A Thesis Submitted for the Degree of Doctor of Area Studies

Gender Relation in Land Ownership and Household Food Security: Case Study on Sundanese Rural Community in Kemang Village, West Java

土地所有と世帯の食糧安全保障におけるジェンダー関係―西ジャワのクマン村スンダ人農村社会における事例研究―

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Graduate School of Asian and African Area Studies
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DECLARATION

I declare that this thesis is the result of my own research. Where I have drawn the work of other scholars due acknowledgment has made in the text.

Siti Sugiah Mugniesyah

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ABSTRACT

In the Agrarian Law of 1960, it is stipulated that "every Indonesia citizen, man as well as woman, has the same opportunity to obtain the right on land and the benefits and production for him/herself and his/her family. However, although an innumerable studies on the land system of Indonesia were conducted by many scholars, no research has hitherto been conducted to analyse land ownership among household members. Moreover, there have been numerous studies on women's role in agricultural development and household food security throughout Indonesia. Unfortunately, albeit these studies reveals an importance roles of peasant's household members, most of the studies treat household as a single entity in relation to both production and consumption. These researches neglected the reality that a household -as a smallest unit of kinship- is an arena where its members irrespective of gender allocate their household resources in order to eke out their livelihood that forms the basic objective of the household. It is, therefore, imperative to conduct research on gender relation in land ownership and its relation to household food security.

The main objectives of this study are: (1) to clarify the existence of values internalized by the peasant household members in land allocation among the Sundanese community with bilateral kinship system, and to explain their influence on the practice of land rights with regard to landowner category; (2) to analyse the relationship between women's access to land and their contribution to household economy, by explaining the gender relation in varies activities related to farming (in *sawah* and *pasir*) management; (3) to assess the women's land contribution in land ownership among peasant households and its effect on household food security.

The conceptual framework developed to achieve the study objectives are syntezised of concepts and theories related to kinship (Koentjaraningrat, 1981), gender (roles) framework and technique anaylisis (Moser, 1993; Agarwal, 1994; March *et al.*, 1999; Haggis *et al.*, 20000, gender equality (UNDP in Megawangi, 2003), and household food security (FAO, 1995; Maxwell, 1995, Quisumbing *et.al.* 1990; Haddinott and Yohannes 2002, FAO 2000; Baliwati, 2000; Dini Latief *et al.* 2000; Azwar, 2004).

Several research methodologies are used in this study, including full enumeration surveys, focused group discussions, in-depth interviews and observations, households' surveys which were conducted during the period of 1998 to 2002. Full enumeration survey, focused group discussion and in-depth interview carried out between September 1998 and January 1999, and in October and November 1999. The number of enumerated households was 165. Household survey was conducted two stages. The first was carried out in October to December 2000 to collect data related to food consumption and household expenditure. The second was carried out in September to November 2002 to collect data related to *huma talun* management. About 62 households were

interviewed by administering a set of questionnaires during the period of research. Secondary data was also used in this study which consisted of the village monograph and the book of Letter C.

This study found that despite of villagers are Moslem, the values of gender equity has been internalized among Sundanese peasant household in Kemang village, locally called *sanak*, the parents treat their sons and daughters equally as children and tend to allocate their land based on the customary law. This law supports gender equality in land ownership, which falls into three categories: land solely owned by the husband, land solely owned by the wife, and land with joint ownership (*gono-gini*). Of the total 98.29 ha of the land belonging to households studied, about 50.6% is *gono-gini*, while the percentage owned solely by the husband and solely by the wife is 28.4% and 21.0% respectively. The facts showed that the owners of the household's land are predominantly women, reaching 43% compared to only 38% owned by men. The gender equality in land ownership is also evident in the inheritance system that passes through both male and female lines. This phenomenon has been recognized by the community and by the external authority at the village level as documented in the Letter C.

The findings of the study has been distinctly supports that as women and men have equal access to control over the land, women as well as men equally contribute to the household economy, with the tendency that the higher the ratio of women's landholding within the household land, the more significant her contribution towards farming management and household economy. This study also clearly indicates that the higher the ratio of women's landholdings within household land, the higher the status of household in three pillars of food security: food availability, food access, and food utilization. However, as the gender-biased values in food allocation is still exist among the peasant households, the percentage of women and girls who are in the sufficient category of energy sufficiency level and protein sufficiency level are lower than that of men.

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GLOSSARY

Adat	Tradition
Angkutan pedesaan	Village public transportation (mini bus)
Aren	Sugar Palm
Arisan	Credit rotating group
Bagi hasil	Sharecropping, a form of land tenure under which the landowner allows another person to cultivate land in return for a 50% share of the production
Bawon	A form of *bagi hasil* in which the production is divided in 6 parts of which the owner shares 5 parts and the labour gets the remaining one part.
Dusun	Sub-village
Gabah	Unhusked rice
Gono-gini	Joint ownership.
Gula aren	Sugar palm
Gula cetak	Brown sugar
Gula semut	Granular brown sugar
Hajj	Pilgrimage to Mecca
Hajis	People who have conducted *hajj* to Mecca
Huma	Swidden, state of field after sowing upland rice until harvest time
Huma-talun system	Agroforestry system which involves seven stages of land succession: *rarahan-huma-jami-reuma ngora-reuma kolot-kebun campuran-talun*
Jami	Former swidden, state of field just after harvesting upland rice until harvesting second crop (non-rice food crop) or *palawija*
Kampung	Hamlet
Kebun	The field tended by the villagers which includes *kebun campuran* and *talun*, *pasir*, hillside land, private and national land; dry field, *pekarangan*
Kebun campuran	Mixed garden consisting of *jami*, *reuma ngora*, and *reuma kolot*
Kelompok simpan pinjam	Loan group
Kelompok tani hutan	Forest farmer groups
Kelurahan	Administrative area in the sub-district level which is lead by *Lurah* who is assigned by the government; not elected by the people
Ladang	Agriculture field
Lahan kering	Dry land

Lalaki nanggung-awewe nyuhun	Local phrase for "a man is carrying something on his shoulders -because of heaviness- and women is carrying something on her head -because of lightness-", which implies gender inequity.
Lepasan	Labor paid without extra meal and/or cigaretes
Letter C	A book that deals with the judgement on land classification and size of of holdings made by the village officials
Lurah	Head of *kelurahan*
Naplak	Creating planting pattern
Naplok	Bunds repairing
Ngagaru	Harrowing
Ngakad	Mortgaging, the landowner borrows some amount of money from other person who lends him/her money; and in lieu of that, the lender acquires the right to cultivate the land as his/her own
Nyingkal	First ploughing
Majlis Taklim	Praying group
Malikan	Second ploughing
Mandor	Supervisor
Maro	Sharecropping, a form of land tenure under which the landowner allows another person to cultivate land in return for a 50% share of the production
Musyawarah	Meeting consensus
Ojeg	Motorcycle transportation
Pajak Pokok Sarupia	Land levy
Palawija	Secondary crop besides paddy
Pasir	Dry land
Pekarangan	Home yard
Pengajian	Al-Quran recitation group
Punduh	Head of *dusun* or sub-village
Rarahan	The state of field just after slashing and burning but just before sowing.
Reuma ngora	Bush, for the production of banana leaves
Reuma kolot	Secondary forest, until the harvest of *sengon* trees.
Rukun Warga	Sub-hamlet
Rukun Tetangga	Sub-sub-hamlet
Rupiah	Indonesian currency (IDR)
Sanak	Sons and daughters have equal status as children
Sedekah	Donating money or goods voluntarily to the poor with a purpose to gain reward from God.

Sewa	Land renting, usually involves a cash payment to the landholders by the tenant in advance before the tenant acquires the right to cultivate it.
Talun	Tree gardens continuously tended by villagers, consists of three main types: (1) mixture of fruit trees, sugar palms, and other natural secondary vegetation, (2) mixture of fruit trees and other natural secondary vegetation, (3) mixture of sugar palms and other natural secondary vegetation.
Tanah bengkok	Paddy fields assigned to village officials for their private use
Tepung kaya	Joint ownership
Tumbak	Local measurement for land size, 1 tumbak is about 1.4 square meters.
Urunan	Levy
Warisan	Inheritance
Zakat maal	Obligation for the land owner to share a certain portion of the harvested product to certain categories of people according to Islamic law.

ABBREVIATIONS

BAPPENAS	:	Badan Perencanaan Pembangunan Nasional – National Development Planning Agency
BBKP	:	Badan BIMAS Ketahanan Pangan – Mass Guidance Board for Food Security
BKKBN	:	Badan Koordinasi Keluarga Berencana Nasional – Family Planning National Board
BKPN	:	Badan Ketahanan Pangan Nasional - National Food Security Board
BP3	:	Badan Pembina dan Penyelenggara Pendidikan – Educational Advisory Board
BPD	:	Badan Perwakilan Desa – Village Representative Body
BPS	:	Biro Pusat Statistik – Central Bureau of Statistics
DAFEP	:	Decentralized Agricultural and Forestry Extension Project
DDP	:	Desirable Dietary Pattern
DEI	:	Dietary Energy Intake
DES	:	Dietary Energy Supply
DPI	:	Dietary Protein Intake
DPS	:	Dietary Protein Supply
EFA	:	Education for All
ESL	:	Energy Sufficiency Level
FAO	:	Food and Agriculture Organization
FYDP	:	Five-Year Development Program
GDI	:	Gender Development Index
GOI	:	Government of Indonesia
GWA	:	Grand Weight Average
HPI	:	Human Poverty Index
IDT	:	Inpres Desa Tertinggal – Presidential Instruction for Less-developed Village
IFPRI	:	International Food Policy Research Institute
Inpres	:	Instruksi Presiden – Presidential Instruction
IPB	:	Institut Pertanian Bogor – Bogor Agricultural University
JPS	:	Jaring Pengaman Sosial – Social Safety Net
KTH	:	Kelompok Tani Hutan – Forest Farmer Group
LKMD	:	Lembaga Ketahanan Masyarakat Desa – Village Community Security Institution

LMD	:	Lembaga Musyawarah Desa – Village Consulting Institutions
LPM	:	Lembaga Pemberdayaan Masyarakat – Community Empowerment Institution
MOA	:	the Ministry of Agriculture
NFL	:	National Forest Land
NGO	:	Non Government Organization
NHRD	:	National Human Report Development
Opsus	:	Operasi Khusus – Special Operation
PBB	:	Pajak Bumi Bangunan – Tax on Lands and Buildings
PDM-DKE	:	Proyek Pemberdayaan Daerah Dalam Mengatasi Dampak Krisis Ekonomi – Regional Empowerment Project in Coping with the Impact of Economic Crisis
PES	:	Protein Energy Suppy
PHBM	:	Pengelolaan Sumberdaya Hutan Bersama Masyarakat – Community Based Forest Management
PIDRA	:	Participatory Integrated Development in Rainfed Area
PKL	:	Petugas Kehutanan Lapangan – forestry extension field-workers
PLP	:	Petugas Lapangan Kehutanan – forestry extension workers.
PMDHT	:	Pembangunan Masyarkat Desa Hutan Terpadu – Integrated Forest Village Community Development Program
PNS	:	Pegawai Negeri Sipil – Government employee
Pokjanal	:	Kelompok Kerja Operasional - Operational Task Group
PPKP	:	Pusat Pengembangan Ketersediaan Pangan – Center for Development of Food Supply
PPL	:	Petugas Penyuluhan Lapangan – field extension workers
PS	:	Perhutanan Sosial – Social Forestry
PSL	:	Protein Sufficiency Level
RAPA	:	Regional Conference for Asia and the Pacific
RDA	:	Recommended Dietary Allowance
RLKT	:	Reboisasi Lahan dan Konservasi Tanah – Land Rehabilitation and Soil Conservation Program
RPH	:	Resort Pemangkuan Hutan – Forest Covering Resort
SD	:	Sekolah Dasar – Elementary School
Sembako	:	Sembilan Bahan Pokok – Nine Staple Food
SF	:	Social Forestry
SUSENAS	:	Survei Sosial Ekonomi Nasional – National Socio-Economic Household Survey
UBSP	:	Usaha Bersama Simpan Pinjam or Saving and Loan Association

UNDP	:	United Nations Development Program
UUD 1945	:	Undang-undang Dasar 1945 – the 1945 Indonesian Constitution
Wajar Dikdas	:	Program Wajib Belajar Pendidikan Dasar – Learning Compulsory Program
WH	:	Household with Women's High Contribution of Land
WID	:	Women in Development
WKNPG	:	Widya Karya Nasional Pangan – the National Workshop on Food and Nutrient
WL	:	Household with Women's Low Contribution of Land

CHAPTER 1
INTRODUCTION

1.1 The Idea to study Gender, Land Ownership and Household Food Security

There have been innumerable studies on the land system of Indonesia conducted at different times by many scholars both home and abroad, but most of them have perhaps unconsciously circumvented the gender aspects regarding land. The present research is a case study of the Sundanese Community in an Upland Village of West Java where emphasis will be given on gender, land ownership and household food security. No research has hitherto been conducted to analyze the gender relation to land ownership, its relationships to household economy and food security of the Sundanese Community in an Upland Village of West Java.

In previous studies the main foci was land holding and/or ownership, gender in household economy, or household food security, discussed as separate issues. Besides, most of the previous studies regarding the above-mentioned areas i.e., land ownership, gender in household economy, and household food security have used the household as the unit of analysis. In consequence of this, many researchers treat household as a single entity in relation to both production and consumption, which assumes that all household resources including land must be owned and controlled by the head of the households, namely the husband, who represents all the household members. It means the previous studies tend to neglect the reality that a household is an arena where its members irrespective of gender allocate their household resources in order to eke out their livelihood that forms the basic objective of the household.

Further, most of the researchers view and assume that women members of the peasant household are family laborers. This, curiously enough, reflects the way in which the national statistics, namely the population and agricultural censuses are taken. Such trend has been going on endlessly and no effort has hitherto been made officially to collect the sex-disaggregated data regarding land ownership among the farmers' households. As a result, women's contributions to the peasant household economy remain underrated.

In fact, the peasant household is not homogeneous and peasant women are not always working as family labor. Women as well as men have access to and control over resources, including agricultural land (farming) as a natural resource, which is vital for the household economy of the peasant. In this context, the kinship and inheritance system of the peasant household determines whether household members, women and men, may have access to and control over the resources including the land.

Thus we need to differentiate the pattern of ownership of the household's land, owned either by women and/or men and based on such data it will be possible to know that the owner of the land of the household is not the husband alone, contrary to the long-practiced perception of research scholars and statistics of the government. It will then be possible to analyze the gender relation in land ownership among peasant households of the Sundanese community in an upland village of West Java.

Moreover, it is generally accepted that land is an important factor that determines the behavior of peasant households in the management of their farming, which in turn influences the household economy. Hence, gender relation in land ownership among peasant household is supposed to influence the gender relation in household economy too. The peasant household economy is reflected in the household's production, income, and consumption. Therefore, it is important to analyze whether the gender relation in land ownership influences the three aspects of peasant household economy as mentioned above. In terms of household economy, farming production directly influences the household's consumption and income. Accordingly, it may be supposed that the higher the women's ownership of household land, the stronger the household economy, which in turn will be reflected in higher household food security. The women's ownership of household land needs proper explanation and this will be discussed in detail later. However, scholars of nutrition studies also have pointed out that there are gender-biased values related to food allocation among peasant household in the developing countries, including Indonesia. Hence, if the gender-biased values exist among peasant households, it may be supposed that the proportion of female household members in gaining household food security is lower than that of the male.

This study proposes to show that the women's ownership of household land has a positive relationship toward household economy, which in turn contributes largely to the household food security. As an attempt to support this hypothesis, the experiences gathered from the peasant households of the Sundanese community in an upland village of West Java have been extensively used in this study. This has been done at least for two reasons. First, according to scholars of the Sundanese society, the Sundanese women have relatively higher status in the community, as wife and husband are equal in marriage. This study chooses the upland village as the research site, as most of the previous studies on gender and development issues of Indonesia in general and West Java in particular have been conducted in the lowland village where the irrigated padi production was the major mode of subsistence.

