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LOAN REPAYMENT BEHAVIOUR AMONG THE RUBBER FARMERS IN NES I PROJECT IN EAST ACEH, INDONESIA

AZHAR

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By

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To My Beloved Daughter
Thifal Azhar

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LIST OF ABBREVIATIONS

APBD	Anggaran Pendapatan dan Belanja Daerah - Provincial Government Budget.
APBN	Anggaran Pendapatan dan Belanja Negara - State Government Budget.
BI	Bank Indonesia - Bank of Indonesia.
BAPPEDA	Badan Perencanaan dan Pembangunan Daerah - Provincial Development Planning Agency.
BRI	Bank Rakyat Indonesia - People's Bank of Indonesia.
BUPATI	District Chief Executive.
CAMAT	Sub-District Chief Executive.
DIP	Daftar Isian Proyek - Project Budget Document.
DRC	Dry Rubber Content.
FOB	Free on Board.
KUD	Koperasi Unit Desa - Village Unit Co-operative.
LURAH	Head of Village.
UUP	Unit Usaha Perkebunan - Project Management Unit.
PTP	Perseroan Terbatas Perkebunan - State-Owned Estate Enterprise with Limited Liability.
SPSS	Statistical Package for Social Sciences.
IBRD	International Bank for Reconstruction and Development.
INPRES	Instruksi Presiden - Presidential Instruction.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in partial fulfilment of the requirements for the degree of Master of Science.

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By

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April 1999

Chairman: Abu Hassan Md. Isa, Ph.D.

Faculty: Economics and Management

As an effort to promote the national rubber industry, the government of Indonesia in the past has implemented various policies and programmes. One of them is the Nucleus Estate and Smallholders I Project (NES). The NES I project was officially introduced in 1977 as a pilot project in implementing the contract farming system in Indonesia, and it has progressively developed ever since. It involved a total area of about 5,852 hectares and 2,926 farmers. However, the project faced one major problem, that is poor loan collection where quite a significant number of farmers involved in the project who were not able to repay the loan on time.

According to the Pusat Pengkajian dan Pengembangan Agribisnis (1994), the total amount of loans that had been disbursed by the NES project was RP 12.690 billion and out of this amount only RP 6.533 billion or about 51 percent had been repaid by the project participants.

Recognition the above problem, the general objective of the study is to examine the loan repayment performance of a contract farming system through the NES I Project in East Aceh, Indonesia. The specific objectives of the study are to assess the performance of the non-defaulters and the defaulters in terms of their productivity, income and adoption of technology; and to identify key factors influencing borrowers of NES I project to repay their loans.

This study was conducted at the NES I project, which is located at about 89 km from Langsa in East Aceh District of Aceh Province, Indonesia, and adjacent to the State-Owned Enterprise, i.e., PT. Perkebunan Nusantara I. For the purpose of this study, one hundred respondents were chosen as the sample of the study which consisted of 65 non-defaulters and 35 defaulters.

The study shows that, with the exception of the tapping frequency, there is no significant difference between the non-defaulters and the defaulters in terms of some of the economic variables such as level of productivity, income level and adoption of technology.

The analysis of logit model which provides 81 percent of correct prediction indicates that, with the exception of the farmers' income level, the

signs of the estimated coefficients of other explanatory variables are as expected according to a priori reasoning. Generally, the model indicates that the probability that a farmer will become a non-defaulter is positively related to educational attainment, farming experience, productivity, other sources of income, attitude towards loan repayment, knowledge about the rubber technology and satisfaction with the NES I project activities and services, but negatively related to age, family size and income. However, only the coefficients of educational attainment, family size and knowledge about the rubber technology are found to be significant at the 5 percent level.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi sebahagian daripada keperluan untuk ijazah Master Sains.

GELAGAT PEMBAYARAN BALIK PINJAMAN DI KALANGAN PEKEBUN GETAH PADA PROJEK PERLADANGAN PEKEBUN KECIL BERPUSAT DI ACEH TIMUR, INDONESIA

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April 1999

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Sebagai salah satu usaha untuk mempromosikan industri getah negara, Pemerintah Indonesia telah menerapkan pelbagai dasar dan program pada masa lampau. Satu diantaranya adalah Projek Perladangan Pekebun Kecil Berpusat. Projek tersebut secara rasmi dilancarkan pada tahun 1977 sebagai suatu projek pilot bagi menerapkan sistem kontrak pertanian di Indonesia dan telah berkembang sehingga sekarang. Ia mencakupi jumlah kawasan seluas 5,852 hektar dan melibatkan seramai 2,926 pekebun. Bagaimanapun, projek tersebut menghadapi satu masalah utama iaitu pembayaran balik pinjaman yang rendah dimana sebilangan besar pekebun kecil yang terlibat dalam projek tersebut tidak mampu membayar balik pinjaman pada masa yang telah ditetapkan.

