

Chapter 3

Methodology

3.1 Research Design

This research investigates the cause of delaying repayment and default of loan return among borrowers in the credit institution of YWDP. This study is explanatory research with a cross sectional design. The unit for analysis is selected borrowers. The sample consists of clients who are living in the area of North Okkalapa, Insein and Hlaing Tha Yar. Among those three areas, North Okkalapa's population is greater than the other areas. In North Okkalapa there are a large number of members and the loan default occurred mostly in that area. On the other hand, this area is the first place that the YWDP project implemented microfinance activity and the institution has more experience in this township rather than others.

3.2 Data Sources

The data was gathered from both primary and secondary sources. Data for this study came from the following sources:

3.2.1 Secondary data.

The secondary data were provided by YWDP and consisted of total clients, total field areas, principles of loan eligibility and criteria of target members and the loan products of the MFI. All this secondary data obtained from YWDP report.

3.2.2 Primary Data.

The primary data were collected by field survey. The researcher interviewed group members who were at a group meeting. In each group, about 30 minutes was spent for data collection of each group due to constraints of time limitation. Data from a maximum of four groups per day was collected with the help of four research assistances. Selection of the group was decided following the suggestion of the loan officer who had prioritised the late repayment groups. Primary data included household characteristics; education; occupation; financial situation; group member's discipline and repayment procedure in the group; client's loan utilization and loan amount; borrower attitude on group lending and their supervision.

3.3 Selection of the Household Sample

Two kinds of borrowers were selected; good borrowers and bad borrowers. A good borrower has no default credit history. A bad borrower has default or late repayment history.

3.3.1 Good Borrower: This is defined as good borrowers who had no late or default repayment history. Most of the borrowers try to repay the loan on time since the next higher loan works as an incentive loan for them. Since the loan interest is relatively low compared to an outside money lender, borrowers are interested in getting higher loans from the MFI. Moreover, in some active and strong groups, other members will work together to make the balance of a late repayment borrower so that the group members can still borrow the next loan without delay. They do this because if the group could not make the balance, the next loan will be stopped by the credit provision.

3.3.2 Bad Borrower or non-regular repayment group: This is defined as bad borrowers who have late or default repayment history. This category was 20 percent of the beneficiaries of the program.

3.4 Number of Household Samples

The researcher collected data from three of the five townships where YWDP operates. According to the cross sectional data design, how many of townships or how many number of groups are not considered. The research design is only interested in the total population of the selected YWDP project. The three townships are North Okkalapa, Hlaing Tha Yar and Insein, which are the satellite townships of Yangon. According to the population of the study, the total sample was calculated by using the formula of Taro Yamane (Yamane, 1973) as follows:

$$n = \frac{N}{(1 + Ne^2)} \quad (1)$$

n = Sample size

N = Population size

e = the error of sampling

$$n = 2196 / \{1 + 2196 (0.05)^2\} = \text{approximate} = 338.3667 = \text{collected } 400$$

3.5 Selected of the Target Area and Participants

The respondents 310 were collected from North Okkalapa township. All the 123 bad borrowers are from that township. In North Okkalapa there are a large number of members and the loan default occurred mostly in that area. On the other hand, this area is first place that the project YWDP implemented the microfinance activity and the institution has more experience in this township rather than others. The rest of 90

borrowers are from Insein (49 borrowers) and Hlaing Tha Yar (41 borrowers) respectively. Those areas are also the second highest population areas as well as the second implemented townships for credit facilities.

Table (3.1) Sample Size

No	Township Name	Sample Size
1	North Okkalapa	310
2	Insein	49
3	Hlaing Thayar	41

Source: Survey

3.6 The Data Collection Process

After a review of the related theories and published studies and the determination of the research conceptual framework, the interview questionnaire covering the primary data and secondary source was designed. Then, after giving the research assistants orientation and explanation on the interview questionnaires, the researcher lead four research assistants to interview the target borrower, group leader and household head. The data collection areas were North Okkalapa, Hlaing Tha Yar and Insein. Data was collected in May 2009 and February and March 2010.