1.2 Statement of the Problem

In case of Indonesia, it is generally accepted as a settled fact that land is the most important resource for the peasants' households, as their livelihood mainly depends on agricultural production. Land occupies a central place as a productive asset and a potential income source among the economic resources owned by the peasant households. Besides the food security of household, land is also considered as a source of household economic security. Especially when the household faces the extreme crisis of any sort, this may be mitigated by offering the land for sharecropping, renting, mortgaging, or even selling. In brief, land is a vital means for peasant household to make a living as well as to gain access to other social economic resources for the family welfare. Accordingly, land ownership and/or holding, in rural areas in particular, is a subject of profound interest to numerous scholars, especially those who are interested in agrarian structure and poverty in Indonesia.

The studies on the land system of Indonesia, especially of Java, have a long history. Based on the data collected by the Dutch colonial government throughout Java during 1868-1869, Kano (1977) reported that heritable individual possession of land was found in Java. In West Java and especially Preanger, such right was known as *milik*, which was applicable to paddy field (*sawah*) and also for dry land (*lahan kering* or *pasir*). During the 1980s, a number of researchers conducted studies on issues relating to land system of Java villages. Van de Kroef (1984) was primarily concerned with the pattern of land holding and social structures in Java villages, while others

focused on social differentiation, food production and agrarian control in Java (Husken and White, 1989). Meanwhile the study of White and Wiradi (1989) dealt with the issues relating to agrarian transformation, especially the changes in farming technology, land tenure, land market, and the distribution of operated *sawah* holding and labor used in the three provinces in Java from 1971 to 1981.

Curiously enough, no attention has been given to the gender aspects of land ownership yet, except Kano who briefly described women's opportunity in land among widows and daughters in farmer households (Kano 1977). It seems that such lack of gender perspective was due to the fact that research was based mainly on data where household is the unit of analysis, as in Husken and White (1989) and White and Wiradi (1989). Moreover, it is due to the fact that many researchers themselves treat the household as a single entity in relation to both consumption and production. It assumes that all household resources including land must be owned and controlled by the head of the households, namely the husband, who represents all the household members.

On the other hand, we can refer to an Indonesian anthropologist, Koentjaraningrat (1981)[1], whose study suggests that land ownership and its distribution among household members are influenced by the kinship system. It is because in kinship, the relationships between parents and children determine the modes of inheritance as well as the over all political relationship between generations. It is a matter of great regret that most of the studies mentioned above fail to mention the influence of the kinship system on land distribution pattern among household members irrespective of men and women at all. In fact, as Dube (1994) pointed out, kinship systems are an important context within which gender relations are located. She mentioned that kinship needs to be seen as providing the organizing principles of for group placement and social identity, inheritance and resource distribution, socialization, post-marital residence and women's relationship to space,

1 There are 4 types of kinship: patrilineal, matrilineal, bilineal and bilateral principles of descent. In the patrilineal descent, the male line gets the inheritance and for the matrilineal descent, the female line gets the inheritance. In the bilineal descent, the male line gets a certain number of rights, while the female gets the other right. Meanwhile in the bilateral descent, the inheritance system is calculated through the male as well as the female lines (Koentjaraningrat 1981:129-130).

the formation of basic kin groups, autority and power, and rights over children. Even, the very notion of entitlement to various kinds of resources including food, health and nutrition, and the obligations and responsibilities of members of the group in the business living, can be understood by keeping in view the fact that it is the kinship system which provides the language all these and gives them legitimacy.

There are some evidences that the kinship system influences the land allocation among all the household members. Simbolon (1998)[2] conducted a study on farmers' women and their access to land among Batak-Toba of North Sumatra where kinship system is patrilineal, while Quisumbing and Otsuka (2001)[3] studied the matrilineal kinship.

In terms of bilateral kinship, especially in West Java, there are two groups of scholars with divergent views regarding women's access to land and their control over it in the Sundanese community. The first group of scholars traces that woman and man have equal access to land in the Sundanese community (Soepomo 1982; Hardjono 1987). According to Soepomo (1982), the people of West Java generally acknowledge and take into account the kinship through both father's as well as mother's lines; and men (husband) and women (wife) have equal rights in their marriage, in terms of either individual or property. Hardjono, who studied the land ownership pattern in an irrigated village of West Java, supported the finding of Soepomo. Hardjono (1987) added that in terms of land ownership, a distinction existed between the lands that husband and wife inherited from their respective parents with the land purchased during the marriage. However,

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2 She reports that despite the control and limitations over the rights to use and alienate land imposed by the adat (customs), in reality there are various ways for men and women to get the right of access to land. The embededness of gender, kinship and economic status in the end determines how one is aided and at the same time constrained in strategizing access rights to land (Simbolon 1998:133).

3 Their study in South Sumatra found that the adoption of agro forestry and the individualization of land rights resulted in a change in the traditional inheritance system. The inheritance system is evolving from strictly matrilineal system to a more egalitarian system in which sons and daughters inherit the type of land that is more intensive in their own work effort (Quisumbing and Otsuka 2001: 84).

none of them mentioned the long-practiced social values that cause the Sundanese's women to have access to land.

On the contrary, Ekadjati (1993), an indigenous historian, states that the inheritance system of the Sundanese is based on the concept of *"lalaki nanggung, awewe nyuhun"* (the man is carrying something on their shoulders -because of heaviness- and woman is carrying something on their head -because of lightness). This bestowed a son twice as much inheritance as a daughter. Nevertheless, his statement is not supported by the empirical data. It seems that his opinion is based on the perception drawn from the Islamic ideology. Ekadjati presumes that as the majority of the Sundanese is Muslim, the inheritance system practiced among their households would be strongly guided by the Islamic Law of Inheritance[4] and the *Hadiz*[5].

Soepomo's study was mainly based on the proceedings of the cases instituted in the Court or recorded by the village officials who were spread out around West Java during the colonial era. On the other hand, Harjono's study used households and the holding as the basis of her analysis. Although she mentioned women's access to land among peasant households, she neither provides further elaboration on gender in land ownership nor presents the sex-disaggregated data at the household level. Moreover, there is a lack of information especially in terms of formal recognition toward individual land ownership in respect to gender at the village level. Therefore, it is imperative to conduct a study that recognizes that the Sundanese men and women have equal access to land and the dynamics of their relation to land ownership at the household level as well as the evidence on formal recognition toward individual land ownership in respect to gender.

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4 "There is a share for men and a share for women from what is left by parents and those nearest related, whether the property be small or large –a legal share" (the Holy Quran An-Nisaa:7); and "Allah commands you as regard your children's (inheritance): to the male, a portion equal to that of two female… (These fixed shares) are ordained by Allah. And Allah is Ever All-Knower, All-Wise". (The Holy Quran An-Nisaa:11) in Al-Hilali and Khan:108)

5 Prophet Muhammad stated: You are all leaders and each of you will be asked to account for your leadership. A man is a leader for his household and will be asked to account for his leadership. A woman is a leader in her husband's house and she will be asked to account for her leadership (Zaini 1994:88).

It may be pertinent to reiterate that land is the most important key for the economy and food security of the peasant household. Hence, knowledge on gender relation and land ownership among peasant household solely may not be enough to understand the dynamics of the peasant household's livelihood. It is widely known that those peasant households carry out their agricultural operation in land by considering several factors e.g., biophysical, social, and economic resources in accordance with household's objectives. These factors are consciously manipulated by using and considering their knowledge, skills, experience and energy (as labor).

Scholars recognized rural women and men as the primary managers of agro-ecosystem for their role in managing agricultural production in lowland as well as in the upland areas. They also maintained local knowledge and cultural traditions associated with plants and production systems over generations. However, the mainstream of agricultural and related policies/programs, especially in the developing countries, tends to see farmers as men (Reintjes *et al*. 1993; Conway 1997).

With respect to Indonesia, rural women in upland villages in Java have been neglected in the environmental programs. Because women are assumed to be merely family labor, they are not targeted as participants in many programs introduced by the Ministry of Forestry, such as the Land Rehabilitation and Soil Conservation Program (*Program Reboisasi Lahan dan Konservasi Tanah* or *RLKT*), the Natural Resource Demonstration Unit (*Usaha Percontohan Sumberdaya Alam*), and management of the Village Seed Garden (*Kebun Bibit Desa*) (Mugniesyah *et al.* 2004). The involvement of rural women can mainly be found in small projects where they are targeted in the programs of agricultural development introduced by the Ministry of Agriculture by using the Women in Development (WID) approaches, and/or projects which use the international gender budget, such as Decentralized Agricultural and Forestry Extension Project or DAFEP and Participatory Integrated Development in Rainfed Area or PIDRA (Mugniesyah 2004).

Gender segregation took place as government officers, agricultural and forestry extension agents as well as village officials willingly targeted the *de jure* male-headed households in which the husbands worked as participants in those projects. This happened due to assumption that the landowner should be the husband. The lack of practical knowledge resulted in the neglect of the

heterogeneousness of the rural household in terms of culture, socio-economic and ecological characteristics. In reality the rural households are not homogenous, as mentioned earlier, both rural women as well as men have access to and control over the land through or by the customary law such as it is found among peasant household in West Java (Soepomo 1982; Hardjono 1987). Therefore, women as well as men are also engaged as managers and/or co-managers in the management of farming and other activities related to agricultural (off farm) activities. They are not just to be labeled as unpaid family workers, as the preconceived perception prevailing among the government officers, agricultural/forestry extension agents and even the research scholars.

With regard to women and development issues, there were a considerable number of scholars who had conducted studies on the role of rural women in agriculture both in the dry land and upland farming including West Java. Among them Sajogyo (1981), Hubeis (1985), and Hastuti et al. (2003) were noteworthy. However, their studies focused on the dynamics of intra-household and inter-household in terms of domestic and productive activities without explaining the access of women to land and its relationship to those activities. Little and almost no attention has yet been given to gender relation in land ownership and its relationship to productive activities and household economy.

There are two important types of agricultural land for rural people i.e., rice field and/or dry land. Regarding the dry land, people tend to cultivate their dry land by applying the traditional agroforestry system, called *kebun talun*. According to scholars, *talun-kebun* is an upland land use system in which annual food or cash crops (*kebun*) are alternatively and sequentially grown with tree crops (*talun*). This traditional crop production system has been widely practiced by upland farmers in West Java for at least six generations (Soemarwoto *et al*. 1985 in Christanty 1996; Soemarwoto and Soemarwoto 1985).

However, most of the studies conducted by the scholars on *kebun-talun* in West Java focused mainly on the ecological and economical aspects (Soemarwoto and Soemarwoto 1984; Christanty *et al*. 1986, Christanty et al. 1996). Christanty *et al*. (1986) described at a glance the gendered division of labor in the *kebun-talun* system without mentioning the *huma* stage activity in it, because their studies were on *kebun talun*, especially regarding the bamboo *talun.* In fact, the

stages of traditional agroforestry in West Java have regional variations. Iskandar (1992) in his study on the Baduy community of West Java reports the longer stages of *huma* system, which are *hutan sekunder* (secondary forest)*, huma, jami, reuma, kebun* (garden), and *kebun campuran* (mixed garden).

On the other hand, in the studies on the relation to socio-economic conditions of *kebun talun* conducted by Suhardjito (2002) and Parikesit (2004), the household has been treated as the unit of analysis and they do not analyze the gender relation in *kebun-talun* ownership and its association with the *kebun-talun* management by the members of the peasant household. Thus, until recently, little is known about the relationship between gender relation in land ownership of *huma-talun* and it management. Accordingly, the studies on the relationship between gender relation in land ownership and *huma-talun* system management are holistically necessary, especially for a better understanding of the women's role and their contribution to the management of traditional agroforestry as an important economic resource of peasant household.

As pointed out earlier, *kebun-talun* is a traditional crop production system that has been widely practiced by the upland farmers in West Java for at least six generations. It means that the upland farmer combines techniques in such a way that, in their perception, the objectives of the household are best attained in the given limitations of their land. According to Reintjes *et al.* (1982), the farm households, in general, have common objectives especially in terms of productivity, security, continuity and identity. In terms of security, the farmers may assess the security of their farm systems according to food security.

The scholars of gender studies recognize the significant role of rural women in food security. According to Quisumbing *et al*. (1995), women play a significant, if not dominant, role in supplying all the three pillars of food security, which include availability of food or adequate food production, economic access to food and nutrition security. Accordingly, gender relation in land ownership among peasant household is supposed to not only influence the land (farming) productivity, but also food security in the household at the individual level.

Regarding the food security of the household, it is generally known that women predominantly influence food allocation in the household, as they are in the most part responsible

for food preparation. However, there are gender values that strongly influence the food allocation among household members. According to Suhardjo (1989), culture is another important factor that influences the food security, especially the food utilization. In terms of food allocation, traditionally, the head of the household is prioritized in food consumption and this is followed by the eldest son among the household members, while women and girls are placed in the next priorities or "women get less food and are the last to eat" (Hubeis 1985). According to IFPRI (2000), women are disadvantaged in the distribution of food within the household; women and children suffer disproportionately from shocks when their rights to household resources, including land, are mediated through men. In general, women's access to and control over resources, including land, have additional positive effects on food security of the household in many circumstances (Kennedy and Haddad 1991).

In Indonesia, most of the studies hitherto conducted on food security (Suryana, 2004; Martianto and Mewa, 2004; Molyneaux and Rosner, 2004) mainly deal with the macro level analysis, because these studies were based on the secondary data collected through the national socio-economic survey (SUSENAS) using household as the unit of analysis.

When researchers use the primary data at the household level, they do not analyze it at individual level either (Adi 1999; Latief *et al*. 2000; Baliwati 2001). Scholars, such as Adi and Baliwati, are convinced to legitimate household as an appropriate unit of analysis by assuming that the household food security reflects the individual household members. However, they are different in determining the adults as representatives of household's food utilization. Adi (1999) in his study, measured the nutrition status of mother (wife) as the representative of household's food utilization; while Baliwati (2001), in her study measured only the nutrition status of the household heads as the representatives household's food utilization. She assumes that the nutrition status of the household head reflects the quality of household's labor, as the household head is the main decision maker in the whole productive activity.

Furthermore, although the scholars recognize that to some extent the most important factor for the food security of rural household is land, most of their studies on the food security of rural household neglect the land as an independent variable, where Adi (1999) is exceptional to

this. Even when the researchers accept land as an independent variable of food security of the household, they neglect gender relation to land ownership and also its relation to household and individual food security. It is especially noteworthy in the previous studies of Hubeis (1985) and Baliwati (2001). It seems that studies on gender in agricultural land ownership, especially among upland peasant households, which develop the *huma-talun* and their relation to household food security, are clearly absent.

The present research proposes to initiate gender study on land ownership among the peasant household, environmental management (in terms of *huma-talun*) and household food security, especially among the Sundanese community of an upland village in West Java. This study is also important from another point of view. According to the Indonesian Agricultural Census 2003, there is 76.9% of 311,542,061 Ha of dry land in Indonesia (BPS-Statistics Indonesia, 2003). With respect to West Java, there is about 42.3% or about 2 million Ha of dry land. From the demographic point of view, it is known that among the working population (15 year old and over) 53% live in the rural area. Of the total rural working population 50.5% and 49.5% are the men and women respectively who are working in agricultural sectors. Of the total dry land in West Java, the highest percentage is allocated for *huma* or *ladang* (traditional agroforestry), meaning that the dry land absorb agricultural workers whatever their employment status.

In addition, the findings of the study are also important to provide some evidences on women's access to and control over land, their role and contribution to farming management and household food security, especially to those who are responsible in implementing the Presidential Instructions No. 9 of 2000 regarding Gender Mainstreaming in National Development, especially the mainstreams in the ministries related to environment/agricultural development programs.

