ha.

Occupied: Yes

Soil: 30% sandy loam, 70% clay-sandy clay,  
no pegasse

	Credit Used Sf\$	Cash Costs Sf\$	Crops	Area in ha.	Harvested Home	Sold	Income
				First Year			
Credit Allowance None				None			
				Second Year			
Housing		700.00					
Outbuildings			Corn	1			Sf\$
Tools			Plants and Vegetables	1		350,700.00 bun,	
Plant materials		50.00				17.00	
Cattle			TOTAL	2			717.00
Clearing		200.00	1 bull				
Land Preparation		30.00	2 calves				
TOTAL		980.00	3 cows - 5 liters milk at Sf\$1.00 per day				150.00
			GROSS CASH INCOME				867.00

Farm No.: Series 3 - Plot 29 - Santo

Case: 15

Husband: Javanese, 43 years old, about  
2 years schooling

Group: C

Wife: 38 years old, about 2 years  
schooling

Grade: Good

Sons: 11, 10, 5, 4, and 3 years, of age.

Daughters: 13, 7, 2, and 1 years of age.

Labor Units: 1 1/2

This plot is one of the 26 associated with Pilot Farm, having 4 hectares. This man is a first holder and has been in the project for 16 months. He has 3 older sons who have adjoining plots.

#### Past Experience

This man came from a 4-hectare rice plot in Commewijne where he produced between 80 and 100 bags of paddy. He had up to 8 head of cattle of which he still has 3. He never worked outside. He still owns this plot.

#### Performance in the Project

This man and his 3 sons on the adjoining plots are doing well. They all have good houses and are getting around 700 bunches of bananas from the first hectare planted. They plant between 13 and 15 hundred suckers to the hectare. He said they have to use 4 bags of fertilizer a year on a hectare of bananas which costs 10 guilders per bag. Spraying material costs 70 cents a hectare. This man has bought 2 hectares of rice land nearby at Koewarasan which supplies the family with rice and some vegetables and milk. This man is a good farmer.

Farm No.: Series 3 - Plot 29

Area: 4 ha.

Time on Place: 1 year, 3 months

Cleared: 4 ha.

Surveyed: Feb. 28, 1963

Planted: 3 ha.

Occupied: Yes

Soil: Clay-sandy clay, pegasse 0-30 cm.

	Credit Used Sf\$	Cash Costs Sf\$	Crops	Area		Harvested	
				in ha.	Home	Sold	Income
				First Year			
Credit Allowance				None			
None							
Housing		1700.00					
				Second Year			
Outbuildings			Bananas	3			900.00
Tools							
Plant Materials		540.00	GROSS CASH INCOME				900.00
Cattle							
Clearing		1000.00					
<b>TOTAL</b>		<b>3240.00</b>					

Farm No.: Series 9 - Plot 6 - Magenta

Case: 17

Husband: Hindustani, 23 years old, 3 years schooling, cannot speak or read Dutch.

Group: C

Grade: Good

Wife: 19 years old, no education.

Children: 2 and 1 years of age.

Labor units: 1 1/2

This man has a 4-hectare plot which he took over from his father, who got a steady job outside, in January 1962. He has taken out credit.

#### Past Experience

Before coming to the project he lived with his father, mother, and 8 brothers and sisters at Kwatta for 5 years on a 1.2-hectare plot where they planted 0.6-hectare of rice, from which they got 10 to 24 bags of paddy depending on the rains. This rice was not enough to feed the family. They had 0.12-hectare of vegetables, selling any surplus. The rest of the land was used as pasture for a cow, two bulls, and a calf. Before this they lived at Duisburg for many years on a 2.4-hectare plot where they grew rice and vegetables and kept a few head of cattle. The father always worked out. This man started to work when he was 16, working for the Dutch farmers, taking care of plantains and vegetables. He also helped to build houses. Rice-vegetables-cattle-wage work background.

#### Performance in Project

This man's house cost him 400 guilders. Last year he earned 300 guilders from wage work, is still working out although he says he wants to stop. Says on his farm he is his own boss and can work one day and rest three. Claims to have pain in his stomach. Has no bicycle and both he and his wife wear ragged clothing. He has 1.5 hectares in plantains which shows Dutch farmer influence but from 1 hectare of rice he only harvested one bag due to drought. His father supplies him with rice for

home use. He explained clearly how the Dutch farmers grow plantains with cattle manure fertilizer and claims he uses manure on some of his plantains.

This man's future plan is to plant 1.8-hectare of rice and .2-hectare of citrus, 1 hectare plantains and vegetables, and 1 hectare of grasses for 5 head of cattle. He wants to plant pangola grass which does not do well on the polder, also rice is a risk crop. A little rice, citrus, and grasses would be better for this plot.

Cooperation:	good
Work capacity:	fair, he is a bit lazy
Management skill:	poor
Teachability:	fair
Personal impression:	This man, his wife, his house, and his plot appear run down, probably due to laziness.

Farm No.: Series 9 - Plot 6

Area: 4 ha.

Time on place: 1 year, 5 months

Cleared: 3.5 ha.

Surveyed: March 1963

Planted: 3.3 ha.

Occupied: Yes

Soil: 70% loamy sand-sandy loam, 30% clay, no pegasse

	Credit Used Sf\$	Cash Costs Sf\$	Crops	Area in ha.	Harvested		Income	
					Home	Sold		
					First Year			
Credit Allowance Sf\$1,650.00			Plantains	1.5			Sf\$	
			Vegetables	0.8				
Housing )	144.00	400.00	Rice	1	1 bag			
Outbuildings )		40.00						
Tools		25.00			Second Year			
Plant Materials		302.00	Plantains				150.00	
Cattle			Vegetables	0.8			30.00	
Clearing	200.00	350.00	Rice	1				
<b>TOTAL</b>	<b>344.00</b>	<b>1117.00</b>	Livestock	No.				
			Cows	3				
			Calves	3				
			Goats	2				
			Sheep	2				
			Hens	7				
			Cock	1				
			<b>GROSS CASH INCOME</b>					<b>180.00</b>



His future plan is to use the front half of his plot, which is sandy, for peanuts and the back half for rice, with 0.25-hectare of yard for citrus trees and a few vegetables. He plans to buy and sell bull calves, feeding them on cut grass.

A bag of peanuts costs 50 cents to take to market on a horse.

Cooperation:	poor, an old man set in his ways
Work capacity:	low, used paid labor for heavy work
Management:	fair
Teachability:	<u>not teachable</u> , wants to follow old ways
Personal impression:	<u>good</u> , a hard working old couple that will do all right in their old traditional way.