Menurut Pusat Pengkajian dan Pengembangan Agribisnis (1994), jumlah skim bantuan yang telah dilancarkan oleh Projek Perladangan Pekebun Kecil Berpusat adalah sebanyak RP 12.690 bilion. Daripada jumlah tersebut hanya RP 6.533 bilion atau 51 peratus telah dibayar balik oleh peserta projek.

Memandangkan masalah diatas, objektif umum kajian ini adalah untuk menilai prestasi pembayaran balik pinjaman daripada sistem kontrak pertanian menerusi Projek Perladangan Pekebun Kecil Berpusat di Aceh Timur, Indonesia. Objektif khas kajian ini ialah untuk menilai prestasi peminjam yang berjaya dan peminjam yang tidak berjaya dari segi produktiviti, pendapatan dan pemindahan teknologi dan untuk mengenalpasti faktor-faktor utama yang mempengaruhi peminjam dalam membayar balik pinjaman.

Kajian ini telah dijalankan keatas Projek Perladangan Pekebun Kecil Berpusat yang terletak lebih kurang 89 km dari Bandar Langsa, Bahagian Timur Aceh, Indonesia dan berhampiran dengan estet pemerintah iaitu PT. Perkebunan Nusantara I. Bagi tujuan kajian ini, seramai 100 responden telah dipilih, terdiri daripada 65 responden yang berjaya dan 35 responden yang tidak berjaya menjelaskan pinjaman.

Kajian ini menunjukkan bahawa, selain dari frekuensi penorehan, tidak terdapat perbezaan bererti di kalangan peminjam yang berjaya dan peminjam yang tidak berjaya dari segi beberapa pembolehubah ekonomi seperti tahap produktiviti, tahap pendapatan dan penggunaan teknologi.

Analisis model logit yang menghasilkan 81 peratus ketepatan ramalan menunjukkan bahawa, selain daripada pembolehubah tahap pendapatan, tanda-tanda daripada pembolehubah-pembolehubah lain yang dianggarkan adalah seperti yang dijangkakan. Secara umum, model tersebut menunjukkan bahawa kebarangkalian seseorang menjadi peminjam yang berjaya membayar balik pinjaman mempunyai hubungan yang positif dengan taraf pendidikan, saiz keluarga, produktiviti, punca pendapatan lain, sikap terhadap pembayaran balik pinjaman, pengetahuan tentang teknologi pengeluaran getah dan kepuasan terhadap kemudahan dan perkhidmatan yang disediakan oleh projek berkenaan. Tetapi, mempunyai hubungan yang songsang dengan usia, pengalaman bertani dan pendapatan. Walau bagaimanapun, hanya pembolehubah taraf pendidikan, saiz keluarga dan pengetahuan tentang teknologi pengeluaran getah adalah didapati bererti pada paras 5 peratus.

CHAPTER I

INTRODUCTION

Indonesian Rubber Industry

The natural rubber industry has played a significant role in the economy of Indonesia. It has not only contributed to the national income through foreign exchange earnings but also acted as an important source of income for millions of small farmers in Indonesia.

Census of Agriculture (1993) reported that in 1983, the total number of rubber stands in Indonesia was about 860 million, and in 1993, the number of rubber stands was estimated to be around 929.3 million, an increase of around 8 percent over the ten-year period.

As the second world-leading producer of natural rubber, Indonesia is undergoing a massive development in an effort to maintain the contribution of the agriculture sector to the economy. As a result of the government's efforts to promote the rubber industry, the total land area planted with rubber and the total rubber production has been on the increase, especially after the late 1980s. The area planted with rubber and total rubber production in Indonesia from 1987 through 1996 are as shown in Table 1.1.

Table 1.1: Planted Rubber Area and Rubber Production in Indonesia

Year	Planted Area ('000 ha)	Production ('000 tons)
1987	2,850	1,130
1988	2,944 (3.3)	1,173 (3.8)
1989	3,056 (3.8)	1,209 (3.1)
1990	3,142 (2.8)	1,275 (5.5)
1991	3,174 (1.0)	1,328 (4.2)
1992	3,289 (3.6)	1,398 (5.3)
1993	3,405 (3.5)	1,475 (5.5)
1994	3,445 (1.2)	1,499 (1.6)
1995	3,496 (1.5)	1,573 (4.9)
1996*	3,535 (1.1)	1,614 (2.6)

Note: *Projected figure.
Figures in parentheses indicate percentage.
Source: Indonesian Ministry of Agriculture, 1997.