1.3 The Objectives of the Study

The study, in general, aims at highlighting the link between gender relation in land ownership and farming management and its relationship to household food security among the peasant households in the Sundanese community with bilateral kinship who live in an upland village of West Java. Thus, the objectives of this study are:

1. To clarify the existence of values internalized by the peasant household members in land allocation among the Sundanese community with bilateral kinship system, and to explain their influence on the practice of land rights with regard to landowner category. Besides, to elaborate the origin of the recognition of land rights, especially in the household, community, and external legitimized authority at the village level.
2. To analyze the relationship between women's access to land and their contribution to household economy, especially in farming activities: rice farming and *huma-talun*, by explaining the gender relation among peasant households i.e. role, responsibilities, decision making and practice in varies activities related to farming management.
3. To assess the women's land contribution in land ownership among peasant households on upland area in West Java, and its effect on household food security either individually which is based on each aspect of food security (food availability, access to food and food utilization) or on the household level. Further, to analyze whether the existence of gender-biased values on food distribution among the members of peasant household influence the household food security, especially in terms of food utilization.

1.4 Theoretical Review

1.4.1 Gender, Environment and Development

The study on gender, land and household food security is in the area of gender, environment and sustainable development issues. The scholars of gender studies try to categorize the schools of thought that contribute to the development of analytical framework of gender, environment and sustainable development. Braidotti et al. (1994) mentioned many schools of thought, among theme developmentalism, ecofeminism, deep ecology, sociology of ecology and feminist environmentalist are noteworthy. Dankelman (1993) simplified this into three categories i.e., developmentalism, ecofeminism and feminist environmentalism. Whereas Rocheleau, Thomas-Slayter, and Wangari (2006) did not mentioned about the developmentalism, but they mentioned other perpectives: socialist feminist, feminist structuralist, and environmentalist. Then, they proposed a new perspective which they called as feminist political ecology. Excepting the deep ecology and

sociology of ecology, the contributions of the rest are significant to the gender studies relating to environmental development.

Further, with regard to gendered perspectives on environmental problems and concerns, Rocheleau, Thomas-Slayter, and Wangari (2006) divided the schools of thoughts into three categories. Firstly, is the schools of thought which is supported by scholars and activist who see no gender differences in ways human beings relate to the environment, except as they are affected by the constraints imposed by inequitable political and economic structures. Secondly, is others which is supported by those who see the gendered experience on environment as a major difference rooted in biology. The third those as they suggested that gendered differences in experiences of, responsibilities for, and interest in "nature" and environments, but that these differences derive from the social interpretation of biology and social constructs of gender, which vary by culture, class, race, and place and are subject to individual and social change.

Based on Rocheleau, Thomas-Slayter, and Wangari (2006) explanation, it seems that socialist feminists is in the first category, as it focused on the incorporation of gender into political economy, using concepts of production and reproduction to deliniate men's and women's roles in economic systems, and they identified both women and environment with reproductive roles in economic of uneven development. Besides, the developmentalism which is pioneered by Ester Boserup is also in this category. The developmentalism views women as the most valuable resource towards achieving sustainable development, though, the experience of the impact of development programs on women, Boserup (1970) found that women were marginalized by the development programs, as with the use of modern agricultural methods men not only became increasingly engaged in the production of commercialized commodity but also took over women's traditional role of farming.

Ecofeminist is in the second category as some ecofeminist attribute this connection to intrinsic biological attributes (an essentialist position), while others see the women/nature affinity as a social construct to be embraces and fostered. One of the well known scholar who supported the first category is Shiva who fundamentally questions the feasibility of the Western model of development as the only possible model and sets up the model of opposition between destructive

Western development model and the traditional Indian subsistence agriculture that work in harmony with nature (Braidotti *et al.* 1994; Dankelman 2003). However, critics argue that although the ecofeminism deplores the dualism in western science and society in its thinking, it has a dualistic character in itself, as it simply reverses the dualism i.e., men/women, culture/nature, local/global, and consumption/production (King and Agarwal in Dankelman 2003).

Based on the explanation of Rocheleau, Thomas-Slayter, and Wangari (2006), it can be concluded that environmentalist, feminist poststructuralist, feminist environmentalism, and feminist political ecology are in the third category. Environmentalist have begun to deal with gender within a liberal feminist perspective to treat women as both participants and patners in environmentalal protection and conservation programs. Feminist poststructuralist explained gendered experience of environment as a manifestation of situated knowledges that are shaped by many dimensions of identity and difference, including gender, class, ethnicity, and age, among others. Feminist environmentalistm as articulated by Bina Agarwal (1991) emphasies gendered interests in particular resources and ecological processes on the basis of materially distinct daily work and responsibilities. As cited by Braidotti *et al.* (1984) and Dankelman (2003), Agarwal stated that, *"the link between women and the environment can be seen as structured by a given gender and class/caste/race organization of production, reproduction and distribution."* She emphasizes that the women/men/nature link has been socially and culturally constructed, not biologically determined. Whereas feminist political ecology treats gender as a critical variable in shaping resource access and control, interacing with class, caste, race, culture, and ethnicity to shape the process of ecological change, the struggle of men and women to sustain ecologically viable livelihoods, and the prospects of any community for "sustainable development".

This study is in the third category, especially the category of feminis environmentalis and feminist political ecology, although under the situation which is not so complex as stated by Rocheleau, Thomas-Slayter, and Wangari (2006), especially since the race and caste are not exist among Sundanese community. This study treats gender relation as a critical variable in shapping the peasant household members in access to and control over the resources -in this case agricultural land, *sawah and pasir*- interacting with class (representated by social stratification), culture and

etnicity (representated by the Sundanese community that belong to bilateral kinship); to shape the process of ecological change, as represented by peasant household members in managing *huma-talun* system that support the community sustainable development as represented in their householod food security.

1.4.2 Concepts and Research Methodology on Gender Environment and Development

Gender has been defined as social, economic and cultural role and relations between women and men, including their different responsibilities in a given culture or location and in different population groups (Moser 1993; ILO 2000; Wood 2001; FAO 2003; Dankelman 2003). According to Moser (1993), the focus on gender rather than women makes it a critical task to look at not only the category 'women', but also women in relation to men, and the way in which relations between these categories are socially constructed. Agarwal (1994) states that the concept of gender relations which refers to power relationship between women and men revealed in a range of practices, ideas, and representations, including the division of labor, role and resources between women and men. Scholars and institutions mentioned earlier have also agreed that as it socially constructed, gender relation is contextually specific and vary according to geographic location and sosial context, and often change overtime and in response to altering economic circumstances as well.

Scholars further developed a concept what they called as gender (roles) framework, which are not only useful for gender and development planning, but also for conducting social research. Among other, March, Smyth and Mukhopadhyay (1999) pointed out that gender framework means as methods of research and planning for assessing and promoting gender issues in institutions. The frameworks are also practical instruments, designed to help their users integrate a gender analysis into social research, and useful in gathering and analyzing information that provide a database for research.

According to March, Smyth and Mukhopadhyay (1999), there are six gender-analysis frameworks. Except for Harvard Analytical Framework (thereafter is written as HAF) and Moser Framework, the others gender-analysis frameworks are not meet to the objective of this study. It is due to the fact that this study emphasises on elaborating gender relation in the micro level

(household and community level). In the following is the explanation regarding the HAF and Moser Framework which is cited from March, Smyth, and Mukhopadhyay (1999).

The HAF is a grid (matrix) for collecting data at micro level,especially in the household and community level, and was designed to demonstrate that there is an economic case for allocating resources to women as well as men. It has four interrelated components: the activity profile, the access and control profile, the analysis of influencing factors, and the project cycle analysis. The activity profile allows to identify the differences in gender division of labour, especially in productive and reproductive roles, while the access and control profile identify the resources (land, education, etc.) used to carry out the work identified in the activity profile, and access to and control over their use, as well as the benefits (income, food, asset ownership, etc.) by gender. With regard to influencing factors, it is include all those that shape gender relations, and determine different opportunities and constraints for men and women. They include among other: socio-cultural aspects (community norms and social hierarkhis, such as values, religious beliefs, cultural practice), demographic conditions, general economic conditions, and attitude of community to development/assistance workers.

There are six main tools offer the Moser Framework: gender roles identification/triple role, gender needs assessment, disaggregating control of resources and decision-making, planning for balancing the triple role distinguishing between different aims in interventions, the WID/GAD Policy Matrix, and involving women, and gender-aware organisations and planners, in planning. Except for the first three tools, the other tool is not relevant to this study. Therefore, in the following is the explanation regarding the first three tools of Moser Framework.

Different from tha HAF, with regard to gender roles division of labor, Moser Framework introduced the concept of triple role, by adding the third role of the HAF which is called as community managing work. This activities include the collective organisation of social events and services -ceremonies and celebrations, activities to improve the community, participation in groups and organisations, and local political activities. Moser divides community work into two different types of work. Community-managing activities are undertaken primarily by women as an extension of their reproductive role, which ensure the provision and maintenance of scarce

resources which everyone uses, such as water, healthcare, and education. Whereas, community politics are undertaken primarily by men, who take part in organizing, formal politics, often within the framework of national politics. They are usually paid in cash for this work, or benefit indirectly through improved status or power.

The Moser Framework's second tool builds on Maxine Molyneux's (1985) concept of women's gender interests. Similar to Molyneux's concepts of practical and strategic gender interests, Moser distinguishes between two types of gender needs. Practical gender needs is defined as those which, if they were met, would assist women in their current activities. The development program interventions which focus on meeting practical gender needs respond to an immediate perceived necessity in a specific context, often related to inadequacies in living conditions. While strategical gender need is defined as the needs which, if they were met, would enable women to transform existing imbalances of power between women and men. Women's strategic gender needs are those which exist because of women's subordinate social status. Strategic gender needs vary in particular contexts. They relate to gender divisions of labor, power, and control, and may include such issues as legal rights, domestic violence, equal wages, and women's control over their own bodies. The third Moser tool is about disaggregating control of resources and decision-making within the household. Here the Moser Framework links allocation of resources within the household (intra-household allocation) with the bargaining processes which determine this. This tool ask questions: Who has control over what resources within the household, and who has what power of decision-making?

As March, Smyth and Mukhopadhyay (1999) noticed, the HAF and Moser Framework use similar concepts, both of the frameworks emphasize on what women and men do and the resources available to them, rather than focusing on the relationship between them, which determines how activities come to be performed by women or men, and the complex dynamics by which decisions are made. Further, they stated that though Moser puts emphasis on the different types of households, and power differentials within households, the framework does not deal with other underlying inequalities, such as class.

This study using the combination of both frameworks, the HAF and Moser Framework by adapting the tools of the two frameworks which explained above into the setting of this study, that is in the case of Sundanese community with bilateral kinship who conducting agricultural activities by managing *sawah* and *huma-talun* system in order to meet their household food security. As originally the HAF and Moser Framework are tools to collect the qualitative data, while on the other hand this study needs quantitative data with regard to a number variables regarding gender relation in land ownership, gender relation to peasant household economy (including productive activities which covers agricultural and non-agricultural sector), and gender and household food security, further several structured questionnaires are made to measure all the variables which are analysed in this study.

1.5 Theoretical Framework

Having reviewed the relevant literature, in this section, I will spell out the theoretical framework adopted in this thesis.

Study on gender in land ownership and household food security is primarily concerned with the interaction between gender relation in the household level regarding land ownership and its relation to household food security. In this study, land, as natural resources owned by the peasant households includes *sawah* and *pasir* -the two farming systems where member of the household produce food and other products that meet the household's livelihood objectives, especially household food security.

This study assumes that the phenomenon of gender, land ownership and household food security is a result of the interaction of the three levels of social system, the micro, mezzo and macro. The peasant household is the social system on the micro level, where gender relations with regard to various kinds of resources, including rights over children, inheritance and resource distribution, and obligations and responsibilities of the household's members is influenced by it's kinship system. Due to the fact that the household is the smallest social unit in the community and at the village level, the community and village administrators become the social system in the mezzo level that will influence the peasant household members to have better living as reflected, among other things, in their formal recognition toward individual land ownership/holding.

Based on the explanation above; hence, the first hypothesis in this study is: "Among Sundanese peasant household community in West Java, where the kinship system is bilateral, and where customary law rather than the Islamic law is followed in matters of inheritance, there is a gender equity values with regard to children status before the parents, and one might find that inheritance of land is equal between sons and daughters, so that women's landholdings may be equal to men's, which also recognized by the local administration. I will examine this through a careful examination of data on sex-disaggregated land-holdings.

Assuming that the peasant household is heterogeneous, the analysis of gender relation in land ownership may also be analyzed by the households' social stratification. Further, to elaborate the point whether rights on land of the household members are recognized by the local organization from mezzo level, which is the village, this study will also analyze the sex-disaggregated data on landowners document available in the village office.

The second hypothesis is that if women and men have access to and control over land equally, women as well as men also contribute to the household economy equally, where the tendency is that the higher the women's land-holding the more significant their contribution towards the household economy, including production, consumption and household's income. In terms of gender relation in production activity, this study will elaborate the division of labor and responsibility, time allocation, and decision-making pattern regarding productive activity, especially in the rice farming and *huma-talun* system. Further, as the household members use their knowledge and experience for farming, this study will also elaborate the practice of farming, especially *huma-talun* -land owned by the majority of peasant households in Kemang Village, in this case is *pasir* according to the landowner and household categories.

With regard to appraising the second hypothesis, this study will use the data on landownership in the household level in order to categorize the peasant households. By referring to the United Nation Development Program (UNDP)'s concept of gender equality (the ratio of 50: 50) (UNDP in Megawangi 2003), the surveyed household is differentiated into two categories: (1) households

with women's low (below 50 %) land-holding (called WL), and (2) the household with women's high (equal to or more than 50%) landholdings (called WH).[6]

Scholars of traditional agroforestry, such as Iskandar (1992), Conway (1996), and Sajise (1997) agree that agricultural farming, which consists of intercropping, agroforestry and rotation, has high potential for sustainability. Based on these, the peasant households' knowledge and practice in managing their *huma-talun* will be analyzed by elaborating their behavior: in the collection and/or preservation of seed and/or young trees, selection of the cultivated type of plant, land succession stages and the average cycles duration, the plants percentages in the plots as well as the average index of plot plant diversity. With regard to the plants, they are categorized into types: horticulture and banana, huma paddy and palawija, leaf banana, fruit trees, wood and bamboo, and caliandra (land conservation trees). While the formula to measure the average index of plot plant diversity that exists in each stage of the land succession cycle is calculated by Iskandar's formula Iskandar (1992) as seen on Appendix 1.

Regarding the household's income, it is widely known that the scholars of gender and agricultural development view that as the productivity of farming is influenced by the household members labor, hence, the income from farming is the household's income, to be attributed neither to the husband nor the wife only. However, in this study the women's landholding may become a "clue" to the women's contribution to household's income that derives from farming.

The third hypothesis in this study is that the higher the women's landholding within the total land of the household, the higher the level of food security in the household, i.e. in terms of food availability, access to food and food utilization. However, if gender-bias in the distribution of food is present among peasant households, the number of women in the households who are in the "sufficient" category of food utilization will be lower than that of men, regardless of women's landholdings.

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6 Women's land-holding toward the total household's land is a sum of the total wife's land plus the total of *gono-gini* `s land divided by the total household's land, which is the total land consisting of wife's land, husband's land and *gono-gini* `s land.

With respect to examining the third hypothesis, the definition of food security in this study is "access by all people at all times to the food needed for a healthy life" (FAO 1995), "secure access at all times to sufficient food for a healthy life (Maxwell and Frankenberger 1992), and/or "when all people at all times have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (Law of Republic of Indonesia No. 7 of 1996 on Food or *UU RI No.7 Tahun 1996 tentang Pangan*). Further, the household food security involves three interrelated aspects: food availability, access to food and food utilization (Maxwell 1955; Quisumbing *et al*. 1994; Haddinott and Yohannes 2002a; FAO 2000).