Farm No.: Series 6 - Plot 3

Area: 2.8 ha.

Time on Place: 2 years, 6 months

Cleared: 2.8 ha.

Surveyed: Feb. 4, 1963

Planted: 1.44 ha.

Occupied: Yes

Soil: 50% loamy sand, 50% sandy clay-clay, no pegasse

	Credit Used Sf\$	Cash Costs Sf\$	Crops	Area in ha.	Harvested		Income
					Home	Sold	
First Year							
Credit Allowance None			Corn	2.5	3 bags		
Housing		500.00	Peanuts	0.4	24 bags		240.00
Outbuildings			Rice	0.6	3 bags		
Tools			Peanuts	0.4	20 bags		200.00
Plant Materials			Rice	1.0	30 bags		
Cattle		100.00					
Second Year							
Clearing		760.00	Bananas	0.04			
Labor		190.00	Peanuts	0.4			
Tools (hired)		60.00	Rice	1			
<b>TOTAL</b>		<b>1610.00</b>					
Livestock				No.			
			Bull	1			
			Hens	30			
			Cocks	2			
<b>GROSS CASH INCOME</b>							<b>440.00</b>

Farm No.: Series 5 - Plot 6 - Magenta

Case: 19

Farmer: Javanese, 19 years old, unmarried, 4 years of schooling. Household consists of his father, mother, sister, and brother-in-law with three children.

Group: C

Grade: Fair

Labor Units: 3

This man has a 4-hectare plot, has been on it for 1 1/2 years, and has no credit.

Past Experience

Before coming to the polder, this man lived all his life on his father's 1.2-hectare plot near Santo Boma. There they planted 18 square chains of rice averaging 15 or 16 bags of paddy. The rice crop depended entirely on rain. They planted 6 square chains of peanuts averaging 14 bags a year which sold for Sf.170.00. Planted some vegetables for home use. Bought 2 bull calves every two years at Sf.150.00 and sold for Sf.350.00 to Sf.400.00. Did not work out. Moved because old plot was not sufficient to support them well enough. Needed 50 kilos of white rice per month.

Rice-peanuts-cattle background.

Performance on Project

As this man's plot was covered with grass and a few bushes it was not difficult to clear. He plowed his ground with a yoke of bullocks. He planted Berbice rice, 16 square chains, and got 20 bags of paddy. This year he is planting Holland rice. Has heard of 81B variety but prefers the old types because the harvest period is more extended.

Cooperation: good, always comes when called for sports or to build a mosque. Work capacity: good

Teachability: fair, has no future plan in mind. Knows that milk cows pay better than bulls but still wants bulls. Claims that cows are more work. Seems not to be interested in money. Is planning to buy a motorcycle. Management skill: fair, is doing what he did before. Personal impression: fair.

Farm No.: Series 5 - Plot 6

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 4 ha.

Surveyed: Feb. 2, 1963

Planted: 1.02 ha.

Occupied: Yes

Soil: 20% loamy sand, 80% clay, no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested		Income
					Home	Sold	
Credit Allowance				First Year			
None			Rice	.6	20 b		
Housing		400.00	Capucines	.12			
Outbuildings			Peanuts	.4	3 bag	36 bags	432.00
Tools		5.00			seed		
Plant Materials			Cassava	.04		3 bags	15.00
Cattle							
Clearing				Second Year			
TOTAL		405.00	Rice	.5			
			Peanuts	.4			
			Capucines and Cucumbers	.12			
			Livestock	No.			
			Hens	20			
			Bulls	4		2	250.00
			GROSS CASH INCOME				697.00

Farm No.: Series 4 - Plot 17 - Magenta

Case: 20

Husband: Javanese, 36 years old, no education.

Group: C

Wife: 33 years old, no education.

Grade: Fair

Son: 5 years old

Labor units: 1 1/2

This man has a 4-hectare plot, is a first holder, has been on the place 1 1/2 years, and has taken out credit. He is married to his second wife, his first wife's mother gave him trouble so he left.

#### Past Experience

Before coming to the project, this man lived for 20 years on a 1-hectare plot in Saramacca polder where he planted 5 square chains of peanuts, averaging 15-20 bags at Sf.12.50 per bag; 20 square chains of rice, averaging 20 bags, of which he sold 10 at Sf.6.00 per bag. He had no cattle nor did he grow anything else. He is a carpenter and stated that he made about Sf.500.00 a year from this work. Thus his income was about Sf.760.00 a year. He sold his improvements when he left for Sf.800.00.

#### Performance in the Project

This man is putting up a good house which will cost Sf.2,500.00. He has built houses for other settlers in the polder. He paid Sf.500.00 for clearing 3 hectares, making the peanut beds himself. Besides setting out 2 square chains of plantain suckers, he planted corn, capucines, and soybeans.

During the second year he planted tomatoes but lost them all due to the drought. Set out 800 more plantain suckers. Sold one cow.

In the future he plans to have 1 hectare of grasses (horse and sheep grass) enough for 10 head, 1 hectare of plantains, 1 1/2 hectare of rice, and the other half hectare to be used for yard, peanuts, citrus, and vegetables.

This plot has a depression in the middle so that rice would do best here rather than in the back. In a way, rice is a risk crop. This man is a promising farmer if he does not continue house building to the detriment of his farm.

Cooperation: good

Work capacity: good

Management skill: fair

Teachability: Agrees to do something but does not always follow through, for instance, he was given grass plants on request but he left them without planting. Teachability still to be proven.

Last year he said he made about Sf.1,000.00 building houses in the project.

Farm No.: Series 4 - Plot 17

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 3 ha.

Surveyed: Feb. 2, 1963

Planted: 1.2 ha.

Occupied: Yes

Soil: 10% sand, 90% clay, no pegasse.

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested Home	Sold	Income
			First Year				
Credit Allowance Sf.1,600.00							
Housing	1150.00	1350.00	Corn	.24	8 b.		32.00
Outbuildings	240.00		Capucines	.12			30.00
Tools		25.00	Soybeans	.32	1/2 b.		20.00
Plant Materials		80.00	Plantains	.08			
			Second Year				
Cattle		600.00					
Clearing		300.00	Plantains	.40			
Tools (hired)		60.00	Tomatoes	.20			
Labor		200.00	Cabbage	.34			120.00
<b>TOTAL</b>	<b>1390.00</b>	<b>2615.00</b>	Livestock	No.			
			Cows	5	1		120.00
			Bull	1			
			Hens	4			
<b>GROSS CASH INCOME</b>							<b>322.00</b>

Farm No.: Series 8 - Plot 3 - Magenta

Case: 21

Husband: Hindustani, 22 years old, no education.