Corollary to the national rubber development, the area under smallholding has increased from 2,893,000 hectares in 1994 to 2,920,000 hectares in 1995, an increase of around 0.9 percent. Similarly, the production of rubber by smallholders has increased from 1,138,900 tons to 1,155,800 tons, an increase of around 1.48 percent during the same period. The detailed information regarding the area planted and total production of rubber by the smallholding sector in Indonesia is shown in Table 1.2.

Table 1.2: Planted Rubber Area under Smallholding and Total Production in Indonesia

Year	Planted Area ('000 ha)	Production ('000 tons)	Productivity (tons/ha)
1990	2,639.4	913.4	0.35
1991	2,667.9 (1.1)	971.4 (6.4)	0.36
1992	2,747.7 (3.0)	1,030.4 (6.1)	0.37
1993	2,846.5 (3.6)	1,102.0 (6.9)	0.39
1994	2,893.0 (1.6)	1,138.9 (3.4)	0.39
1995	2,920.0 (0.9)	1,155.8 (1.5)	0.39

Note: Figures in parentheses indicate percentage.
Source: Directorate General of Estates, 1997.

Although the rubber industry in Indonesia is developing rapidly, there are a number of factors that inhibit rubber productivity, especially that of smallholders. One of the major factors is the characteristics of the rubber stands that affect the productivity level. This may be due to poor stand maintenance, and aging stands resulting from the smallholders' incapability to replant and the like (Dillon, 1992).

The situation has encouraged the Government of Indonesia to implement a host of policies and programmes to increase smallholders' income. The major ones are the Nucleus Estate and Smallholders Scheme (NES), the Project Management Unit Scheme (PMU), the Self-support Scheme and the National Private Estate Schemes. The concepts of these programmes are explained as follows:

1. Nucleus Estate and Smallholders Scheme (NES): This scheme focuses on the improvement of the socio-economic conditions of the participants through well-managed production, processing, and marketing under the guidance and direct involvement of a publicly-owned estate companies,

which function as a nucleus and operates on the basis of mutual benefit and co-operation with the participating smallholders. Besides maintaining their own plantation, nucleus estates are expected to assist participating smallholders in developing their plantation using improved technology.

2. Project Management Unit Scheme (PMU): This scheme covers existing rubber smallholdings in scattered locations. Participating smallholders are assisted by the PMU in developing their holdings with improved technology. These smallholders are later directed to organise themselves into farmer groups in such a way that they will be able to manage their holdings wisely and become self-reliant.
3. The Self-support Scheme: This scheme is aimed at developing the rubber smallholdings sector through self-help approach. Government assistance under the scheme is very limited, entailing only the provision of seeds, extension services, and the establishment of demonstration plots.
4. The National Private Estate Scheme: The development of large plantations is effected through the Large National Private Estate Scheme under the subsidised interest and easy repayment terms. In this scheme, foreign private entities are also invited to joint-venture with national private companies.

Table 1.3: Government Rubber Development Policy

Policy	Description	Objective	Target	Year	Funding	According to Source of Funds			
						Description	Local NES	Special NES	Subsidised NES
NES Scheme	National estate as nucleus guides smallholder surrounding it in mutual beneficial manner	To form plantation society consists of integrated farming To increase participant farmers' incomes To increase export volume, value and employment	Participants are expected to be able to use technology which will be beneficial to groups as well as to individuals	1977	Non Credit Funds provided by the government for survey, feasibility study and others Credit Funds provided through bank loans both domestic and foreign	Main Crop (ha) Food Crop Area (ha) Yard Land (ha) Participants House Location Source of Funds	2 - - Local Farmers - Around Existing Plantation Self Finance	2 0 75 0 25 Transmigration Exist New Opening Self Finance	2 0 75 0 25 Local Farmers Exist New Opening Foreign Loans
PMU Scheme	One way to access the existing plantations scattered in different location	To form private, well off plantation society without harming the environment	The farmers are directed to organise themselves into farmer group	1977	Funds from domestic and foreign sources	All funds from domestic Subsidised funds consists of SCDP, SRDP and P3RSB from abroad			
Self Support Scheme	A system to improve the existing smallholders to increase their productivity	To improve income and its distribution	The areas outside UPP and NES Scheme		Own Funds				
National Private Estate Scheme	A system to promote investment in plantation	Full utilisation of existing plant and land	The expansion of plantation to the surrounding areas to achieve the optimum scale		Investment Credit and operating capital credit are provided				

Source Directorate General of Estate for Crops, Ministry of Agriculture

Description of Nucleus Estate and Smallholders I Project

Location, Objectives and the System

As mentioned earlier, the Government of Indonesia in an effort to promote the national rubber industry has implemented various policies and programmes, and among the important one is the NES I Project. The project was officially introduced in 1977 as a pilot project in implementing a contract farming system in Indonesia, and it has progressively developed ever since.