According to Hoddinott and Yohanness (2002), food availability is a measure of food that is and will be, physically available in the relevant vicinity of a population during a given period, which is achieved when sufficient quantities of food are consistently available to all individuals within a country (national, regional), including community. In Indonesia, national food availability is measured by the indicator of food supply; it is the amount of food available in a country, which is the sum of: (a) the country's food production, (b) food import minus food export, and (c) the country's food stock (Center for Development of Food Supply, Mass Guidance Board for Food Security, Department of Agriculture 2002). Besides, the food availability at national or regional level can also be measured by using an indicator known as the Desirable Dietary Pattern (DDP). The DDP is a simple instrument to measure the main food group availability, which reflects the food diversity and quality available to meet the energy and nutrition needed for the population. (FAO RAPA in Hardinsyah *et al*. 2004)[7]. Meanwhile the actual food availability in the aggregate is stated

7 The proportion of a desirable dietary pattern is an attempt: a) to rationalize the quantity of various food groups, the composition of a diet to make it wholesome nutritious and palatable; and (b) to assign it reference score based on the ratings of its components so that other diets can be scored against it…, without scoring, it would not have been possible to state the extent to which the diets are good or bad (FAO RAPA in Hardinsyah *et al*. 2004). The DDP can be used to measure the food availability and access to food as well. The DDP of food availability is calculated based on the data of Food Balance Sheet (NBM), while the DDP of access to food is calculated based on consumption survey which was conducted by Central Bureau of Statistics (BPS), called SUSENAS or

as the score of the DDP calculated and based on the Indonesia's Recommended Dietary Allowance (RDA; *Angka Kecukupan Gizi*)[8] weighing factor for each food group, which is recommended by The National Workshop of Food and Nutrition or *Widya Karya Nasional Pangan dan Gizi* (WKNPG). This study seeks to describe at a glance the national food availability by referring to the data and information published by the National Food Security Board (*Badan Ketahanan Pangan Nasional*), the Ministry of Agriculture (MOA), especially in 1999[9].

Since the main staple food sources are obtained by the peasant households from their own land, and with reference to the empirical studies conducted by Adi (1999) and Baliwati (2001) and Center for Development of Food Supply, Mass Guidance Board for Food Security, Department of Agriculture (*Pusat Pengembangan Ketersediaan Pangan, Badan BIMAS Ketahanan Pangan, Departemen Pertanian*, 2002), the availability of household's food is measured by three variables: the average of total land size, rice production, and household rice calorie availability. The total land size consists of both types of agricultural lands i.e., *sawah* and *pasir*. Rice production is measured by calculating rice production (kilogram) from their own land in a year (2000), while household rice calorie availability is measured by making an inventory of rice available at the household level whether from own production, or purchase and trading in the unit of weight (kg), which is then converted into energy (calorie).

National Socio-Economic Survey.

8 The Indonesia's Recommended Dietary Allowance (RDA) is a value which shows the amount of nutrition needed by the body for a daily healthy life for almost all population according to age group, sex and other condition, which is established or determined and which is again based on research results on nutrition requirement and scholars' aggreeement (Muhilal and Hardinsyah 2004).

9 Data on Food Supply and Consumption and the DDP is based on the food availability obtained from National Socio-Economic Survey (SUSENAS) collected by Central Bureau of Statistics on every 3 years. This study refers to the data of 1999, the closest year to the time when study in Kemang village was conducted (2000). In the two years, the economic crisis became worst as almost all agricultural inputs soared rapidly along with the consumers' price of rice and other food group (Mizuno and Mugniesyah 2003).

The second aspect of food security is access to food (Hodinott and Yohannes 2002) or economic access to the availability of food (Quisumbing *et al*. 1995), as a measure of the ability of population to acquire food during a given period. It is ensured when households and all individuals within them have adequate resources to obtain appropriate foods for a nutritious diet. Further, Hoddinot and Yohannes (2002a; 2002b) state that dietary diversity is a good indicator of the access dimension of household food security, as the question on dietary diversity can be asked at the household or individual level, making it possible to examine food security at the household and intra-household levels. The access to food, in turn, is determined by sources of entitlement, or household's endowments, which can consist of many factors and among those capital and labor are noteworthy (Maxwell and Frankenberger 1997; Hoddinott 1999). Capital refers to those resources such as land, livestock and tools for agricultural and non-agricultural production which and when combined with labor to produce income. Thus, household's income reflects the purchasing power and household's ability to obtain food (Kennedy and Haddad 1992). Therefore, the indicator of access to food in this study is measured by the income of the household (derived from agriculture and non-agricultural activities) and food expenditure. The two variables were also used as household's access to food in the previous studies (Anis 1999; Baliwati 2001) as well as food consumption analysis conducted at the national level by Center for Development of Food Supply, Mass Guidance Board for Food Security, Department of Agriculture, 2002 (*Pusat Pengembangan Ketersediaan Pangan, Badan BIMAS Ketahanan Pangan, Departemen Pertanian*, 2002).

In Indonesia, the dietary diversity is also measured by the Desirable Dietary Pattern (DDP) based on the consumption of food (Mass Guidance Board for Food Security, Department of Agriculture/*Pusat Pengembangan Ketersediaan Pangan, Badan BIMAS Ketahanan Pangan, Departemen Pertanian*, 2002; and Hardinsyah *et al*, 2004). The DDP score at the household level is a measure of the diversity and quality of main food consumed by the household members (as an aggregate). Hence, the score of the peasant household's DDP can be compared with the score of the DDP in West Java province and also at the national level.

The third aspect of food security is food utilization. It is a measure of whether an individual will be able to derive sufficient nutrition during a given period. According to Hoddinot (1999),

there are two factors within households that relate to individual food security i.e., food allocation and biological utilization. In the case that food distribution among household members is unequal; it is possible for aggregate access to improve and for some individuals to experience no change in the status of their food security. Biological utilization means the ability of human body for food intake and its conversion into energy used for daily activities or stores the energy. Accordingly, in this study, food utilization is measured by the indicators of food intake i.e. the amount of food consumed by individual household members over a 24-hour period, which consists of the average energy and protein dietary intakes of the household members. Then, they are compared to the Recommended Dietary Allowance (RDA) to assess the adequacy level, especially based on the The National Workshop of Food and Nutrition or *Widya Karya Nasional Pangan dan Gizi* (WKNPG) of 2004: 2000 Kcal/capita/day for the Dietary Energy Intake (DEI) and 52-gram/capita/day for the Dietary Protein Intake (DPI).

As for the individual, the need of food varies depending on the body weight, age and sex; therefore, the household and household members' food security is differentiated into two categories: deficient and sufficient, based on the food (energy and protein) sufficiency level already calculated according to body weight, age and sex. The Energy and Protein Sufficiency Level is calculated by comparing the amount of nutrition, in terms of energy and protein, consumed by the household members as the Recommended Dietary Allowance (RDA) of the WKNPG VIII 2004. Further, the surveyed household will be categorized into two categories of energy and protein sufficiency levels (deficient and enough) by using the "cut off" values of energy and protein sufficiency levels according to the criteria used by Baliwati (2000), Dini Latief et al. (2000) dan Azwar (2004). The "cut off" value of energy and protein sufficiency level is 70%, meaning that those who have energy and protein sufficiency level lower than 70% are in the deficient category, while those who have 70% or more are in the sufficient category. On the other hand, since the quantity and the quality of food consumed by the household members will be reflected in their nutrition status, the nutrition status of household members: adult, children, and children under five years old in the total households surveyed becomes the third indicator of food utilization. Then, with reference to Baliwati (2001), the aggregate of household food security -the total of three pillars of food

security- is calculated by using grand weighted average (GWA) methods: equal share of food availability and food access to the household food security (each 40%), while the remaining (20%) is taken from the food utilization[10].

Based on the above explanation, the household and individual food security among WH is supposed to be higher than that of the WL. On the other hand, as the gender-biased values in food distribution still exist among household members, there is a possibility that the percentage of women's food utilization is lower than that of men in both of the household categories (WH and the WL).

Based on the explanation above, the conceptual framework in this study can be systematized into a diagram as can be seen in Figure 1.1. The criteria for categorizing each aspect of household food security (food availability, food access and food utilization) and aggregately can be seen in Appendix 2.

1.6 Field Methodology

Several research methodologies have been used in this study in order to accomplish the desired goal. Among those are full enumeration surveys, focused group discussions, households' surveys, in-depth interviews and observations.

The full enumeration survey was conducted in two adjacent hamlets of Kemang Village i.e., Beber and Cikupa. These two hamlets have been selected because they represent the overall general conditions of the village with regard to social, economic and agro-ecological factors. Hereafter all the hamlets will be referred to as Kemang in this thesis. The enumeration of the households of Kemang was conducted in September and October 1998 to collect the following primary data on the characteristics of the household: demography, resources, land ownership and holding, the size and location of land and housing conditions. Along with the enumeration, a series of focused group discussion were conducted with a number of 10 to 20 persons who constituted

10 According to Baliwati (2001) the formula is based on the theoretical reasons that she derived from Sen's opinion, that the physical and economic capability of household are two important aspects of food security, so each variable contributes equally to household food security, i.e. 40%; while the food utilization is assumed to contribute about 20%.

the key informants in the village. They were the village administrators, landowners of *sawah* and *pasir* from various households representing the heterogeneous of the farmer households in the two hamlets, the head and members of farmers group, especially the residents of the two hamlets. The purpose of the focused group discussion was to collect necessary qualitative data relating to the criteria of the social stratification, the practice of farming (rice farming in *sawah* and *huma-talun* in *pasir*), division of labor in farming, and some information regarding the village experience on rural development projects/programs.

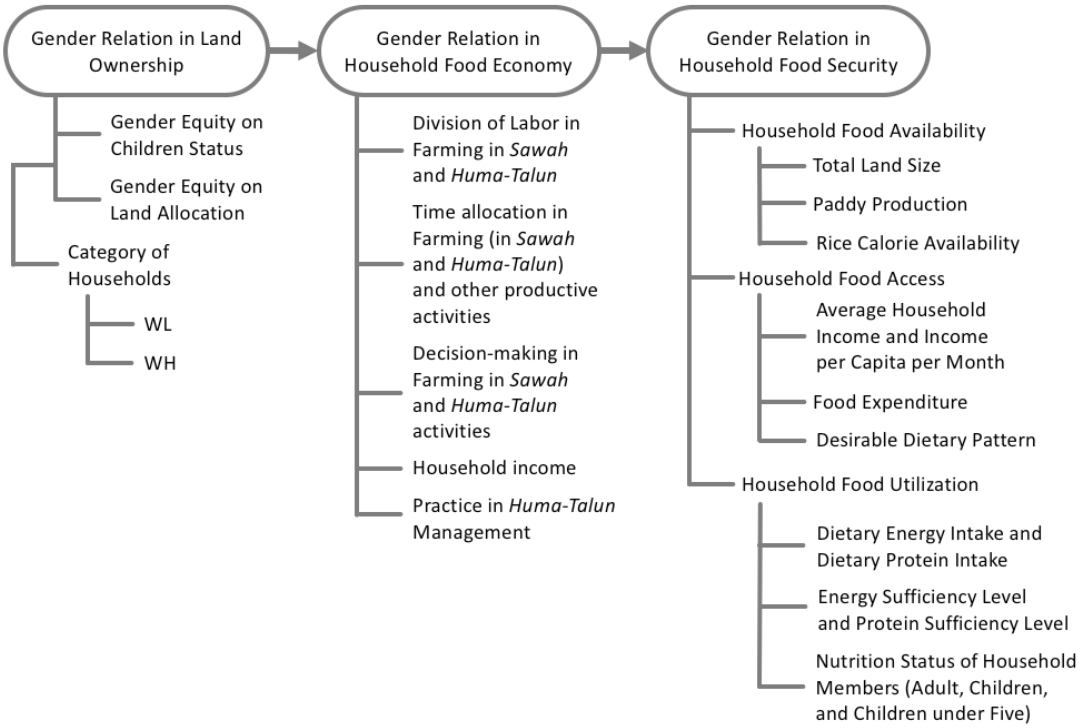

Figure 1.1 Conceptual Framework in Studying the Relationship between Gender, Land Ownership and Household Food Security

In addition to this, a series of survey were conducted from 1998 to 2002. About 62 households of the total enumerated survey (37.5% of the total households in the two hamlets) were interviewed by administering a set of questionnaires during the period of research. The first household survey was conducted following the enumeration in 1998, especially related to the sex-disaggregated data on household economy: time allocation and decision making in farming

(*sawah* and *pasir* activities) and household income. The in-depth interview was taken especially to collect the information of the values and the data of inheritance system, the data on the way of obtaining the land, the kind of usufruct and others. About 20 sample households were selected for this in-depth interview.

To show the dynamics of land ownerships pattern at the community level based on the land holding, the peasant households have been differentiated into the following four strata, which is determined from the result of the focused group discussion (see Table 1.1).

Table 1.1 The Peasant Households Stratification in Kemang Village by Size of Landholding

Stratum	Size of Land holding
Stratum A (upper stratum)	More than 1.5 Ha
Stratum B (medium stratum)	0.7 Ha - 1.5 Ha
Stratum C (lower stratum)	0.1 Ha to less than 0.7 Ha
Stratum D (lowest stratum)	Landless households

Source: Fieldwork

Secondary data is also used in this study. The document of the Letter C[11] which is available in the village has been used in order to get a figure on the recognition of women and men's right on land in the community and also at the village level. However, as the Letter C document of year 1998 was not available, we have been forced by circumstances to use the data of 1976 in this study. In the case of Kemang Village, the village apparatus did not update the data as the data is belong to the village government, and the person who is responsible usually trusted by the village head and will not be handover until the appointed person is passed away.

Survey with regard to gender relation in *huma-talun* management was conducted during September to November 2002. Observations, in-depth interview as well as focused group discussion were also conducted alongside the survey of *huma-talun* management. In order to explain the wife's contribution, we analyzed the *huma-talun* practices based on the land ownership category: wife,

11 Letter C (*Buku Letter C)* is a book that deals with the judgement on land classification and size of of holdings made by the village officials for determining the classification for imposing Regional Development Levy (*Iuran Pembangunan Daerah*) for each landowner (Kano 1984).

husband, and *gono-gini*. In the case that the households have many plots or that the *huma-talun* has its land succession's[12] duration cycle, the survey was mainly concerned with the longest cycle.

The data on food consumption and expenditure was collected in October and December 2000. Measurement of the body weight and height of household members was conducted together with the survey on the consumption of food and household expenditure. Information on the food consumption of household was collected using the previous 24-hour recall for individual members of a household, which was estimated using household measurement, because this method was remarkably helpful for collecting more reliable data on the consumption and captures of the village. Besides, repeated interviews, observation, and group discussion were also conducted, especially for collecting the primary data relating to the dynamics of land ownership and food allocation pattern.

The monograph of the village of 1998 (prepared and published by the village) has also been used for getting some information regarding the setting of research site. Besides, secondary data regarding the environment of the research site, relevant information regarding the district of Cianjur and West Java province have been collected from Indonesia's Central Bureau of Statistics. Moreover, the secondary data regarding food security in the national and provincial levels, the DDP and RDA for energy and protein intake, have been obtained from the National Food Security Board, Ministry of Agriculture (MOA) of the Republic of Indonesia.

1.7 Structure of the Thesis

The considerations mentioned above have ultimately shaped the structure of this thesis, which consists of seven chapters. Chapter One explores the overall background of the study in which the

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12 The land succession is an ecological succession, defined as the gradual and orderly process of change in an ecosystem of land, which is change and develop over time, and brought about by the progressive replacement of one community by another until a stable climax is established (The Free Dictionary 2013; Naik 2011). Naik added that though the succession involves the whole community, not just the plants, the most often quoted examples of succession deal with plant succession.

statement of the problem, objectives of the study, theoretical and conceptual frameworks, research questions, and the methodology used in this thesis have been explained.

Chapter Two introduces the setting of the study village. With a view to giving deeper insight of the study village, brief description of the general condition of West Java Province and Cianjur District will be provided. The chapter also deals with the overview of Kemang Village, especially regarding the condition of geography, population/ demography, land use, administrative organization and the information on the rural/agricultural development programs accepted by the village.