Group: C

Wife: 22 years old, 2 years of schooling.

Grade: Fair

Son: 2 years old.

Daughters: 4 and 6 months years of age.

Others: Mother and 2 brothers, 18 and 28 years old, live with him.

Labor units: 4.

This man has a 4-hectare plot, is a first holder, has been on the plot for one year, has taken out credit.

#### Past Experience

Before coming to the project, this man lived all his life on a 1.2-hectare plot near Pad van Wanica with his parents, 2 brothers, and 1 sister. When they left they sold their improvements for Sf.500.00.

They planted 1 hectare of rice, averaging 35 bags annually for home use. Grew some vegetables for home use, had 8 coconut trees, 40 chickens, 25 ducks, 3 goats, and 1 ox for plowing. Claims they made about Sf.350.00 annually from the farm. This man worked as a house painter for 4 years at Sf.5.00 a day. His father was ill and did not work much. Rice-vegetable-wage work background.

#### Performance in Project

Paid Sf.480.00 to have all his land cleared by tractor. Paid Sf.200.00 for plowing rice land. Other tasks they did themselves. Paid Sf.130.00 for 1600 plantain suckers, using artificial fertilizer (NPK) on them. Planted 3 hectares of rice from which he got 62 bags for home use. No return from plantains so far. Estimated that he got Sf.550.00 from farm. His two brothers worked out and said they earned a total of Sf.450.00.

Last year this farm was worked as a traditional farm. May be cattle and rice is the best plan for this plot. The credit agent thinks this man is promising, perhaps he can be trained by intensive extension. The test will come this year.

Cooperation:	good (comes to games and activities)
Work capacity:	very good
Management skill:	fair
Teachability:	good
Personal impression:	good, intelligent, eager.

Surveyed: Feb. 9, 1963

Planted: 3.8 ha.

Occupied: Yes

Soil: 20% sandy loam, 80% clay, no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested		Income	
					Home	Sold		
First Year								
Credit Allowance Sf.1,800.00			Tomatoes	.08			?	
Housing	1122.00	1378.00	Chin. Cab.	.02			20.00	
Outbuildings	59.00		Oerdi	.08			?	
Tools		25.00	Cabbage	.02			?	
Plant Materials		130.00	Cassava	.04			5.00	
Cattle	226.00		Rice	3	62 bags			
Clearing	203.00	480.00	Second Year					
Labor		200.00	Plantains	.80				
Fertilizer		4.00	Rice	3				
<b>TOTAL</b>	<b>1610.00</b>	<b>2217.00</b>						
			Livestock	No.				
* He estimated that he has grossed about Sf.500.00 from the farm so far.			Cows	3		milk	30.00	
			Calves	1				
			Hens	20				
			Cocks	10				
			Ducks	15				
			Goats	6				
<b>GROSS CASH INCOME *</b>								

Farm No.: Series 1 - Plot 13 - Santo

Case: 22

Husband: Hindustani, 31 years old, 6 years schooling but not regularly, speaks and reads Dutch poorly.

Group: C

Grade: Fair

Wife: 26 years old, 5 years schooling but practically illiterate.

Labor units: 1 1/2.

This man has 5 small children, 3 of whom stay with his parents going to school. He has a 4-hectare plot, is a first holder, has no credit, came one year and nine months ago.

#### Past Experience

Before coming to the project, this man lived at Leiding 18 on a 7-hectare place with his parents, 4 brothers, and 8 sisters. Had 6 hectares in rice from which they got 150 bags, selling 50 bags of white rice for about Sf.900.00. Had half a hectare in Paragrass and kept some cows. Sold a bull calf almost every year for Sf.80.00. Sold no milk. Father had a tractor which cost Sf.4,400.00, with which he earned money by plowing for others at Sf.37.50 a hectare. Rice and cattle background.

#### Performance in the Polder

This man has a shack which cost him Sf.105.00 which he moved into in January 1963, lived with his father before that. Father gave him Sf.90.00 to have some land cleared. He still drives the tractor for his father and helps his father and his sister on their farms. He appears to be father-dominated and works for his relatives too much which slows the development of his own plot.

Cooperation: fair

Work capacity: good, slow but does a good job

Management skill: poor

Teachability: fair, has to check with father

Farm No.: Series 1 - Plot 13

Area: 4 ha.

Time on Place: 1 year, 9 months

Cleared: 2 ha.

Surveyed: Feb. 18, 1963

Planted: 1.5 ha.

Occupied: Yes

Soil: Sandy clay-clay, pegasse 5-10 cm.

	'Credit' 'Used	Cash Costs	Crops	'Area ' in ' ha.		'Harvested 'Home 'Sold 'Income	
				First Year			
Credit Allowance None			Plantains	0.75			
Housing		105.00	Vegetables	0.08			50.00
Outbuildings							
				Second Year			
Tools		30.00	Plantains	0.75			600.00
Plant Materials		90.00					
Cattle			GROSS CASH INCOME				650.00
Clearing		90.00					
<b>TOTAL</b>		<b>315.00</b>					

Farm No.: Series 4 - Plot 27 - Magenta

Case: 23

Husband: Javanese, 22 years old, 4 years schooling

Group: C

Wife: 20 years old, 5 years schooling.

Grade: Fair

Son: 4  $\frac{1}{2}$  years old.

Daughter: 2 years old.

Labor units: 1  $\frac{1}{2}$

This man has a 4-hectare plot, is a first holder, has no credit, and has been on the place 1 year and 6 months.

#### Past Experience

For 10 years he lived with his parents on a 1-hectare place. Here they planted rice on 20 square chains, averaging 25 bags, selling 12 bags for Sf.84.00; peanuts on 3 square chains, averaging 7 bags which sold for Sf.140.00. Bought and sold bulls, averaging about Sf.200.00 per year. The men worked out. This man worked in a cement block works, a sawmill, and with a surveyor.

#### Performance in Project

This man paid Sf.500.00 for material to build his house which his father-in-law, who lives next door, helped him build. His brother helps on the plot. He says he wants to plant 20 square chains of vegetables and is visiting a neighboring Javanese who is a good vegetable grower to learn about vegetable production. Also wants to plant peanuts, plantains, and grasses.

Cooperation: good

Work capacity: fair

Management skill: poor

Teachability: very good

This young man has had varied wage work experience and is eager to learn. With good extension help he should be able to manage a 4-hectare plot.