NES I project is located about 89 km from Langsa in East Aceh District of Aceh Province, Indonesia and adjacent to the State-Owned Estate Enterprise, i.e., PT. Perkebunan Nusantara I. The objectives of the project are to increase farmers' income, to create employment opportunities, and to increase foreign exchange earnings.

The NES I project system is an effort to develop the smallholding in a new area. A State-Owned Estate Enterprise, i.e., PT. Perkebunan Nusantara I is then selected and appointed as a nucleus. This nucleus is responsible for opening up of new area and establishing new stands in the area. This newly developed area is subsequently transferred to the smallholders. Besides establishing new stands, the nucleus acts as an agent of development as well, by transferring rubber cultivation technology and providing input for processing and marketing of smallholders' production.

Project Description and Financing

The fund for settlement components of the NES I project was financed from both the World Bank and the government of Indonesia. The components cost were divided into non-credit items and credit items. The non-credit items include village infrastructure, main access and village roads, and health services were financed entirely from the government of Indonesia annual budget and Presidential Instruction (INPRES) programme. The flow of funds for non-credit items of expenditure is shown in Figure 1.1.

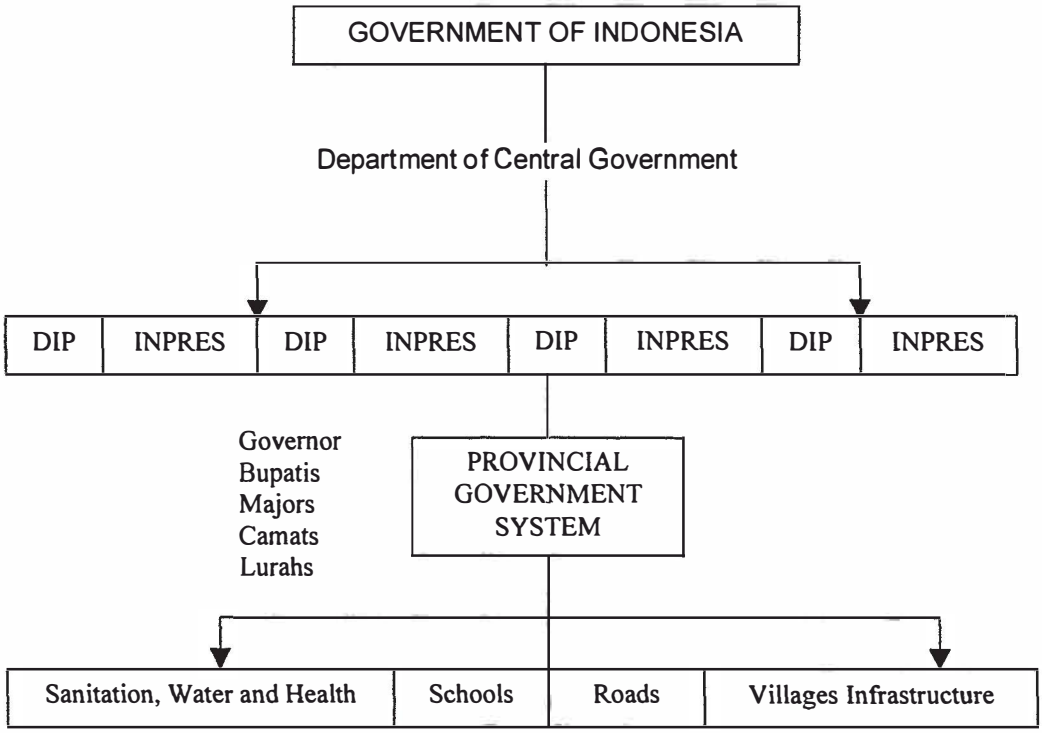


Figure 1.1: The Flow of Funds for Non Credit Items of Expenditure.

Meanwhile, the credit items for smallholder development costs include rubber and subsistence crop development and settlers' housing were financed by the World Bank and the government of Indonesia through the Ministry of Finance. The flow of funds for credit items is shown in Figure 1.2.