Chapter Three describes the characteristics of the enumerated households, especially with respect to several aspects i.e., demography, landownership and tenure, participation in local organization and institutions, and housing conditions. As the peasant households in Kemang Village rely on two type of agricultural land, *sawah* and *pasir*, the practice of rice farming as well as *huma-talun* system, which are implemented by the peasant households, are also explained briefly in this chapter. In Chapter Four gender in land ownership in the area will be examined by explaining the values related to the customary law on inheritance system, the distribution of household's land by landowner, the patterns of land owner on the household level, the origin of the land and its relation to land usufruct, land tenancy and land rights recognition, will be discussed from the gender perspective.

Chapter Five is on gender relation in the household economy; especially regarding the management of the agricultural land (environment) in both types of land i.e., rice field (*sawah*) and dry land (*pasir*). It is an attempt to understand the division of labor and responsibility, labor allocation, decision-making and practice in the farming by peasant households. Due to the fact that *huma-talun* is the central point for the peasant household economics in Kemang village, this chapter demonstrates the contribution of women's land toward the practice of *huma-talun* system. As the majority of the enumerated households cultivate the *huma-talun* system in their dry land, the general information on the *huma-talun* system developed by Kemang people will be presented in the beginning of this chapter.

Chapter Six deals with the influence of women's land contribution to food security in the household and individual levels. The chapter begins with a general description regarding the food security on the national and provincial levels, which is needed in an attempt to place the situation of research area in comparison with both the national and provincial levels. Finally, Chapter 7 brings together the material presented and attempts to draw conclusions on the whole discussion and ultimately try to formulate some recommendations.

CHAPTER 2
FEATURES OF THE RESEARCH VILLAGE

2.1 Introduction

This chapter is aimed at explaining briefly the general condition of the research area. The study village is Kemang which is located in Cianjur district of West Java. Therefore, this chapter will also mention briefly the important aspects regarding geography and demography of the two regions. Regarding demography, this chapter will be restricted to describing population, type and status of employment. It is generally held that women in Indonesia have equal rights as men. The 1945 Indonesia Constitution declares that "all citizens have equal status before the law" (Article 34). Hence, as a general overview on gender issues of human development program in the two regions, this chapter will show the Human Development Index (HDI)[1] and Gender Development Index (GDI)[2] of the two regions. The latter is important, especially to assess whether gender equality in the mezzo level (province and district levels) has been achieved. Furthermore, in the third section, there will be an explanation about the village where the research was conducted, especially regarding geography, demography, land use, administrative organization and rural development programs which have been introduced to Kemang people.

2.2 West Java Province and Cianjur District

Based on the data and information shown in Jawa Barat's website (http://www.jabar.go.id), West Java Province is geographically located between 5.50°-7.50° South latitude and 104.48°-108.48°

1 The HDI measures the overall achievements in a country in three basic dimensions of human development – longevity, knowledge and a descent standard of living. It is measured by life expectancy, education attainment and income (Indonesia Human Report Development 2004)

2 The GDI measures achievements in the same dimensions and variables as the HDI, but captures inequalities in achievement between women and men. The greater the gender disparity in basic human development, the lower a country's GDI compared with its HDI (Indonesia Human Report Development 2004)

East longitude, and situated between Java Sea (and Capital City of Jakarta) to the north, Central Java Province to the east, Indian Ocean to the South and Banten Province to the west. This province has tropical climate with temperature reaching 9 degrees Celsius at the peak of Mount Pangrango and 34 degrees Celsius in north beach. The average rainfall is at 2,000 millimeters per year, but in the mountainous areas the rainfall could reach 3,000 to 5,000 millimeters per year.

West Java is the biggest province of Indonesia with an area of 44,354.61 square kilometer or 4,435.461 hectares and administratively it consists of 16 districts and 9 cities, 535 sub districts, 1,724 "*kelurahan*"[3], and 3,939 villages. Regarding the population, there was only 35.5 million people in 1990, which increased to 39.2 and 42.4 million in 1995 and 1999 respectively. In 2002, the total population of West Java was 36.9 million consisting of 18.7 million men and 18.2 million women. The total population of the province of West Java declined, because a new province, namely Banten Province, was created taking 5 districts from West Java province. In 2000 the population of West Java was about 35.723 million, which consisted of 50.5% men and 49.5% women. In 2002, the densely populated city of West Java was Bandung district which was around 4.3 million, followed by Bogor about 3.6 million people and the least populated city was Sukabumi which was around 0.26 million. In West Java Province the population density reached 3,102 people per square kilometers. Bandung city is still the densest area, around 12,762 people per square kilometers; and the lowest density area is Cianjur district, around 669 people per square kilometers.

The number of labor force of West Java in 2000 was about 15,334,358; consisting of 63.6% men and 36.4% women. By location, about 52.8% of the total labor force is living in rural areas. Table 2.1 shows the data of labor force in West Java based on type of occupation.

As seen in the table, most of the labor force in West Java work in agriculture (30.8%), followed by those who work in services (19.8%) and trade (15.7%). By location, there is a slight difference in terms of the dominant type of occupation where the labor force work: in urban area they work dominantly in services (about 30%), trade and processing industry, each about 18%, while in rural area it is in agriculture (almost 50%), trade (about 14%) and services (12%). The

3 *Kelurahan* is an administrative area in the sub-district level which is lead by *Lurah* who is assigned by the government; not elected by the people (Badan Pusat Statistik 2013).

tendency is similar if it is analyzed by sex. In terms of employment status[4], as seen in Table 2.2 the majority of labor force in West Java work as employees (39.4%), followed by those who are self employed (28.6%) and family workers (17.3%).

Table 2.1 West Java's Labor Force by Type of Occupation, Location and Sex in 2000 (in percent)

Type of Occupation	Urban			Rural			Urban + Rural		
	M	F	Total	M	F	Total	M	F	Total
Agriculture	7.1	2.5	9.6	30.7	19.1	49.9	19.6	11.3	30.8
Processing Industry	11.6	6.2	17.7	4.0	2.1	6.2	7.6	4.0	11.6
Trade	12.5	5.6	18.2	9.1	4.5	13.5	10.7	5.0	15.7
Services	20.7	8.0	28.8	8.7	3.1	11.8	14.4	5.4	19.8
Transportation	3.3	0.1	3.4	2.5	0.1	2.6	2.9	0.1	3.0
Other	10.9	11.4	22.3	6.3	9.8	16.0	8.5	10.5	19.0
Total	**66.1**	**33.9**	**100.0**	**61.3**	**38.7**	**100.0**	**63.6**	**36.4**	**100.0**
Total (in thousands)	**47,902**	**2,451**	**7,241**	**4,962**	**3,129**	**8,092**	**9,752**	**5,581**	**15,334**

Note: M = Male; F = Female;
Source: Population Census in West Java, 2000

The majority of labor force work in informal sectors, whether it may be in services, trade and processing industry. By sex, it is seen that as the majority of female labor force work in the agriculture sector, their employment status is predominantly family worker; besides this they also work in services and trade where their employment status is employee. Meanwhile male labor force are predominantly employee or self-employed. By location, female labor force in urban areas work as employees and family workers predominantly, while in rural areas they work as family

4 Employment status is the employee condition in the work place, which consists of five categories: (1) Self employed, the employee condition of a person who do business and bear the entire business risks and is not assisted by unpaid family workers or employee; (2) Self employed with family workers, those who do business and bear business risks with the assisstance of a family member; (3) Employed with temporary employee, those who do business and bear business risks with the assisstance of temporary employee(s); (4) Employee(s), those who work for other people or agency/institution/enterprise and paid with either money or goods; and (5) Family worker(s) or unpaid employee(s), those who work for other people or other household economic or an enterprise without any form of payment; they are usually the family member i.e. spouse, children, relatives, etc. (Badan Pusat Statistik, 2000a).

workers or are self-employed. Meanwhile male labor force in urban areas work as employees or are self-employed, while in rural areas they are predominantly self-employed, followed by employees or are self-employed with family workers. It seems that as most of rural people do not have enough land, consequently most of them work as wage labor (employee).

Table 2.2 Distribution of Labor Force in West Java District by Employment Status, Location and Sex in 2000 (in %)

Employment Status	Urban			Rural			Urban + Rural		
	M	F	Total	M	F	Total	M	F	Total
1. Self Employed	20.6	7.2	27.8	21.4	8.0	29.4	21.0	7.6	28.6
2. Self Employed & Family Worker	4.1	1.1	5.2	16.1	4.0	20.1	10.4	2.6	13.0
3. Employed & Temporary Employee	1.5	0.5	2.0	1.0	0.3	1.3	1.2	0.4	1.6
4. Employee	37.1	15.6	52.7	19.6	7.9	27.5	27.9	11.5	39.4
5. Family Worker	2.9	9.5	12.4	3.3	18.4	21.7	3.1	14.2	17.3
Total (%)	**66.1**	**33.9**	**100.0**	**61.3**	**38.7**	**100.0**	**63.6**	**36.4**	**100.0**
Total Population (in thousands)	**4,790**	**2,452**	**7,242**	**4,963**	**3,130**	**8,093**	**9,752**	**5,581**	**15,334**

Note: M = Male; F = Female

Source: Population Census in West Java, 2000

Cianjur is located about 62 kilometers from the provincial capital, Bandung or around 140 kilometers from the capital city, Jakarta. This district area is situated between Purwakarta District to the north, Sukabumi District to west, Pacific Ocean to the south, Garut and Bandung Districts to the east. The district area is about 350,148 hectares. The topographical features of Cianjur are mountainous area and hilly and located between 0–2,300 above sea level. Generally, the climate in this district is tropical with an average rainfall between 1,000–4,000 mm per year and the average rainy day is 150 days per year. Administratively there are 26 sub-district (*kecamatan*), 341 villages and six "*kelurahan*", 1,173 hamlets (*dusun*), 2,280 sub-hamlet (*Rukun Warga* or RW) and 8,689 sub-sub-hamlet (*Rukun Tetangga* or RT) (http://www.cianjur.go.id). According to the Census conducted in 2000 the population of Cianjur District was 1,925,431 of which 51% and 49% were male and female respectively. By location, the majority (about 87.5%) resides in the rural area. On the district level too, the rural people consist of 51.4% male and 48.6% female (Badan Pusat Statistik Jawa Barat 2002).

The data on distribution of labor force in this district by location and type of employment is presented in Table 2.3. The total labor force in Cianjur District was 843,823, which consisted of 63% men and 37% women. By location, the percentage of women labor force in the urban area is lower than those in the rural area. Generally, the majority of labor force, both of women and men are working in agricultural sectors, followed by those who are working in services and trade. By location, however, there is a different pattern; in the urban areas the majority of men and women labor force are working in services, while in the rural areas they work in agricultural sectors. However, services and trade are becoming the next dominant sectors for the labor force in both urban and rural areas.

Table 2.3 Labor Force in Cianjur District by Location, Type Employment and Sex in 2000 (in %)

Type of Employment	Urban			Rural			Urban and Rural		
	M	F	Total	M	F	Total	M	F	Total
Agriculture	15.9	4.9	20.8	38.6	26.9	65.5	34.0	22.5	56.5
Manufacture	2.7	1.3	4.0	1.9	0.9	2.8	2.1	0.9	3.0
Trade	16.4	5.5	21.9	6.4	3.5	10.0	8.4	3.9	12.4
Services	25.7	7.7	33.4	6.9	2.3	9.3	10.7	3.4	14.1
Transportation	3.9	0.1	4.0	2.9	0.1	3.1	3.1	0.1	3.3
Others	8.4	7.5	15.9	3.6	5.8	9.4	4.6	6.1	10.7
Total	**72.9**	**27.1**	**100.0**	**60.5**	**39.5**	**100.0**	**63.0**	**37.0**	**100.0**

Note: M = Male; F = Female; Total of Urban Labor Force = 169,709; Total Rural Labor Force = 674,114; Total Urban and Rural Labor Force = 843,823

Source: Population Census of Jawa Barat (West Java), 2000

Table 2.4 provides some information regarding the labor force in Cianjur by employment status, location and sex. Similar to the situation of West Java, generally the employment status of the labor force is distributed evenly to almost all types of employment status; except for the employed and temporary employee. It is due to the fact that most of the people of Cianjur work in the informal sector i.e., in agricultural and non-agricultural activities. Further, by location, there is slight difference in the distribution of the labor force by employment. In urban area, the labor force is dominant as self-employed and employee, while in rural area they are distributed almost evenly in all employment status, excepting employee & temporary employee. It is understandable

that as in the urban area they work in non-agricultural sector, such as services and trade, while in rural area they work in agriculture dominantly.

Table 2.4 Distribution of Labor Force in Cianjur District by Employment Status, Location and Sex in 2000 (in %)

Employment Status	Urban			Rural			Urban & Rural		
	M	F	Total	M	F	Total	M	F	Total
1. Self employed	27	6	33	16	4	21	18	5	23
2. Self Employed & family worker	9	1	10	24	4	28	21	4	25
3. Employed & Temporary Employee	2	0	2	1	0	1	1	0	1
4. Employee	33	10	43	16	7	23	20	7	27
5. Family Worker	2	9	12	3	24	27	3	21	24
Total (%)	**73**	**27**	**100**	**60**	**40**	**100**	**63**	**37**	**100**

Note: M = Male; F = Female; Total of Urban Labor Force= 169,709; Total Rural Labor Force = 674,114; Total Urban and Rural Labor Force = 843,823

Source: Population Census of Jawa Barat (West Java), 2000

By sex, it is found that most of the women in rural areas are working as family workers (24%), followed by those who are working as employee (7%), while in urban area most of them work as employee. It appears that there is inconsistency regarding the percentages of women labors working in the agricultural sectors. Such inconsistency appears to have been caused by the mistake of the census enumerators, who from their pre-occupied perception categorize women as family workers, as they think that only the husband has the status as self-employed with family workers.

Based on the data of National Human Development Report (NHDR) 2004, the HDI of West Java was 64.3 and 65.8 in 1999 and 2002 respectively, the same with the Indonesia's HDI, meaning in the medium category of achievement. However, the HDI of West Java was in 14th and 17th rank among 30 provinces in Indonesia. While Cianjur District was lower than that of provincial and national levels, was 63.6 in 1999 and 64.5 in 2002 or in 167th rank and 223rd among 414 districts in 1999 and 341 districts in 2002 in Indonesia.

Further, the NHDR 2004 reported that Gender Development Index (GDI) of West Java was only 54.6 in 1999 and 56.3 in 2002 or in the 17th and 21st rank among 30 provinces in Indonesia,

while the GDI of Cianjur District was 53.9 and 54.6 in 1999 and 2002 respectively or in the 195th and 207th rank among 314 and 341 districts in Indonesia in 1999 and 2002 respectively. It seems that there is a gender-based inequality in the practice of development program in West Java as well as in Cianjur, as the GDI of the two regions is lower than the HDI. In other words, although the majority of West Java is Sundanese, which belongs to bilateral kinship, the GDI of West Java Province, especially in 2002, is lower than the other 20 provinces in Indonesia where their population are predominantly belong to patrilineal kinship, which are located in Sumatera -except West Sumatera with matrilineal kinship-, Kalimantan or Borneo, Sulawesi, even Bali and East Nusa Tenggara. The similar situation occurred in Cianjur District. It seems to be practical that the gender-bias strongly influences the policy makers and practitioner in implementing various development programs as they tend to believe of what Sundanese scholars construct about "*lalaki nanggung-awewe nyuhun*").

The following are some information regarding the data on the component of the GDI in West Java and Cianjur District (See Table 2.5). The population of female of West Java and Cianjur is lower than that of men. Further, the tendency is that during the period of 1999-2002 the number of female tends sharply to decline, especially in Cianjur. It was occured among other due to the fact that the number of female migrant workers from Cianjur was tend to increase during this period.[5] Interestingly, in terms of life expectancy and education (adult literacy rate and mean years of schooling), both, women and men in West Java tend to increase slightly. This is probably due to the government's launching of the Social Safety Net in health and economic development program, especially to the target group which consists of the poor throughout Indonesia, including West Java in 1998.