Farm No.: Series 4 - Plot 27

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 2 ha.

Surveyed: Feb. 7, 1963

Planted: 0.5 ha.

Occupied: Yes

Soil: Clay, pegasse 0-25 cm.

	'Credit Used	Cash Costs	Crops	'Area'		'Harvested'		
				in ha.	'Home	'Sold'	'Income	
			First Year					
'Credit Allowance'								
None								
'Housing		500.00	'Corn	.08				
'Outbuildings			'Capucines	.08			20.00	
			Second Year					
'Tools		8.00	'Beans	.12				
'Plant Materials			'Vegetables	.16			60.00	
'Cattle			'Peanuts	.06	1 bag,	1 b.	12.50	
'Clearing			'Plantains	.08				
'Fertilizer etc.'		2.60	'Rice	.08	1 bag,			
<b>TOTAL</b>		<b>510.60</b>						
			'Poultry	'No.'				
			'Hens	30				
			'Cock	1				
			'Ducks	2				
							GROSS CASH INCOME	92.50

Farm No.: Series 4 - Plot 26 - Santo

Case: 24

Husband: Hindustani, 31 years old, 4 years schooling but only writes his name. Can read Hindi but not Dutch.

Group: C

Grade: Fair

Wife: 28 years old, no education .

Sons: 10 and 3 years of age.

Daughters: 8, 6, 5, and 2 years of age.

Work units:  $1\frac{1}{2}$

This man has a 4-hectare plot with very good soil, is a first holder, has no credit, and has been on the place one and one-half years.

#### Past Experience

This man came from Welgedacht where he lived on his father's 4-hectare place. When his father died, the land was divided between him and his brother. He lived on his 2-hectare place for 8 years, where he produced rice on 20 square chains, getting on the average 20 bags of paddy. The rest of his land was sandy and he used it to graze 3 cows and grew some vegetables for home use only. His rice was enough for home use in a good year. He sold on the average 6 liters of milk per day. He worked as a carpenter now and then at Sf.5.50 per day. He said his cash income from wages and milk came to about Sf.700.00 a year. Rice-cattle-wage work background.

#### Performance in the Project

This man lives in a shack. He has cleared 1.5-hectare, one of which he planted in plantains and is now working on the other half hectare for plantains. The beds are kept maintained but the plantains are not pruned. He claims he has made Sf.350.00 from the sale of plantains and Sf.250.00 from vegetables (pumpkins and taro leaves). Said he planted tomatoes and cabbage but failed due to insect damage. Now he plants vegetables for home use.

Cooperation: fair  
Work capacity: good  
Management skill: poor  
Teachability: fair  
Personal impression: fair

This man has 4 hectares of very good soil. What he lacks is experience, he does not know what is best to be done. If small amount of credit can be used to get him to follow a plan he should work out well. Without extension help and general guidance he will continue to waste the productivity of this good plot.

Farm No.: Series 4 - Plot 26

Area: 4 ha.

Time on place: 1 year, 6 months

Cleared: 1.5 ha.

Surveyed: Jan. 6, 1963

Planted: 1.5 ha.

Occupied: Yes

Soil: Sandy clay, pegasse 15 cm.

	'Credit 'Used	'Cash 'Costs	'Crops	'Area 'in 'ha.	'Harvested 'Home 'Sold	'Income
First Year						
'Credit Allowance 'None			'Plantains	'1		
'Housing		'165.00	'Vegetables 'bet. plant.			'250.00
'Outbuildings						
'Tools		'25.00	Second Year			
'Plant materials		'150.00	'Plantains	'0.5		'350.00
'Cattle			'Vegetables 'bet. plant.			'60.00
'Clearing		'237.50				
'TOTAL		'577.50	'Livestock	'No.		
			'Cows	'1	'3 liters 'per day 'at 20 'cents	'100.00
			'Pigs	'1		
			'Hens	'42		
			'Calves	'1		
GROSS CASH INCOME						'760.00

Farm No.: Series 4 - Plot 16 - Santo

Case: 25

Husband: Hindustani, 49 years old, 8 years of education consisting of 6 years primary and 2 years Catholic school, reads and writes Dutch.

Group: C

Grade: Poor

Wife: 37 years old, no education.

Sons: 20, 11, and 6 months of age, eldest lives with parents but works out.

Daughters: 17, 7, 5, and 3 of age, eldest is married and lives out.

Labor units: 2

This man has a 4-hectare plot, is a first holder, has been on the plot one and one-half years, has no credit.

#### Past Experience

Before coming to the project, this man had lived since birth on his father's 1.6-hectare plot at Welgedacht. When his father died he took over the plot, which was rented from the government, his brothers getting other land that was the private property of the father. He intends to pass on the plot to his eldest son when he gets married next month. On his plot he planted 1 hectare of rice, getting a yearly average of 35 bags. He had 2 cows and sold 2 to 3 liters of milk per day. He grew vegetables for home use. Rice also was for home use. Most of the cash came from working out, for Lareco, for instance. Subsistence rice growing plus common labor background.

#### Performance in Project

Has a shack costing Sf.115.00. Has cleared about 1.25 hectares and is using 1 hectare. The soil is a deep pegasse and looks rich. He has a Bush Negro clearing land for him at present. The first year he planted 0.75-hectare of plantains and this year sold Sf.750.00. Later he sold Sf.150.00 of vegetables. Thus he has grossed Sf.900.00 in cash. He has 2 cows. This man claims that when he works hard he gets sick for he

has stomach trouble. Cannot lift heavy weights.

Cooperation: poor

Work capacity: poor

Management skill: poor

Teachability: poor

Personal impression:dull, slovenly due to illness and age.

This is a good piece of land that seems to be wasted. The plantains are poorly cared for but still are producing good bunches due to the rich soil. This man can take care of 1 to 2 hectares. Age and background experience does not indicate success for the future.

Farm No.: Series 4 - Plot 16

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 1.25 ha.

Surveyed: Feb. 27, 1963

Planted: 1 ha.

Occupied: Part time

Soil: Clay, pegasse 5-20 cm.

	Credit Used Sf\$	Cash Costs Sf\$	Crops	Area in ha.	Harvested		Income
					Home	Sold	
First Year							
Credit Allowance None			Plantains	0.75			
Second Year							
Housing		115.00	Plantains			500 b	750.00
Outbuildings			Vegetables	0.25			150.00
Tools			TOTAL	1			900.00
Plant Materials		150.00					
Cattle			Livestock	No.			
Clearing		200.00	Cows	2			
TOTAL		465.00	Calves	1			
			Hens	5			
GROSS CASH INCOME							900.00

Farm No.: Series 2 - Plot 26 - Magenta

Case: 26

Husband: Hindustani, 36 years old, 10 years of schooling,  
reads and writes Dutch.