3.7 Data Analysis

The logit model is used to interpret the information obtained by interviewing the borrowers and for a quantitative analysis of the factors. logit model uses the binary dependent distribution. A binary dependent variable is an example of a limited dependent variable, and take only two values zero and one. It explains the effect of the X_i on the response probability,

$$P(Y) = \frac{1}{X_i} = X'_i \beta' \quad (2)$$

Since this study of qualitative approach used the logit model, the outcome must be zero and one. In equation (2) ordinary least square method (OLS), the estimation of β is not efficient due to the problem of heteroscedasticity. As a result, the predicted value must be 0-1 limit. Moreover, R^2 is not applicable to estimate the goodness of fit (Ramanathan, 1998: 603-604; Johnston, 1984: 424, Menard, 1995:7). To avoid the non-constant variance of error term, this study used the logit model. The logit model will figure out the probability of what factor is affecting the cause of loan delinquency by calculating marginal effect in every single factor. This study investigates the following questions. What factors are affecting the characteristics of bad borrower? Who had delayed repayment and who are the good borrowers with regular repayment? What policy should be implemented in the case of loan delinquency. Based on those questions, the explanatory variables were conducted in the model. The logit model which can be express as follow:

$$Prob(Y=1) = \frac{1}{1+e^{-x'_i \beta'}} \quad (3)$$

Where, $Y_i = 1$, if borrower had bad repayment history

$Y_i = 0$, if borrower had good repayment history

Where, $X_i = X_1, X_2, X_3, X_4, X_5, \dots, X_n$

$X_1 = 1$ if the borrower is female

$= 0$ if the borrower is male

$X_2 = 1$ if borrower age is between 20 to 40 year

$= 0$ (otherwise)

$X_3 = 1$ if borrower is married

$= 0$ (otherwise)

$X_4 = 1$ number of family member is 5 to 8

$= 0$ number of family member is 1 to 4

$X_5 = 1$ if six to ten family members are age between 15 to 45year

$= 0$ if one to five family members are age between 15 to 45

$X_6 = 1$ if numbers of children in school are 5 to 8

$= 0$ if number of children in school are 1 to 4

$X_7 = 1$ if number of workers in family is 5 to 8

$= 0$ if number of workers in family are 1 to 4

$X_8 = 1$ if number of dependency in family 5 to 8

$= 0$ if number of dependency in family 1 to 4

$X_9 = 1$ if borrower's occupation is seller or street vendor

$= 0$ (otherwise)

$X_{10} = 1$ if borrower's occupation is animal breeding

$= 0$ (otherwise)

$X_{11} = 1$ if household head's occupation is seller or

street vendor

- = 0 (otherwise)
- X_{12} = 1 if household head is employee of company or NGOs
= 0 (otherwise)
- X_{13} = 1 if family's 1st priority business is animal breeding
= 0 otherwise
- X_{14} = 1 if family's 2nd priority business is business or grocery shop
= 0 otherwise
- X_{15} = 1 if family monthly income is 80,001 to 150,000(kyat)
= 0 otherwise
- X_{16} = 1 if family monthly expenditure is 80,001 to 150,000 (kyat)
= 0 otherwise
- X_{17} = 1 if borrower's education is primary level
= 0 (otherwise)
- X_{18} = 1 if borrower has above 3 year experiences
= 0 (otherwise)
- X_{19} = 1 if borrower borrowed between one to five times
= 0 (otherwise)
- X_{20} = 1 if loan amount is under 100,000 kyat
= 0 (otherwise)
- X_{21} = 1 if member's home is far from the rest of the member
= 0 if member's home is not far from the rest of the member
- X_{22} = 1 if member lives same ward with the rest of the member
= 0 if member lives different ward with the rest of the member
- X_{23} = 1 if member has owned land and house

= 0 if members does not have owned land and house

X_{24} = 1 if the group does not have social pressure on being late repayment and default

= 0 if the group has social pressure on being late repayment and default

X_{25} = 1 if the borrower or her family health problem was affected being a bad borrower

= 0 (otherwise)

X_{26} = the use of loan amount in the business investment (kyat)

X_{27} = Group has team spirit of making evaluate each other

= 0 if group has no team spirit for making evaluation each other

X_{28} = 1 if borrower used 100 percentage of loan in the business)

= 0 (otherwise)

X_{29} = 1 if group members have strong guarantee for loan default

= 0 if group members do not have strong group guarantee for default

X_{30} = 1 if group members are willingness to recognize for accepting new member or next higher loan

= 0 if group members are not active recognize for accepting new member or next higher loan

X_{31} = 1 if borrower has outside loan

= 0 if borrower has not outside loan

$\beta_0, \beta_1, \beta_2 \dots \beta_{31}$ = parameters.

3.8 Location

The selected townships are in the outer or new suburban area of Yangon city where the microfinance program is being carried out by the YWDP project. Since those areas are located within close proximity to the city, every township has a school, hospital, and markets. The population density is also quite high. The main economic activities of the households who borrow the loan is trade. The rest are working in the agriculture and animal breeding sector. A few are employees of a government department or nongovernmental organization.