With respect to educational level, interestingly, in the same period, women see an increase in opportunities, as their educational level shows a rise, in terms of adult literacy rate as well as mean years of schooling. This took place in the two regions. It is probably due to the government's

5 Referring to Hugo (2000), there were 8,161,132 Indonesia Overseas Workers during the periode of 1998-April 2001. Further, in 2000 itself there were 2,572,133 Indonesia estimated stocks of overseas contract workers. Cianjur District was in the second rank as the origin district of Indonesian migrant workers.

implementation of gender mainstreaming in national educational programs throughout Indonesia, as this country assigned the agreement on the commitments to Education for All (EFA) established at the World Education Forum in Dakar in April 2000 (National Education Department of the Republic of Indonesia, 2000).

Table 2.5 The GDI of West Java and Cianjur District 1999 and 2002

Item of gender-related Development Index	West Java				Cianjur			
	1999		2002		1999		2002	
	F	M	F	M	F	M	F	M
Proportion of Population (%)	49.6	50.4	49.3	50.7	49.6	50.4	47.7	52.3
Labor Force	32.4	67.6	33.1	66.9	34.1	65.9	34.3	65.7
Life Expectancy (years)	66.2	62.4	66.3	62.5	65.5	61.7	65.9	62.1
Adult Literacy rate (5)	89.2	95.2	90.5	95.7	93.2	98.1	93.7	97.6
Mean years of schooling	6.2	7.3	6.7	7.7	5.2	6.2	5.6	6.5
Share on earned income	26.1	73.9	26.6	73.4	26.3	73.7	24.7	75.3

Note: F = Female ; M=Male

Source: National Human Development Report, 2004

However, the factors of labor force and sharing of income show a different pattern; women in West Java have certainly made progress, as reflected by the increase of their labor force at around 0.7% and about 0.5% in terms of share on earned income; meanwhile for men the opposite has taken place: men in the labor force and their share in the earned income have declined about 0.7% and 0.5% respectively. With respect to Cianjur, the pattern is different from the West Java figure. In this district, female labor force increased slightly (0.2%) during the period of 1999–2002, while their share on income decreased at around 1.6%. Male labor force, during the same period, decreased slightly (0.2%); however, their share of income increased at about 1.6%. The low share of earned income among women is due to the fact that the majority of women work in agricultural sector and services with the status of self-employed and family workers, often unpaid. Further, it is reported that the wage of women in Cianjur, who work in non-agricultural sector, was also lower than that of men, about 193.141 thousand rupiah and 280.331 thousand rupiah in 1999 and 2002 respectively, while among the men this was 311 thousand rupiah and 494 thousand rupiah for 1999 and 2002 (NHRD 2004).

The progress in achieving human development as mentioned above is likely to be supported by the fact that there are a decreasing number of poor people[6] in the province and Cianjur district level. In 1999, it was reported that the number of poor people in West Java was around 8.393 million, 19.78% of the total population of the province. By sex, it is reported that the number of poor women was slightly higher than that of men, about 4.198 million and 4.194 million respectively. Surprisingly that in 2002 the data show a sharp decline of the number of poor people in this province, only 4.938 million people or almost 4 million people (Biro Pusat Statistik 2003). By sex, this situation shows marked difference to it in the year 1999; when the number of male poor people was slightly higher than those of women. This is probably due to the Law No.9 of 2000 regarding gender mainstreaming in development program which caused the regional government to prioritize women as the target group of various development programs.

2.3 Kemang Village

2.3.1 Geography

Kemang Village is one of the villages of the Sub-district of Bojong Picung, Cianjur District, located in the southern part of West Java. The village is situated between Sukaratu village to the north, Cililin Subdistrict (Bandung District) to the south, Sukarame village to the west and Cihea village to the east. It is situated around 7 kilometers from the sub-district capital, 25 kilometers from the district capital, and 62 kilometers from the provincial capital or around 140 kilometers from the Capital City, Jakarta (see Figure 2.1).

Although located in a remote area, it is not difficult to reach the village, as it is supported by several transportation facilities. The route to reach the village is Jakarta-Bogor-Ciranjang-Sukaratu-Kemang. From Jakarta or Bogor, there are many buses with Ciranjang as their destinantion. From Ciranjang we can continue the journey to Sukaratu by rural transportation, a mini bus, called *angkutan pedesaan*. From Sukaratu to Kemang, there are many motorcycle transportation facilities (called *ojeg*) and two old mini buses. The condition of road from Jakarta/Bogor to Ciranjang is very good, but from Ciranjang to Kemang is not quite good, as some parts are bad and potholes,

6 The criteria is poverty line, based on the Central Body of Statistic, which was Rp 8,333.000 in 1999 (Mizuno and Mugniesyah (2003).

especially in Bojong Picung village and Pangawaren, due to many trucks use the road for transporting banana leaves from the village to several cities in West Java Province (Bandung, Bekasi, and Bogor), Tanggerang at Banten Province), and Jakarta in almost every night. However, the availability of various transportation facilities seems to be one of the factors that stimulates the mobility (migration) of the Kemang people to the cities (Jakarta, Bandung, Bogor), or even abroad (mainly the Middles East).

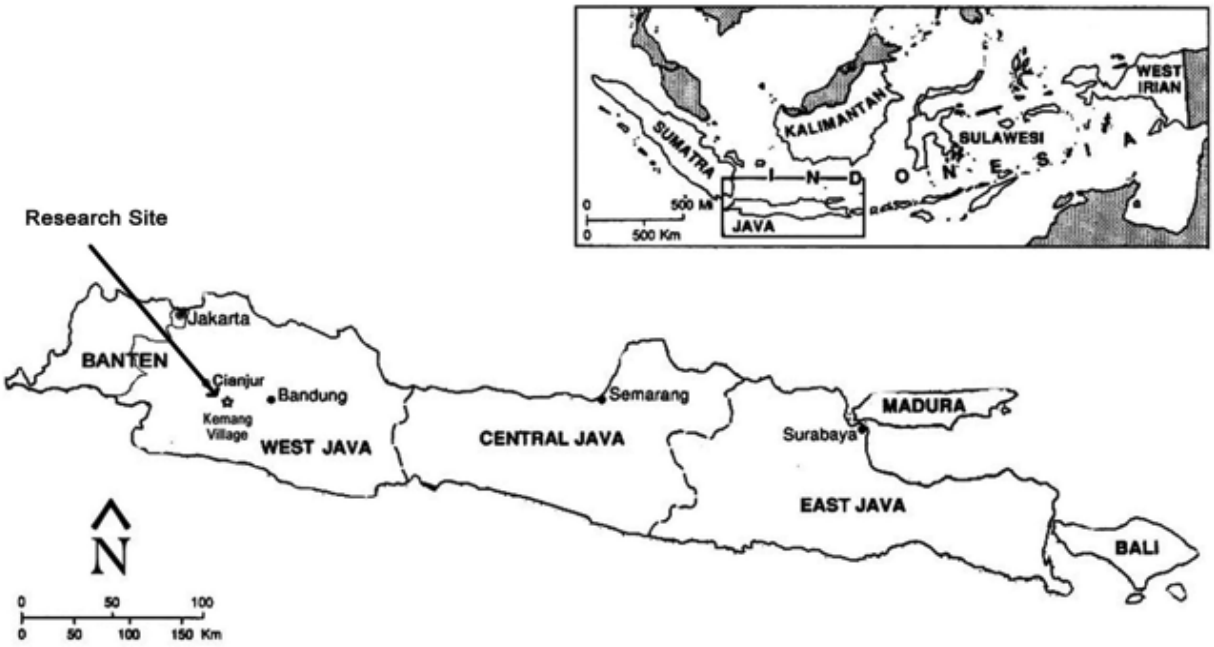

Figure 2.1 Location and Research Site and of Kemang Village, Cianjur District

Source: Location-map is modified from Map of Indonesia and Java in Husken and White (1987)

As an undulating village, Kemang is approximately 300-500 meters above sea level with topography that ranges from slightly sloping, hilly, to steep sloping. The soil type in this village is red yellow podzolic soil with the texture of sandy loam and structured from friable to heavy soil.

Based on Oldeman categories of climate types, the climate of the village Kemang is in C-2 classification with the average rainfall rate around 1945 mm/year, and the length of the period of rain is 129 days per annum. Wet season is between November to June; meanwhile dry season is between July to October (Fakultas Kehutanan, 1996).

Administratively, the village is divided into three *dusun* (sub-villages); and like other upland Sundanese villages, each *dusun* consists of a number of hamlets (*kampung*), which are scattered

over the whole village territory and linked by foot tracks. There are 22 hamlets that are unevenly distributed into three sub-villages (*Dusun*). *Dusun* I covers 7 hamlets (Kalapa Condong, Beber, Cikupa, Sawah-jeruk, Kawung-luwuk, Mujit and Muncang-nunggal), and *Dusun* II covers 5 hamlets (Kemang, Dukuh, Cibuluh, Cimenteng and Kopeng). The remaining 10 hamlets are in *Dusun* III, namely Jaringao, Jakapari, Cikoneng, Cikaret, Cigunung, Bojong-gaok, Cibentang, Cimurah, Babakan-sawah and Cisuren (see Figure 2.2).

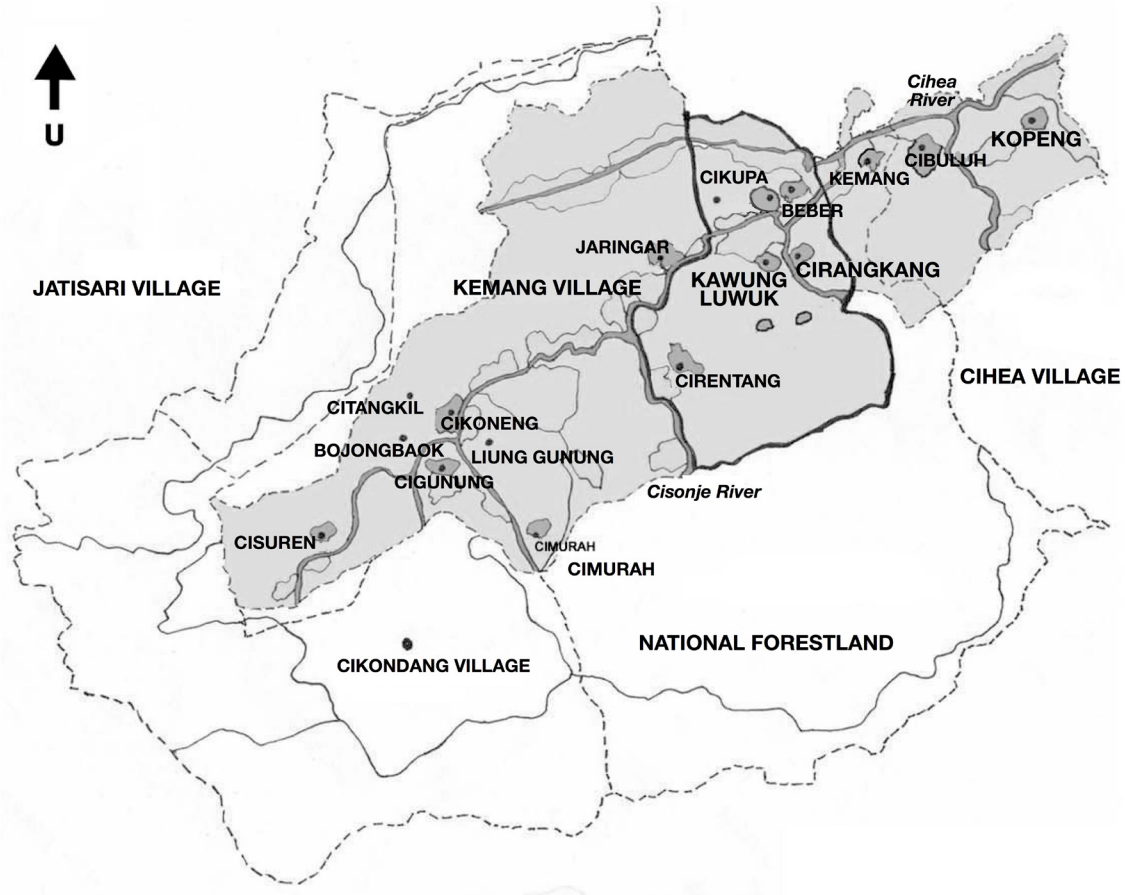

Figure 2.2 Map of Kemang Village

Source: drawn by E. Kusumah, an extension agent of PMDHT (Integrated Forest Village Community Development Program), 1998.

There are 10 small rivers flowing through the Kemang village which supply water to the paddy field or block of *sawah* in this village: Cihea, Cisarua, Cikupa, Cirangkong, Citanggul, Ciawitali, Lebak Ciparanje, Lebak Cimenteng, Lebak Baranangsiang, and Gunung Julang. Cihea is watering about six blocks of *sawah* in hamlet of Cikoneng and Jaringao: Tangkalo, Jaringao,

Leuwi Bangkok, Cikoneng, Cikaret and Cigunung. Cisarua is watering two blocks of *sawah*: Cikakak and Cibentang, both of them are located in Cibentang hamlet. Cirangkong is watering three blocks of *sawah* in Kawung Luwuk and Mujit hamlet, and Gunung Ceumpa in Kemang hamlet. The area of *sawah* in Kopeng hamlet consists of three blocks: Sapei, Leuwi Badak, and Baranangsiang, which are watered by three small rivers and/or spring: Citanggul, Cihea and Lebak Baranangsiang.

2.3.2 Land Use in Kemang Village

The study village can be divided into three distinct ecological systems, each having its own agricultural pattern. One ecosystem of this village is the rice fields (*sawah*), which are located in the lowest areas. There is no technical irrigation in this village; the farmers consider the irrigation systems they use are simple, as the source of the water comes from small rivers/streams in the village and among them Cihea and Cikupa rivers are noteworthy. Another ecosystem, consisting of dry land or *pasir* and national/state forests, shows the characteristics of the uplands. Farm plots are found scattered over almost all the hamlets in the village. The rest of the total area consists of different plots: settlement, village office area, school building, social facilities and cemetery ground.

Table 2.6 shows the data on land use of Kemang village. The village represents the upland area, which is surrounded by the National Forest Land.

As it is seen in Table 2.6 of the total village area, which is around 2,529 ha, 43.5% (around 1040 ha) is the National Forest Land (NFL), consisting of 135 ha as conservation forest and 905 ha as production forest. The forest facilitates the emergence of several springs and among them Sirah-cai, Cikupa, Cirangkong, Cingoyar, Ciparanje, and Cisuren are noteworthy.

As mentioned earlier, there are two types of agricultural land, which are important to the peasant households in the village: *sawah* (paddy field) and *pasir* (dry land). The land that belongs to the Kemang people are around 963 ha, consisting of 87.8 ha of sawah (3.5%) and 878.61 ha (35.9%) of *pasir.* The *pasir* owned by the Kemang people spread throughout the hamlets of Kemang village; while the *sawah* are located not only in the village but also in the low-land areas surrounding Kemang, such as Bojongpicung, Sukaratu and Cibarengkok. Due to its location in

the upland area, the number of ponds in Kemang village is limited, about 0.25% of the total land, which are scattered over the hamlets in the village. Similar to the upland villages in West Java, there is no communal land such as *tanah bengkok*[7] in this village.

Table 2.6 Distribution of Land in Kemang Village by Type of Use in 1998

No	Type of Use	Hectare	%
1	National Forest Land		
	a. Conservation Forest	135.15	5.65
	b. Production Forest	905.40	37.83
2	Dry Land (pasir)	878.61	36.71
3	Paddy field		
	a. Simple Irrigated Paddy-field	50.00	2.09
	b. Non-irrigated Paddy-field	32.78	1.37
4	Settlement	23.06	0.96
5	Road	16.00	0.67
6	Village Land (Titisara)	13.51	0.56
7	Home yard	12.96	0.54
8	Cemetery	6.40	0.27
9	Pond	5.63	0.24
10	Building	0.79	0.03
11	Others	313.14	13.08
	Total	**2,393.41**	**100.00**

Source: Monograph of Kemang Village, 1998

A part of the village land (*tanah titisara*) which is all in the form of the dry land, partly is allocated for the poor household where the landless obtained permition from the village government to build their temporary houses before they have in theirown land. In Beber hamlet, there are three poor households and their houses are located in the *titisara*. Besides, the village land is also allocated for the building of the Village Cooperative, called *Wana Mukti*. Due to undulating condition and limitation of the flat area in this village, the majority of houses in Kemang village do not have home yard or backyard as demonstrated in the table, i.e., only 0.5% of home yard in the village.