Group: C

Grade: Poor

Wife: 30 years old, 4 years of schooling

Sons: 8, 7, 6, and 2 years of age.

Daughters: 12, 11, 9, and 4 years of age.

Labor units: 1  $\frac{1}{2}$

The five eldest children are in school.

This man has a 4-hectare plot, is a second holder, has no credit,  
has been on the plot one year.

#### Past Experience

Before coming to the project this man lived for 12 years on a 1.2  
hectare plot. He planted rice on 20 square chains from which he got 20  
bags of paddy. He stated that his family needed 100 kilos of white rice  
every 3 weeks. He kept 2 or 3 milk cows with calves. He sold some milk,  
about 6 liters per day at Sf.0.20 per liter. The sale of milk and calves  
was the only source of money income. When he did not get enough paddy  
for his family needs his relatives helped him. He said he never worked  
out for wages. Rice growing and cattle keeping background.

#### Performance on project

When this man left his old place he sold his house for Sf.850.00,  
2 bulls for Sf.200.00 and left-over paddy for Sf.190.00. Thus he had  
Sf.1,240.00 in cash. He said he also borrowed Sf.1,000.00 from his  
relatives to build a house. He says he now owes his relatives about  
Sf.800.00 and is asking for credit to be able to pay his loan.

He wants to plant rice even though the land is too high for a secure water supply. This seems to be his background experience of rice growing exerting its influence. To him a farm without rice is incomplete, and he will want to plant it even if it is risky. His plantings of vegetables are made in various spots over the plot. In other words, the land is being wasted.

Cooperation: good

Work capacity: fair (very easy going)

Management: poor

Teachability: fair

Personal impression: poor, seems to lack initiative, with good extension help and small development loans on the basis of work done he can be improved.

Farm No.: Series 2 - Plot 26

Area: 4 ha.

Time on Place: 1 year

Cleared: 4 ha.

Surveyed: Feb. 1963

Planted: 0.8 ha.

Occupied: Yes

Soil: Clay, pegasse 0-10 cm.

	'Credit' 'Used' Sf	Cash Costs Sf	'Crops	'Area' 'in' 'ha.	'Harvested'		'Income'	
					'Home'	'Sold'		
First Year								
Credit Allowance None			Oerdi	0.2	1/2 bag	1 bag	60.00	
Housing		1000.00	Corn	0.2	3 bags			
Outbuildings			Chin. Cab.	0.2			40.00	
Second Year								
Tools		7.50						
Tools (hired)		30.00	Plantains	0.2				
Plant Materials		61.25	Pulses	0.2				
Cattle			Citrus	0.2				
Clearing		30.00	Vegetables	0.2				
TOTAL		1128.75						
			Livestock	No.				
			Cows	4	20 liters per day at Sf 0.20			
			Calves	4			400.00	
			Hens	10				
			Cocks	2				
GROSS CASH INCOME							500.00	

Farm No.: Series 6-- Plot 26 - Santo

Case: 27

Husband: Hindustani, 39 years old, has 4 years of schooling, speaks and reads a little Dutch.

Group: C

Wife: 37 years old, no education.

Grade: Poor

Daughter: 21 years old, lives on the plot.

Labor units: 2

This man has a 4-hectare plot, is a first holder, has been on the place about one year, has credit.

#### Past Experience

Came from Meerzorg where he lived on his father's 2-hectare plot. Planted less than a hectare of citrus, 3 square chains of plantains and cassava, and 3 square chains of grasses. Also helped plant 1 hectare of rice on his mother's place, helped his brother on his 2-hectare place, and also worked outside at Sf.3.20 per day transporting timber on the river. It is clear that this man was a subsistence farmer and a common laborer.

#### Performance in the Project

Has cleared and bedded 2 hectares for which he paid Sf.400.00. Now has one-half hectare in plantains and 1 square chain of vegetables. The front part of his plot is sandy, the back part loam. He said he sold 150 bunches of plantains for Sf.225.00 and tomatoes for Sf.100.00 and a few other vegetables. Hints that he sold about Sf.400.00 of farm produce last year. He says he wants to plant all the 4 hectares in plantains although what he has planted is not doing well on the sandy soil. Then he said he wants to plant rice although the land is not suited for it. Does not seem to know what he wants to do on the place. Without a good farm plan and a great deal of extension supervision this place will fail.

Cooperation: fair  
Work capacity: good, he is willing to work  
Management skill: poor  
Teachability: poor  
Personal impression: Appears ignorant, very talkative, is  
said to drink.

Farm No.: Series 6 - Plot 26

Area: 4 ha.

Time on Place: 1 year

Cleared: 2 ha.

Surveyed: Feb. 1963

Planted: 0.5 ha.

Occupied: Yes

Soil: 30% sand-sandy loam, 70% sandy clay, no pegasse

	Credit Used Sf.	Cash Costs Sf.	Crops	Area	Harvested		Income
				in ha.	Home	Sold	
First Year							
Credit Allowance Sf.2,250.00			Plantains	0.5			
Housing	1250.00	1700.00	Tomatoes	0.3			100.00
Second Year							
Tools			Plantains			150 bunchés	225.00
Plant materials	108.00	56.00	Vegetables	0.04			
Cattle	280.00		Livestock	No.			
Clearing	101.00	400.00	Cows	1			
Old debts	168.86		Ducks	10			
TOTAL	1907.86	2156.00	Hens	50			
			Turkeys	4			
GROSS CASH INCOME							325.00

Farm No.: Series 10 - Plot 7 - Magenta

Case: 28

Husband: Hindustani, 52 years old, no education.

Group: C

Wife: 45 years old, no education.

Grade: Poor

This man's daughter, son-in-law, and 4 small grandchildren live on the plot with him.

He has a 4-hectare place, is a second holder, has been on the place only three months, has no credit.

Labor units: 2

Past Experience

This man came from Welgedacht where he lived for 21 years on a 2.4-hectare plot. All of his land was used for rice and he claimed that he averaged 60 bags of paddy. He had a yoke of bullocks, a milk cow, a calf or two, and 30 chickens. He said he usually sold 30 bags of paddy in the form of rice getting Sf.300.00. He worked out helping other farmers while his son worked for Lareco at times. Rice plus wage work background.