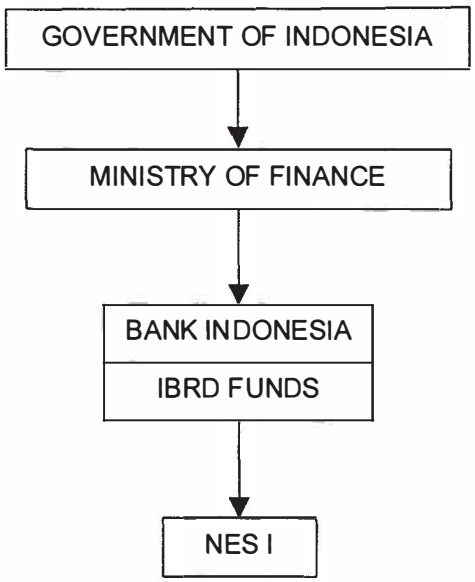
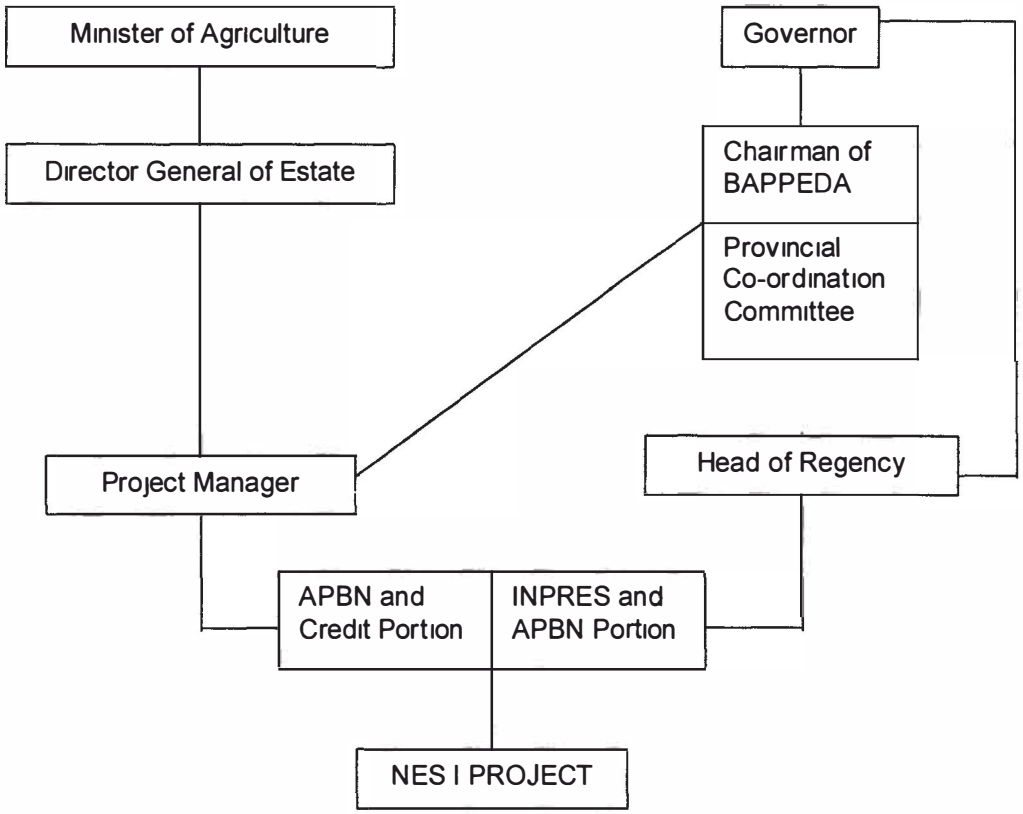


Figure 1.2: The Flow of Funds for Credit Items of Expenditure.

Organisation of Nucleus Estate and Smallholders I Project

The NES I Project is implemented by existing central and provincial government agencies. The agencies executing the public sector estates components are directly responsible to the Ministry of Agriculture. Overall responsibility for implementation, monitoring and evaluation of the new settlement components of the project would rest with the Director General of Estates. The Provincial Government would implement those activities (area infrastructure programme) for which funds are provided through the Provincial Government budget.

The organisation for the settlement project components is shown in Figure 1.3 below.



Note: _____ direct line/function line
co-ordination line

Figure 1.3: Nucleus Estate and Smallholders I Project Organisation.

The implementation of NES I project involved some main project components described as follows:

1. Village Centres: Seven central villages and 14 satellite villages were built in the project area to accommodate a total of 3,500 settler families with 250 families per central and 125 families per satellite village. Each central village, which caters for two satellite villages, is equipped with a village office, primary school, village health post, mosque, community centre and nursery house. Each satellite village is provided with a first aid post, community hall, small prayer house and nursery house. Higher levels of