It is known from the observation and in-depth interview with informants and many respondents that there are some rice fields that currently change into settlement and/or leaf banana

7 *Tanah bengkok* is paddy fields assigned to village officials for their private use (Kano, 1977).

trees garden, as monoculture due to the population pressure and economic reasons. However, the village officer did not notice and did not record these changes into the Monograph of Kemang Village. It is interesting to note that the data on land use available in the Monograph of Kemang Village of 2003 is same as the data available in the monograph of 1998.

2.3.3 Demography Characteristics

The following table supplies some information regarding the distribution of population of Kemang village according to age group and sex category (see Table 2.7).

Table 2.7 Distribution of Population of Kemang Village by Age Group and Sex, in 1998

Age Group (Year)	Male		Female		Male and Female	
	Number	%	Number	%	Number	%
0-6	390	9.0	423	9.7	813	18.7
7-12	330	7.6	300	6.9	630	14.5
13-15	311	7.2	309	7.1	620	14.3
16-25	405	9.3	380	8.7	785	18.1
26 -50	392	9.0	382	8.8	774	17.8
51-75	283	6.5	267	6.1	550	12.7
> 75	100	2.3	74	1.7	174	4.0
Total	**2211**	**50.9**	**2135**	**49.1**	**4346**	**100.0**

Source: Monograph of Kemang Village, 1998

As can be seen in the table, the population of the study village is 4346, where male slightly outnumbered female, i.e. 50.9%. The reason for low number of females is attributable to the fact that some of the female household members were working in the cities both domestic and abroad including the Middle East as migrant workers. As for age group, the distribution of male and female population in the village is nearly similar.

The highest percentage of the population is in working age (above 15 years), about 52.6%, where the percentage of the working age among male is slightly higher than female by 2%. Around 18.7% of children under 5 years old and pre-school children, followed by around 14.5% of children in elementary school age. The male in aging group is slightly higher than that of the female.

According to village monograph prepared in 1998, the number of household was about 1052, meaning that the average number of the household member was 4.1. It seems that the family

planning in Kemang village is successful, as the average number of the household is similar to the number suggested by *Badan Koordinasi Keluarga Berencana Nasional* or *BKKBN* (Family Planning National Board).

2.3.4 Land Ownerships

The data on the distribution of landholding households in Kemang according to land size category as reported in Kemang Village Monograph of 1998 (See Table 2.7) can be found in Table 2.8.

Table 2.8 Distribution of Households in Kemang Village by Land Size Category in 1998 (in hectare)

No.	Land Size Category (ha)	Number	%
1	Less than 0,1	384	36.6
2	0.1-0,5	336	32.1
3	0,6-1,0	192	18.3
4	1,1-1,5	71	6.8
5	1,6-2,0	56	5.3
6	3-5	6	0.6
7	6-8	1	0.1
8	9-10	2	0.2
	Total	**1048**	**100.0**

Source: Monograph of Kemang Village, 1998

As seen in Table 2.8, there are 1,048 households who own land; the majority of whom own less than 0,1 ha (36.6%), followed by 32.1% and 18.3% of those who own land in 0.1–0.5 ha and 0.6–1.0 ha categories respectively. Only about 12% households have 1–2 ha of land, while the rest consists of almost 1% household who own more than 3 hectares. Unfortunately, the data shown in the table reflects the total land, without differentiating it into two types of agricultural land owned by households: rice field (*sawah*) and dry land (*pasir*). Kemang people also access and gain control over National Forest Land, either legally -through Social Forestry Program and PHBM- or illegally. According to an informant of the village office, there were 500 ha of the total Perhutani's land (1,400 ha) cultivated by Kemang people.

2.3.5 Employment Structure in Kemang Village

The data on the distribution of Kemang people by type of occupation is presented below in Table 2.9. However, no sex-disaggregated data is available in the document, since official village records do not differentiate the working age in the village by sex.

It is already mentioned above that almost 52.6% of Kemang village population is in working age category. The data above includes household members who work in more than one type of occupation. As a matter of fact, it is usual for peasant household to diversify their economic activities for obtaining income and/or products necessary for their daily food consumption.

Table 2.9 Distribution of Kemang Population by Type of Occupation in 1998

No	Type of Occupation	Number	%
1	Agriculture Farmer		
	a. Paddv-field Owner	265	12.8
	b. Dry-land Owner	316	15.3
	c. Labor	283	13.7
	Sub Total	864	41.8
2	Livestock Farmer		
	a. Sheep	200	9.7
	b. Chicken & duck	457	22.1
	c. Buffalo	11	0.5
	Sub Total	668	32.3
3	Pond Owner	25	1.2
4	Small Industry Owner	55	2.7
5	Services		
	a. Civil Servant	86	4.2
	b. Private	250	12.1
	c. Transportation	20	1.0
	Sub Total	356	17.2
6	Trader	35	1.7
7	Carpenter	52	2.5
8	Others	11	0.5
	Total	**2066**	**100.0**

Source: Monograph of Kemang Village, 1998

In Table 2.9 above, around 75% of occupation types consist of farmer (41.8%), livestock (32.3%) and fish raisers (1.2%) respectively. The other consists of those who work in services (11.23%), trader, carpenter and small industry (each less than 1.5%). It means that the environment

strongly influences the work of the people not only in the agricultural sectors but also in the non-agricultural sectors. People who work as trader usually consist of leaf and fruit banana traders, brown sugar producers and traders, wood factory managers, palm tree traders, as well as small shopkeepers. Except for brown sugar trading and small shop keeping, the other activities are exclusively the occupation of men. Women were engaged in small shop keeping, civil servants (elementary school teachers), and small-scale traders of brown sugar.

The categories of women's occupations in the villages were fewer than men and this is one of the reasons why many women work outside the villages as temporary migrants who work in services sector, especially in the private sector. Domestic (home) worker is an important occupation usually for unmarried women and many people are engaged in this occupation in big cities such as Jakarta. As mentioned earlier, currently a significant form of migrant occupation is overseas labor in the Middle East Countries, especially in the Kingdom of Saudi Arabia.

2.3.6 Level of Education

The data on the level of education of the villagers, especially of 1998, are not available. Hence, data from 1999 is used to understand the villagers' level of education. Table 2.10 shows the data on the distribution of Kemang population according to level of education.

Table 2.10 Distribution of Kemang Population by Level of Education

No	Level of Education	Number	%
1	No Schooling /Illiterate	1669	38.5
2	Unfinished Primary School	45	1.0
3	Finished Primary School	2350	54.2
4	Junior High School	150	3.5
5	Senior High School	112	2.6
6	Academy/University	9	0.2
	Total	**4335**	**100.0**

Source: Monograph of Kemang Village, 1999

As seen in Table 2.10, the majority of people (54%) in the village finished their elementary school. This may be due to the "Learning Compulsory Program" (*Program Wajib Belajar Pendidikan Dasar* or *Wajar Dikdas*) and SD *Inpres* (Presidential Instruction Primary School) introduced by the government in 1973. There are four elementary schools in Kemang: SD Beber, SD Baranangsiang,

SD Kemang and SD Liung Gunung. Above the primary level, the higher the level of education the lower the percentage of Kemang people who attended the educational program.

As mentioned earlier, this village is located in a remote area and categorized as the IDT' Village where no facilities of junior and senior high school are available. The higher-level schools are located in the capital of sub-district Bojongpicung, about 7 km from Kemang. Except for those who have larger land or the children of civil servant (*Pegawai Negeri Sipil* or PNS), the transportation cost is unaffordable for the poor. Since the higher-level school is located in Bojongpicung, parents must have enough money to pay for transportation cost for their children to attend the school. Therefore, only the children of parents who have larger land or parents who work as civil servant (PNS) can meet the necessary expense of transportation. Before the economic crisis that hit Indonesia, the transportation *ojeg* cost was 2000 rupiah and increased to 3000 rupiah after the crisis was over. At the same time, the price of rice also increased significantly. Those who attended higher level of education were the children of households with larger land holdings, and of elementary school teachers who had themselves acquired their education by attending higher educational extension program conducted by the private university in the capital city of West Java, Bandung.

2.3.7 The Administrative Institutions

The administrative institution of the Kemang Village consists of the Head of the village, village secretary, five head of affairs (*kepala urusan pemerintahan*) i.e., government, development, people welfare, and general; and heads of hamlets. During the first year of this study, the village administration in Kemang village was still under the regulation of the Act No. 5 of 1979, where the Village Office consisted of *Kepala Desa* or Head of the village and *Lembaga Musyawarah Desa* (LMD) or Village Consulting Institutions. The latter institution was also administered by the Head of the village. In other words, the head of the village could control the LMD. Besides, there was a village level institution responsible for implementing the rural development program, called *Lembaga Ketahanan Masyarakat Desa* (LKMD) or Village Community Security Institution. Under the reform era, the government launched Act No.22 of 1999 on Local Administration that abolished the Basic Act No.5 of 1974 on Local Administration. The LMD was abolished

and replaced by the *Badan Perwakilan Desa* (BPD) or Village Representative Body, while the LKMD was replaced by the new institution called *Lembaga Pemberdayaan Masyarakat* (LPM) or Community Empowerment Institution.

The LPM of Kemang Village was established in 2001 based on the Letter of Kemang Village Regulation, Sub-district of Bojong Picung, and District of Cianjur No. 141/03/XI/Pm/2001. The main function of the LPM is to support the Village Office for making the annual village development programs and to implement them. The structure of LPM consists of the head and the vice of head, secretary and vice secretary, treasurer and vice-treasurer including 10 sections regarding development programs. Further, in 2002, a new village institution was established in order to replace the old system. The main functions of the LMD are to control the head of the village and other village institutions in implementing the rural development program. Therefore, different from the former institution called LMD, the BPD has strong authority, including the power to propose the dismissal of the Village Head. In contrast, the Village Head has no right to interfere into the BPD.

As mentioned earlier, there is no *tanah bengkok* in Kemang village; therefore Kemang people financially maintain the village institutions. As there is no *bengkok* land, the salary for village apparatus is obtained from the villagers that depend on the economic status of the household. For those who own land, the levy, called *urunan*, is determined based on the agreement established in 1975 which was known as *Pokok Pajak Sarupia*, a formula that one rupiah is equal to 35 kg of rough rice. The *urunan* is classified according to type and class of land, as shown in Table 2.11. For the *guntai* land the formula is 45 kg per one rupiah. Those who cultivated the Perhutani's land must pay about 20% of the rice or other products to *Mandor* (supervisor) of Perhutani. For those who run trading business, the levy is 2%.

Besides, there is another source of income for the village apparatus especially drawn from the levy called *Pajak Bumi Bangunan* (PBB). Different from the *urunan*, the regulation in determining the PBB is simpler. The PBB for *sawah* is differentiated into two categories: Class I (A38) and Class II (A40) which are equal to 71,150 rupiah and 35,000 rupiah per hectare. Regarding the

pasir, the levy is the same without the class category differentiation, and the amount is the same with the Class II of *sawah*: 35,000 rupiah per hectare.

Table 2.11 Formula of *Pokok Pajak Sarupia* (Land Levy) for Village Apparatus Salary in Kemang Village

Type of Class	*Sawah* **(paddy field)**	*Pasir* **(dry land)**
I	Rp 7,4 x 1 (ha) x 35 kg	Rp 1,5 x 1 (ha) x 35 kg
II	Rp 5,6 x 1 (ha) x 35 kg	Rp 0,7 x 1 (ha) x 35 kg
III	Rp 3,9 x 1 (ha) x 35 kg	Rp 0,35 x 1 (ha) x 35 kg
IV	Rp 2,8 x 1 (ha) x 35 kg	none

Note: Rp. = Rupiah

Source: Document of Kemang Village, 2000

Different from the *Pajak Pokok Sarupia*, the PBB regulation is determined by central government, which is the same throughout Indonesia. Different from the *urunan*, the PBB is collected by the head of *dusun* or sub-village (*punduh*). There is a share for the *punduh* that is already determined by central government (5.4% of the total Village's PBB). In Kemang village, the *punduh* gets only 3.4% of the PBB that he collected; the remaining is for the other village apparatus including the village head, based on the agreement.

Regarding the village head, according to an informant who is also a former village head, Mr. HTB, the first village head in Kemang village, was his grandfather (Ama HNH) who held the status as the village head for two periods during 25 years between 1889 and 1914. The second village head was Mr. HSA, the younger brother of the first village head or the uncle of the informant; who held the position for the next 33 years (until 1947). Mr. HTB himself held the status of village head for 23 years for three periods: from 1948 to 1952 (4 years), from 1952 to 1959 (7 years), and from 1968 to 1979 (9 years). During the period of 1960 to 1965, the village head was held by Mr. S and followed by Mr. AS who became the village head of Kemang only for 5 and 2 years respectively. As Mr. AS resigned, the informant continued to be the head of the village according to the demand of Kemang people. Since 1980 the village head is Mr. JA who will hopefully finish his term in 2006.

From in-depth interview with another informant, who is the son of Mr. S, the present village head, it is known that the village head was elected without any competition, as the competitors had to step back due to his intimidation. Many informants as well as our respondents think that the current village head leadership adopts the principle of *laissez faire*.

2.3.8 Rural Development Intervention Programs in the Village

Under the Suharto Era, Kemang Village was categorized as a backward village, referred to as *Desa* IDT (*Inpres Desa Tertinggal*) receiving Presidential Aid for Least Developed Villages Program. Many rural development programs have been introduced to the Kemang people, i.e. IDT Program, Social Forestry (PS), and Integrated Forest Village-Community Development (PMDHT) as well as programs by the Cooperative Department and Industry Department (on the district level).

IDT Program was introduced in the period of 1994-1997, while the Social Forestry (SF) program was introduced by the Perum Perhutani, Unit III of Jawa Barat in cooperation with Bina Swadaya, a big NGO in Indonesia. The objective of the SF in Kemang Village was especially to give opportunity to the poor households to participate in the cultivation in forest areas in order to improve their welfare and to sustain the forest and environment. A package of technology and institution was introduced through the Social Forestry to a targeted group which consisted of: (a) the right to cultivate 0.25-0.5 ha of forest land for food-crops and wood tree; (b) the technical know-how on sylviculture which benefit both sides (people and the *Perum* Perhutani); and (c) the "*Insus Tumpangsari*" credit, including the subsidized fertilizer, agricultural inputs without interest, and the cost of land preparation. To increase the effectiveness of the SF program, the farmers were grouped as "*Kelompok Tani Hutan*" (KTH) or Forest Farmer Group.

The Social Forestry program was introduced in three stages in the years 1986, 1991 and 1992. The location of Social Forestry is in Forest Covering Resort (*Resort Pemangkuan Hutan* or RPH). The location of Social Forestry in 1991 and 1998 was in Cingoyar area, about 4 to 5 km from the two hamlets, while in 1992 it was in the Blok Arca in the same distance to the settlement. The total area was 54 ha, 25 ha and 19 ha, while the number of households who participated was 216, 100 and 76 households, respectively for 1986, 1991 and 1992.

This met up with the practical gender needs for household members. In order to maintain the water reservoir, every household pays about 500 rupiah per month to Mr. U as levy, who was also the head RT in *Dusun* I and a head of Forest Farmer Group in Cikupa hamlet. In addition to this, the SF also helped the Kemang people by constructing a small water dam for supplying water to about 12 ha of paddy field in Sawah Tengah.