Cooperation: fair

Work capacity: good

Management skill: poor

Teachability: poor

Personal impression: dull

The sandy soil farm looks very poor and the man has no experience in handling this type of soil. Two hectares of rice land would be best for him. There are two hectares of clay at the back of the plot that can be used for rice cultivation providing sufficient water is available.

Farm No.: Series 10 - Plot 7

Area: 4 ha.

Time on Place: 3 months

Cleared: 0.5 ha.

Surveyed: Feb. 12, 1963

Planted: 0.5 ha.

Occupied: Yes

Soil: 30% sandy loam, 20% sandy clay, 50% clay, no pegasse

	'Credit ' Used	Cash ' Costs	' Crops	' Area in ' ha.	' Harvested		' Income
					' Home	' Sold	
				First Year			
' Credit Allowance							
' None							
				None			
' Housing							
				Second Year			
' Outbuildings							
' Tools			Plantains	0.5			
' Plant materials							
' Cattle							
' Clearing							

As this man was a second holder, there was a small house on the plot when he took over.

Farm No.: Series 7 - Plot 4 - Magenta

Case: 29

Farmer: Javanese, 24 years old, 2 years schooling,  
illiterate.

Group: C

Grade: Poor

Labor units: 1

This man's wife and child left him some time ago and he is now courting a 17 year old girl, which is the reason he gives for not being a good farmer. He has a 4-hectare plot, is a first holder, has been on the plot for a year and a half, and has no credit. He lives alone in a poor shack. His father has the adjoining plot.

#### Past Experience

Before coming to the polder he lived at Boxel (near Domberg) for a long time with his father, mother, 3 brothers, and 5 sisters, on a 2.4-hectare place rented from a white man (Bakra). The place was not cleared so that they planted patches of rice broadcast, amounting to about 1 hectare, producing about 5 to 10 bags of paddy. Also had 1 square chain of plantains (200 plants),  $\frac{1}{4}$  square chain of sweet potatoes, and 1 square chain in peanuts. They did not sell any farm produce nor had any livestock. This man worked for the owner of the farm, cutting grass for cattle and feeding pigs, he did not work full time, only about a week each month, earning about 15 guilders per month. Later, he worked off and on at a coffee plantation, weeding and cleaning bed trenches, at 8 guilders per week. He also worked at road repairs. His wages were used to buy food and clothing. His father remained on the land to produce some food. A year before coming to the polder the whole family moved to Leiding 5 where they rented 1.4 hectares of government land which was not good. They planted 1 hectare in rice and only got 5 bags. They paid 30 guilders to have it plowed. They planted 30 banana suckers, 1 square chain of peanuts from which they got only 2 baskets of nuts. Both he and his father worked for 3 guilders a day

at the government rice seed plant. They sold their improvements on the place for 400 guilders and moved to the project.

Performance on Project

This man lives in a hut which he claims cost him 12 guilders to build. He works out a lot. Very little planting is done on the plot. It was difficult to understand this man. Appears to be low in intelligence but healthy and strong.

Cooperation: poor

Work capacity: poor

Management skill: poor

Teachability: poor

Personal impression: poor, appears to be one of the worst farmers.

Farm No.: Series 7 - Plot 4

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 0.3 ha.

Surveyed: Feb. 11, 1963

Planted: 0

Occupied: Yes

Soil: Clay, no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested		Income
					Home	Sold	
First Year							
Credit Allowance							
None							
			Corn	.12	2 bags	1 bag	7.50
Housing	12.50		Cassava	.04			
Outbuildings			Rice	.08	2 bags		
Tools	15.00						
Second Year							
Plant Materials	12.50						
None							
Cattle							
Clearing			GROSS CASH INCOME				7.50
Tools (hired)	36.00						
<b>TOTAL</b>	<b>76.00</b>						

Farm No.: Series 3 - Plot 23 - Magenta

Case: 30

Husband: Hindustani, 44 years old, 8 years schooling,  
can speak and read Dutch.

Group: C

Wife: 41 years old, no education.

Grade: Poor

Sons: 24, 23, 21, 19, and 12 years of age.

Daughters: 16 and 14 years of age.

Labor units: At least 6.

This man has a 4-hectare plot on which he has built a small one-room shack, he is a first holder, has no credit, and has had the place for a year and a half.

#### Past Experience

At present this family lives on a 2-hectare place at Welgedacht C. where they have lived for 12 years, on which they produce rice, averaging between 40 to 50 bags of paddy. He also has 20 coconut and 5 mango trees but does not produce any vegetables nor plantains. All rice is used for family consumption. He formerly had a 1.25-hectare place on which he produced some citrus, coconuts, and other fruits but did not depend on it for a living. His main occupation is buying vegetables and fruits from farmers and selling them at the central market where he has a stall. He claims he clears from 2 to 5 guilders a day. One son is a busdriver, earning 18 guilders per week. The other sons are occasional laborers. The sons have no land. Two sons are married. Rice-wage work-petty trade background.

#### Performance on Project

This man's plot is all cleared, hiring the work to be done except for six beds which he made recently. The ditches are so narrow that the sides will cave in. The first year there were scattered plantings of plantains,

cassava, corn, taro leaves, and a few poor cabbage plants, totaling about one hectare. He has a cow and a mean bull, which has bothered the neighbors. The police have tried unsuccessfully to catch the bull. He says he lives on the place but his shack shows no signs of occupation. The credit agent claims he is seldom to be found on his place. This man and his family have the labor power to develop the plot. It could easily be fully planted by now.

Cooperation: poor

Work capacity: poor

Management skill: poor

Teachability: poor

Personal impression: poor, makes excuses for not being able to develop the farm, is shifty, ingratiating, and a voluble talker.

1. He does not effectively occupy the plot.
2. He has not effectively cultivated the plot.
3. He has no clear plan for the future development of the plot.
4. He has no valid reasons for not doing better.

Farm No.: Series 3 - Plot 23

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 4 ha.

Surveyed: Mar. 4, 1963

Planted: 0.5 ha.

Occupied: No

Soil: 30% loamy sand-sandy loam, 70% sandy loam-sandy clay, no pegasse

	Credit Used	Cash Costs	Crops	Area	Harvested		Income
				in ha.	Home	Sold	
First Year							
Credit Allowance							
None							
			Cassava	.06			20.00
Housing			Sw. potato	.48			5.00
Outbuildings			Bananas				
Tools		15.00	and				
Plant Materials		88.50	Plantains	.40			15.00
			Tomatoes	.04			35.00
Cattle			Amsoi	.08			10.00
Clearing		620.00					
Second Year							
Tools (hired)		180.00					
TOTAL		903.50	Corn and Tomatoes and Cabbage among Plantains	.25			
GROSS CASH INCOME							85.00

Farm No.: Series 3 - Plot 13 - Magenta

Case: 31

Husband: Hindustani, 26 years old, 4 years schooling,  
does not speak nor read Dutch.