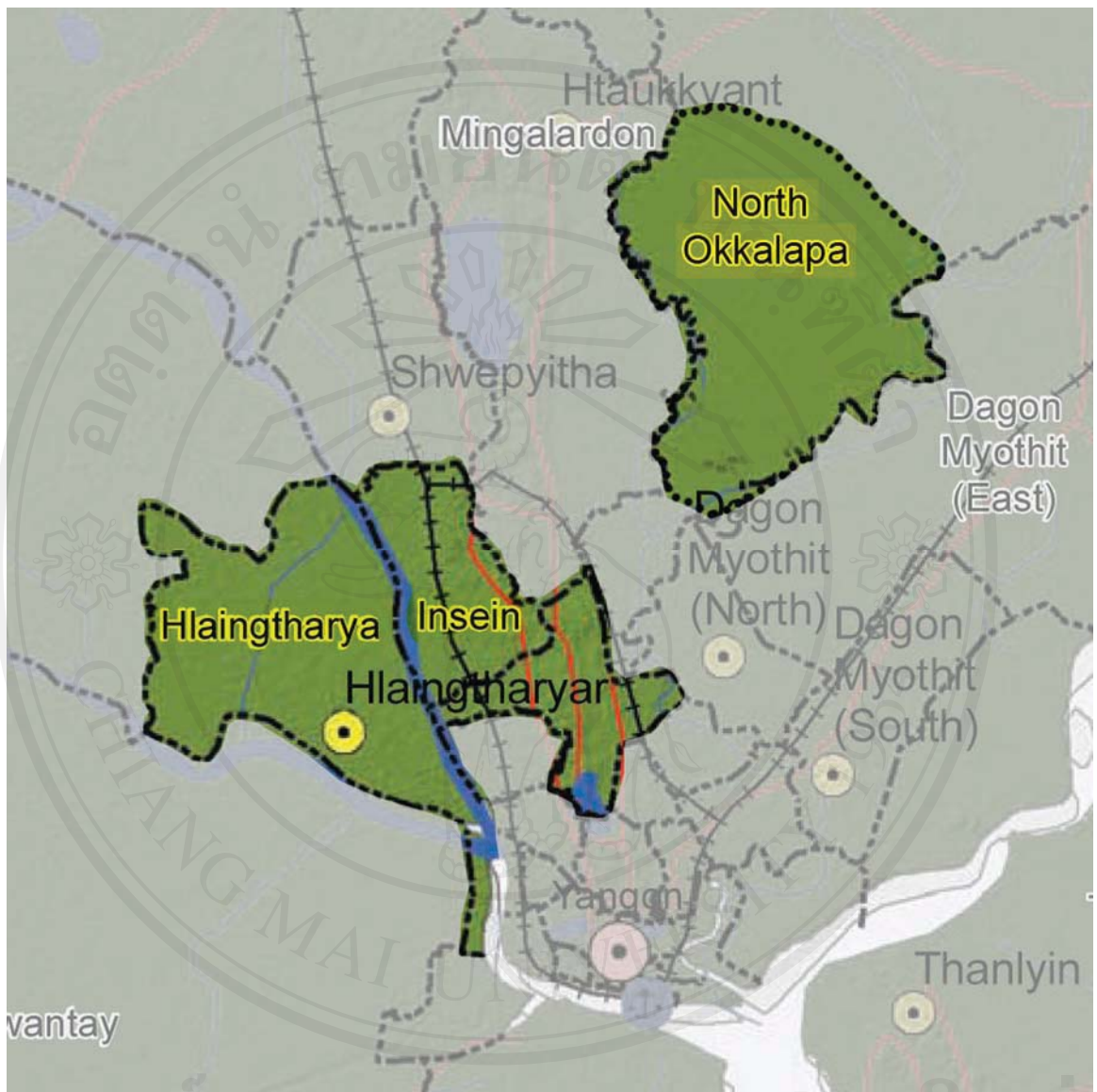
The project office is located in the downtown area of Yangon; the fields' areas are at the outskirts area of Yangon. But, the staffs commute to the areas by bus. Also, there are a few microfinance institutions servicing their projects in the same townships but in different wards. Moreover, individual informal money lenders are lending to people in the area with high interest rates. However, those kind of formal and informal opportunities to borrow money are popular, since the demand for financial capital is higher than the supply of capital. Thus, credit is badly needed by the households.

Figure.3.1: Map of Myanmar



Source: Myanmar Information Management Unit

Figure.3.2: Three Areas of Research Site



Source: Myanmar Information Management Unit

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