Group: C

Grade: Poor

Wife: 26 years old, no education.

Son: 5 years old.

Daughters: 7 and 2 years old.

Labor units: 1½

This man has a 4-hectare plot, has been on the plot for 1 year and 6 months, has taken out credit.

#### Past Experience

Before coming to the project, this man lived on his father's 1.5-hectare plot at Leiding 9, where they produced from 20 to 25 bags of paddy per year for home use, and kept 2 or 3 cows and sold them occasionally. He, his brother, and father worked out for wages on other farms. This man worked for four years looking after plantains and vegetables, on the farm of one of the top vegetable growers in Surinam, where he should have learned something. He made about Sf.350.00 a year from outside labor. Past experience shows traditional type farming with wage work.

#### Performance on Project

This man does on his plot just what he did in the past. Has taken out credit to build a house, after which he stopped developing his farm. When he was asked why he does not plant grasses for his cows, he replied that grass grows naturally. He is now working outside of the project. Has no idea of a farm plan.

Cooperation: poor

Work capacity: fair

Management skill: poor

Teachability: poor, just wants to plant rice and a few vegetables and work outside. This man has been suggested for eviction.

Personal impression: poor

Farm No.: Series 3 - Plot 13

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 1.5 ha.

Surveyed: Feb. 7, 1963

Planted: 0.5 ha.

Occupied: Yes

Soil: 15% sandy loam, 85% clay, no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested Home	Sold	Income
			First Year				
Credit Allowance Sf.2,450.00			Tomatoes	.08			50.00
Housing	1223.00		Cucumbers	.06			
Outbuildings			Eggplants	.04			
Tools			Second Year				
Plant Materials			Vegetables and Cucumbers among				
Cattle			Plantains	.05			
Clearing							
Labor		2.30					
TOTAL	1223.00	2.30	GROSS CASH INCOME				50.00

Farm No.: Series 2-- Plot 15 - Magenta

Case: 32

Husband: Hindustani, 41 years old, no education.

Group: C

Wife: 40 years old, no education.

Grade: Poor

Sons: 18 and 15 years of age.

Daughter: 14 years of age.

Labor units: 4

This man has a 4.5-hectare plot, is a first holder, has had the plot 1½ years, has no credit, and does not live on the plot.

#### Past Experience

This man and his family have not yet moved on to the polder although they have a very small hut on the plot which cost Sf.100.00. Presently, they are living on a 2-hectare farm about ten minutes away by bicycle, where they have lived for a long time. One hectare of this place is in rice from which, last year, he got only 8 bags of paddy due to drought, but in normal years produces 20 bags. He uses Holland variety rice. He was a woodcutter but when his father died he took over the farm. He is now looking for work and has asked a politician to help. He sells a few chickens and vegetables when he has a surplus. He has 2 cows, 2 bullocks, and 2 bull calves which he wants to sell. Is not selling milk at present. He says his family needs 100 kilos of white rice per month. Rice-cattle-wage work background.

#### Performance on Project

At present this man has 200 plantains in very poor condition in the yard of his plot. There are no beds and the plantains are not well maintained. There are a few patches of vegetables, corn, and oerdi beans. As he is only using about one-half of a hectare, this plot is being wasted. His plan for the future is 3½ hectares of rice, ¼ hectare of vegetables, and ¼ hectare of fruit trees in the yard. He states he wants to keep 9

head of cattle, just where he is to get the grass, he did not say. This man is now working on his old place of 2 hectares, besides trying to develop his 4.5-hectare plot on the project, and is also looking for wage work. He says he does not want to sell his old place but to keep it for his children.

Cooperation:	poor
Work capacity:	poor, has enough labor to develop the plot.
Management:	poor
Teachability:	poor
Personal impression:	sly and devious, not reliable, a good candidate for a 2-hectare rice plot.

Farm No.: Series 2 - Plot 15

Area: 4.5 ha.

Time on Place: 1 year, 6 months

Cleared: 4.5 ha.

Surveyed: Jan. 31, 1963

Planted: 0.5 ha.

Occupied: No

Soil: 10% sandy clay, 90% clay, no pegasse

	Credit Used	Cash Costs	Crops	Area in ha.	Harvested		Income
					Home	Sold	
First Year							
Credit Allowance							
None					10		
			Rice	.64	bags		
Housing	100.00						
			Plantains	.06			
Outbuildings					5		
			Cassava		bags		40.00
Tools	6.50						
			Corn		3		
Plant Materials	29.90				bags		50.00
Cattle			Chin. Cabb.				50.00
Clearing							
Second Year							
Labor	15.00						
			Plantains		10		20.00
TOTAL	151.40		Oerdi	.16	bu.		
			Corn and Chin. Cabb.	.24			
			Cassava	.02			
Livestock No.							
			Cows	2			
			Calves	4			
			Hens	15			
GROSS CASH INCOME							160.00

Farm No: Series 11 - Plot 7 - Magenta

Case: 33

Husband: Hindustani, 23 years old, 7 years of schooling, speaks and reads Dutch.

Group: C

Wife: age? Had 4 years of schooling.

Grade: Fair

Son: Five months old.

Labor units:  $1\frac{1}{2}$

This man has a 2.5-hectare plot, has had the plot for 2 years but does not live on it. He keeps his chickens in the little shack which is on the plot. Has no credit.

#### Past Experience

This man's father has a store nearby and also has a total of 7 hectares of land in 3 holdings, on which he keeps 30 head of cattle, and raises rice, vegetables, and fruit trees. This man works outside.

#### Performance on Project

This young man is using this place as natural pasture for his father's cows. He did plant something the first year. He was given grasses to plant but fed them to the cattle. He was officially evicted in April 1962, but he still uses the place as a pasture. This plot is suited for grasses, peanuts, and citrus. But as the young man is not living on it nor using it efficiently he should be replaced by someone else.

Farm No.: Series 11 - Plot 7

Area: 2.5 ha.

Time on Place: 2 years

Cleared: :  
: Pasture

Surveyed: March 1963

Planted: :

Occupied: No

Soil: 50% sand-sandy loam, 50% sandy clay, no pegasse

	'Credit Used'	'Cash Costs'	Crops	Area	Harvested		
				in ha.	'Home	'Sold'	Income
				First Year			
Credit Allowance None							
Housing			Rice	2	4		
Outbuildings			Vegetables	0.2			
Tools				Second Year			
Plant Materials				None			
Cattle							
Clearing			Cattle ?				

Farm No.: Series 7 - Plot 7

Case: 34

Husband: Hindustani, 34 years old, 4 years of schooling but does not speak nor read Dutch.

Group: C

Grade: Poor

Wife: 27 years old, no education.

Sons: 13, 12, 10, 8, 6, 3, 2, years of age, five are in school.

Daughter: 4 years old.

Work units:  $1\frac{1}{2}$

This man has a 4-hectare plot, is a first holder, has been on the plot for one year and eight months, and has no credit.

#### Past Experience

For 5 years before coming to the project, this man rented 4 hectares of rice land from which he averaged 80 bags of paddy a year. He also worked at odd jobs. For 3 years before coming to the polder he worked for Suralco at Paranam. Sold about half of his paddy. He had 2 milk cows but sold no milk. Rice-wage work background.

#### Performance on Project

This man has his plot all cleared but has only set out one-half of a hectare in plantains, among which he planted vegetables, neither of which are doing well. The soil has only a thin layer of dark soil over the clay. Has planted 50 orange trees. Did not sell any vegetables the first year. Since coming to the polder he has worked full time on the pilot plantation as weeder and pruner for 3 guilders a day. During cutting periods, when he works on a piece work basis, he makes from 4 to 6 guilders a day. He is considered a very good worker on the plantation. Claims that he has to work full time for wages because he needs cash to keep his large family. There is much truth in this. But he could have planted corn after clearing his land, followed by grasses for milk cows which would bring in cash while waiting for his citrus to come into production.

Cooperation: fair  
Work capacity: very good  
Management skill: fair  
Teachability: fair  
Personal impression: friendly, intelligent, said to be sober and a  
good family man.

Farm No.: Series 7 - Plot 7

Area: 4 ha.

Time on Place: 1 year, 8 months

Cleared: 4 ha.

Surveyed: Feb. 1963

Planted: 0.5 ha.

Occupied: Yes

Soil: Clay, pegasse 5-15 cm.

	'Credit' 'Used'	Cash Costs	'Crops	'Area' in ha.	'Harvested'		'Income	
					'Home	'Sold'		
				First Year				
'Credit Allowance None								
'Housing		150.00	Plantains	.05				
				Second Year				
'Outbuildings								
'Tools		12.00	Plantains					
'Plant Materials		50.00	and Vegetables				100.00	
'Cattle			Citrus	50 trees				
'Clearing		150.00						
'Tools (hired)		40.00	Livestock	No.				
'TOTAL		402.00	Cows	2				
			Calves	2				
			Goats	2				
			Ducks	2				
			Hens	12				
			Geese	2				
GROSS CASH INCOME							100.00	

Farm No.: Series 4 - Plot 7 - Magenta

Case: 35

Farmer: Hindustani, woman, 48 years old, no education.

Group: C

Labor unit:  $\frac{1}{2}$

Grade: Poor  
(Welfare case)

This woman lives alone in a very small hut on a 4-hectare plot which is in her own name, because she gave up her old inherited place to the Santo Boma project. She is a first holder and has been on the place  $1\frac{1}{2}$  years, has no credit. She says she is sick a lot. Her husband who lives with her son only comes around once in a while. He, too, is not well, suffering from rheumatism.

#### Past Experience

For 20 years, she and her husband and 5 children lived on a 3.2-hectare plot on which they grew rice and kept a few cows. From 1.5 hectares they got from 30 to 50 bags of paddy, most of which they used at home, the rest being traded at a local store. They had 2 bulls, 2 cows, and 2 calves and sold milk now and then for ready cash. In his younger days the husband worked for wages.

#### Performance in Project

Her little hut cost about Sf.100.00. She also has a small shed for storing peanuts. She does her cooking on a chulah (Hindustani clay hearth) which is outside of the hut. She got Sf.450.00 from the improvements on her old plot which she used to have  $1\frac{1}{2}$  hectares cleared.

First year she tried rice on a few square chains but only got 1 bag of paddy because the land was too high and dry. She then planted oerdi beans but lost most of them because of too heavy rains.

She now has 2 square chains of peanuts mixed with vegetables which do not look good on the sandy soil. Says she sells a few cabbages now and then to buy food. Her livestock consists of 1 hen, 4 chicks, and a skinny

When we asked her why she did not live with her children, she began to cry and said that they would not care for her. She said that when she was with her daughter-in-law she would not give her enough rice to eat. "No one comes to see me or help me any more." She said her husband lives with their son and that her daughter's husband drinks and is very poor. This woman is a social welfare case and something should be done for her. She certainly is not capable of developing a 4-hectare plot. She appeared to be a very nice person.

Farm No.: Series 4 - Plot 7

Area: 4 ha.

Time on Place: 1 year, 6 months

Cleared: 1.5 ha.

Surveyed: Feb. 4, 1963

Planted: 0.1 ha.

Occupied: Yes

Soil: 30% sand-sandy loam, 70% clay, no pegasse

	Credit Used	Cash Costs	Crops	Area	Harvested		Income
				in ha.	Home	Sold	
				First Year			
Credit Allowance							
None			Rice		1 bag		
Housing		110.00	Oerdi	1			
Outbuildings							
				Second Year			
Tools							
Plant Materials			Peanuts and Vegetables	.08			
Cattle							
Clearing		450.00	Poultry	No.			
<b>TOTAL</b>		<b>560.00</b>	Chickens	5			

Farm No.: Series 7 - Plot 7 - Santo

Case: 36

Husband: Hindustani, 25 years old, 6 years schooling but only reached grade 3.

Group: C

Wife: 22 years old, 7 years schooling but only reached grade 4.

Grade: Poor  
(Welfare case)

Son: 1 year old.

Daughter: 6 years old.

This man has a 2-hectare plot, is a first holder, has been in the project for  $1\frac{1}{2}$  years, and has no credit.

#### Past Experience

Before coming to the polder he lived on his father's place of 1.6 hectares at Welgedacht C. They got about 30 bags of paddy and enough vegetables for home use. Also had a milk cow. He worked for Bruynzeel for 3 years. His father also worked out. So far he has produced 5 bags of corn of which he sold two. He claims he is now selling okra for 2 guilders a week. When he is short of grocery money he gets a job for a few days or weeks.

This man is a social welfare case.

He and his wife appear mentally deficient. He was recommended for a plot by the District Commissioner's Office.