In line with the introduction of Pilot Model on PMDH in June 12, 1995, the institution called *Kelompok Kerja Operasional*[8] (*Pokjanal*) PMDHT Desa Kemang was established. This was consisted of the head, secretary and treasurer and the members. The head of *Pokjanal* is the head of LKMD, while the Village Head is the *pembina* (supervisor). There were 11 *Pokjanal* members; only two women were involved as the member, with the responsibilities for PKK[9] and Health and Family Planning sections. Besides, there were 9 coordinators under the *Pokjanal* PMDHT bearing the name according to the types of productive activity: (1) agroforestry within village or *agroforestri dalam kawasan*, (2) agroforestry outside village or *agroforestri luar kawasan*, meaning in National Forest Land. For agroforestry within village, the Perhutani introduced water reservoir and also gave the oportunity for Kemang people to attend several training, especially training on: honey bee raising, granular brown sugar processing, making fried and dried banana chips (*keripik dan sele pisang*), Garut Sheep or *domba Garut* raising, duck raising, and making furniture. After the training the partisipants should be able to establish economic productive groups which are named according to the training they participated. Unfortunately, none of this training involved women, and women were even debarred from the domestic domain of *Pokjanal* i.e., brown sugar, fried & dried banana chips, and duck rising. It is occured as all the trainings were conducted in Garut District, which is located about 160 kilometers from Cianjur District. Since the trainings

8 *Pokjanal* or Operational Task Group was established to manage the Integrated Forest Village Community Development Program which was introduced by the Perhutani (National Forest Corporation).

9 PKK is *Pembinaan Kesejahteraan Keluarga* (Family Welfare Movement) is an oraganization under the Ministry of Internal Affairs. Structurally, the PKK organization co-exists with the government organization, and the person who holds the leader position of the PKK is the wife of the administrator, from central to village level.

are conducted outside the village, the Head of LKMD as well as the village head assumed it is not suitable for women to attend as it could disturbe their daily activities.

In response to the economic crisis in 1997-1998, the government introduced *Jaring Pengaman Sosial* (*JPS*) or Social Safety Net program for Kemang people through various projects, which were consist of: (a) *Proyek Pemberdayaan Daerah Dalam Mengatasi Dampak Krisis Ekonomi* (PDM-DKE) or Regional Empowerment Project in Coping with the Impact of Economic Crisis, (b) *Program Operasi Khusus* (*Opsus*) or Special Operation Program, and (c) *Sembako gratis* (free staple food) which consisted of rice, vegetable oil, sugar and noodles. With regard to PDM-DKE, about 68 million rupiah was allocated to the villagers, especially through activities such as the public work construction (34 million rupiah*)*, subsidiary for the cooperative whole sale shop managed by *Karang Taruna* (Village Youth Group) and cooperative Wana Mukti (15 million and 10 million rupiah respectively), and micro credit (8 million). The activity of the public work construction is focused on rehabilitating the village road and a small bridge in Beber hamlet (300 meters length including the bridge). About 300 hundred people were involved in this activities; the majority was from Beber hamlet, the hamlet where the activities were conducted (Mizuno and Mugniesyah 2003). The *sembako gratis* was managed by a leader of the village who happened to be a teacher of the elementary school. However, as the informant told the researcher, many of the households who had accepted the packet were not the poor; but rather, they are the relatives of the leader. With respect to *Opsus*, during the period of 1998–2000, about 250 households accepted the tickets that facilitated them to buy 10 kg of rice per month at 1the rate of 1000 per kg. Similar to the *Sembako gratis* package, not all the *Opsus* tickets were allocated to the poor households.

2.4 Conclusion

With a population of around 37 million, West Java province has become the biggest populated province in Indonesia. Due to the presence of high potential agricultural land, the majority of the West Java‘s labor force, irrespective of women or men, are working in the agricultural sector, while the rest are working in service and trade in the second and third rank. This causes the majority of them to have the employment status as self-employed with family labors and/or family workers. However, by location there is a slightly different pattern; in the rural area they work

predominantly in the agricultural sector, followed by trade and services, while the female labor force predominantly work in services, trade and industrial processing. By employment, in rural areas most of them also work as self-employed and employee, while in urban area they work as employee predominantly. A similar pattern is also found in Cianjur District.

The majority of the population of two regions is Sundanese (73%), whose kinship system is bilateral where women and men are equal in their family life. According to Indonesia Human Development Report of 2004, the human development achievement in the two regions shows a little progress during the period of 1999-2002; however, due to low awareness among policy makers and development practitioners, gender inequality still persists, as shown by the value of the GDI which is lower than the HDI.

With regard to Kemang village, land resources consisting of *sawah* and *pasir* make the majority of villagers work in the agricultural sector. As the land owned by villagers is relatively restricted, the majority of the household in the village own small plot of land, about 59% own land less than 0.5 ha. On the other hand, as the forest that belongs to the National Forest Corporation (Perum Perhutani) is located in this village, the villagers also have access to the forest. This situation causes the majority of the villagers, men and women, to have employment status as employee with family workers, and family workers. Besides, the peasant household members also work in service sector. In this sector, men tend to work as *ojeg* drivers and carriers wage labor, while women tend to work as migrant workers in the cities of West Java, even abroad like the Middle East countries.

Due to the fact that the majority of the Kemang people have less access to land and are also poor, the government under Suharto Era introduced various rural development schemes through IDT, Social Forestry and PMDHT programs. In line with this program various institutions such as *Pokjanal*, farmer groups and cooperatives were established to support the programs. However, most of the programs and the institutions were dominated by men. Under the reform era, women as well as men started to enter into the public domain, especially regarding the participation in village council.

Regarding the low standard of life of the Kemang villagers, the government under the Suharto Era introduced several rural development programs e.g., Social Forestry, and PMDHT programs. After the reform era the democratizing process started, and new institutions especially LPM and BPD were introduced to replace the LKMD and LMD. Different from the Suharto Era, after the regional autonomy was established, in line with the gender mainstreaming in national development programs, women found scope to participate in the village council.

CHAPTER 3
CHARACTERISTICS OF PEASANT HOUSEHOLD AND FARMING IN KEMANG VILLAGE

3.1 Introduction

To understand the current situation of peasant households in Kemang, this chapter describes the characteristics of peasant households of Kemang village based on a full enumeration survey conducted in the two hamlets, Beber and Cikupa (further called Kemang). This includes several aspects i.e., demography, ownership land and tenure, participation in local organization and institutions, housing condition and farming system. In terms of demography, it includes the characteristic of household members by marriage status, age structure, the average number of household members, attainment of education and employment.

As discussed in Chapter 2, there are two types of agricultural land having important bearing on the life style of the Kemang people. These are *sawah* (rice field) and *pasir* (dry land). The peasant households are managing both types of land by cultivating rice in *sawah* and performing traditional agroforestry called *huma-talun* in their *pasir*. Undoubtedly, both the farming practices are central to the peasant household livelihood. This chapter will therefore give a general overview on both farming systems, to understand the existing knowledge and practice among the peasant households. Such information is important for analysing gender relation in household economy and household food security, which will be presented later in Chapters 5 and 6.

3.2 Demography

3.2.1 Marital Status and Composition of the Households

Table 3.1 shows the distribution of enumerated household members in Kemang Village according to marital status and sex.

As it is seen in Table 3.1, 644 members were enumerated in 165 households. In terms of marital status, the households consist of 25% married men and 25% women. However, there is a

slight difference for the status of single or not married, which is around 25% for men, while for women it is 21%. The rest consists of widows, where the women are slightly higher than men, almost 3% for women and only 1.9% for men. The majority of the couples in the households were born in the same village. However, most of the couple were born in different hamlets of the same village, except those who are younger, some of whom married wives from different sub-districts and/or districts in West Java, such as from Cianjur, Sukabumi and Bandung. Polygamy was found only in two cases among the 165 households in the two hamlets.

Table 3.1 Marital Status of Household Members in Kemang Villages (1998)

Marital Status	Men		Women		Total	
	Number	%	Number	%	Number	%
Married	159	24.7	159	24.7	318	49.4
Not Yet Married	160	24.8	134	20.8	294	45.7
Widow/Widower (Died)	3	0.5	7	1.1	10	1.6
Widow/Widower (Divorced)	9	1.4	13	2.0	22	3.4
Total	**331**	**51.4**	**313**	**48.6**	**644**	**100.0**

Source: Fieldwork, 1998

The average age of first marriage among the adult married household members is different according to sex: about 21 years for men and 16.4 years for women. However, the figure differs significantly according to marital status. Among those who are married, the average is similar to the total households; while those among widow/widowers, the average age of first marriage is about 15 years for women and about 18.8 years for men. This reflects a typical Sundanese community, which tends to encourage the girls to marry at a young age, usually after they graduate from elementary school, even before puberty. The parent of the older generation among the Sundanese would usually be ashamed if their daughters got married at an older age. Furthermore, interestingly there are different figures in terms of the number of times married according to marital status. Men have been married 1.6 times, whereas the women are slightly lower, about 1.4 times; while among widows and widowers it is about 2.5 times and 1.8 times respectively. In other words, the number of times married among widows is higher than that of the widowers. This is related to the fact that women marry at a younger age compared to men.

Table 3.2 shows some information regarding the composition of the enumerated households by types of family. The majority of enumerated households include a married member, and most of them are the nuclear type of family made up of parent(s) with or without children (80%), and the rest is extended family type (20%). As seen in the table below, 10% of the nuclear families consist of elderly husband and wife, whose adult children are married and live separately, and a family in which several generations live in one household. The extended families found in the two hamlets vary in nature and they are found in four types. However, the highest percentages are those, which consist of husband and wife with either married or unmarried children or grandchildren.

Table 3.2 Composition of the Enumerated Households in Kemang by Type of Family in 1998

Type of Family	Num	%
1. Nuclear family		
Husband and wife with unmarried children	99	60.0
Divorce Mother with unmarried children	3	1.8
Widowed Father with unmarried children	3	1.8
Widowed Mother with unmarried children	5	3.0
Elderly Husband & Wife	17	10.3
Widower living alone	5	3.0
Sub Total	**132**	**80.0**
2. Extended family		
Husband and wife with unmarried children and a parent	5	3.0
Husband and wife with married and unmarried children and grand children	19	11.5
Husband and wife with unmarried children and divorced or widow/widower and grand children	4	2.4
Widowed father with married/unmarried children and grandchildren and father in law	5	3.0
Sub Total	**33**	**20.0**
Total	**165**	**100.0**

Source: Fieldwork, 1998

It is occurred, as explained in Chapter 2, the land which allocated for settlement in Kemang Village is less than one percent of the village total land. This settlement is scattered in 22 hamlets which unevenly distributed in three sub-villages. This condition along with the fact that most of the surveyed peasant household are landless and poor[1], and had their adult married children -with or without children- lived with their parents.

1 Of the total surveyed household in the two hamlets (165 households), about 92 households are living in Cikupa hamlet, and about 37% of the household are landless (Mugniesyah and Mizuno, 1999). Further, Mizuno and

3.2.2 The Average Number of Household Members

The two hamlets have an average of 3.9 persons per household by comparison with 4.1 for the whole village. However, in fact, the number of household members varies. Interestingly, there are about 69 households who have only 2–3 household members. This is because about 29 households (17.6%) have no children. The average number of households is four (4) among 46 households (29%). Further, about 34 (20%) households have 5–7 members, while the rest about 11 households (7%), which have more than 7 members. The following is the composition of household by the age group and sex (See Table 3.3).

Table 3.3 The Distribution of Enumerated Household by Age Group and Sex in 1998

Age Group (year)	Men	Women	Total
0-4	1.6	2	3.6
5-9	5.9	7.3	13.2
10-14	6.5	6.4	12.9
15-49	29.1	26.8	55.9
50 and more	8.4	6	14.4
Total (in %)	**51.4**	**48.6**	**100**
Total (person)	**331**	**313**	**644**

Source: Fieldwork, 1998

Similar to the distribution of the population on the village level, the male members among enumerated households in Kemang were slightly outnumbered by women, i.e. 51.4%. Generally, the number of household members, which were not in working age, is almost 30% (under 15 years), while the remains are those (70%) who were in working age (15 years old and more), consisting of 37% and 33% for men and women respectively. In terms of aged the total household members, the percentage of male is slightly higher than that of female about 3%.

3.2.3 Level of Education

The level of education and age group for the enumerated households is presented in Table 3.4. Of the surveyed household members, those who finished elementary school are about 59% and 54%

Mugniesyah (2003) reported that in 1998 the number of households whose income is below the poverty line is still large, it was about 73 percent in Cikupa Hamlet.

for men and women respectively. Girls who attended junior and senior high school are about 7.3% and 2.2%, or lower about 1% and 2.3% respectively than that of the boys, while those girls who did not finish elementary school are higher than that of boys at about 2%. Similarly, those girls who did not attend school are higher at about 6% than that of the boys.

Table 3.4 Distribution of Household Members in Kemang by Age Group and Type of Education in 1998 (in %)

Age Group (years)	Type of Education						Total
	NAS	UES	FES	JHS	SHS	HE	
Men							
0 – 4	3	-	-	-	-	-	3
5 – 9	9.7	0.9	0.9	-	-	-	11.5
10 – 14	-	6.3	6.3	-	-	-	12.7
15 – 19	0.6	2.4	5.1	2.7	0.9	-	11.8
20 – 24	-	0.3	4.2	1.8	1.5	-	7.9
25 – 49	0.3	0.6	29.9	3.3	1.8	0.9	36.9
50 – 69	-	0.9	8.2	-	0.3	0.3	9.7
>70	0.9	1.2	4.2	0.3	-	-	6.6
Total	**14.5**	**12.7**	**58.9**	**8.2**	**4.5**	**1.2**	**100**
Women							
0 – 4	4.2	-	-	-	-	-	4.2
5 to- 9	13.1	1.6	0.3	-	-	-	15
10 to 14	1.3	7	3.8	1	-	-	13.1
15 – 19	-	0.6	5.4	3.2	0.3	-	9.6
20 – 24	0.3	0	7.7	0.6	0.3	-	8.9
25 – 49	0.6	1	30.4	2.2	1.6	1	36.7
50 – 69	0.3	3.5	5.8	0.3	-	0.3	10.2
>70	1	0.3	1	-	-	-	2.2
Total	**20.8**	**14.1**	**54.3**	**7.3**	**2.2**	**1.3**	**100**

Note: NAS = Not attended School; UES = Un-finished Elementary School; FES = Finished Elementary School; JHS = Junior High School; SHS = Senior High School, HE = Higher Education

Source: Fieldwork, 1998

According to the age group, the majority of household members, women as well as men who finished the elementary school, are in the 25-49 years group. Male household members who attended junior high school, are distributed between the age group of 15-19 years to 50-69 years, while female members are distributed from 15-19 to 25-49 years group. Interestingly, those who attended higher education irrespective of gender usually fell in the older age group: between 25 to

69 years old. They consisted of elementary school teachers who gained advanced education due to the need for achieving higher rank and status in the *Dinas Pendidikan Kabupaten Cianjur* (Cianjur District Educational Agency), as principal or as member of advisory council, especially in the sub-district of Bojong Picung.

Furthermore, this study found that the percentage of adult women who did not attend school was higher than those of men, about 2.2%. It seems that women have less access to education, as it is also found that there are about 9.7% and 13% of boys and girls in the pre-school and elementary school age group who have not attended school yet. Surprisingly, in the 10-14 years age group, there are 1.3% girls who did not attend the elementary school and 7% did not complete their elementary school, while among boys only 6.3% who did not complete the their elementary school. It means that there is a tendency that girls have slightly less access to education than the boys. This is probably due to the fact that most of the surveyed households are poor. There is a government program called *Wajar Dikdas* in Kemang village, which encourages the children -both boys and girls- to attend elementary school freely. However, in practice the parents still have to spend some amount of money for the cost of building as well as stationary and other necessities for learning at school, which the poor households cannot afford.

3.2.4 Employment Structure

Table 3.5 shows the distribution of enumerated household members according to occupation type. As seen in the table, of the total enumerated household members (644 persons), there are only 351 working persons, consisting of 53.6% men and 46.4% women.

As mentioned above, the remaining consists of those who are under five years, pre-school and school age, and the aged. As the main resource of household economy basically relies on agricultural land, the majority of household members (about 58%) work as farmers. Interestingly, the percentage of women household members working as farmers is higher than that of men at about 6.8%. According to the percentage the second place is occupied by men and women, who claim they work in two types of main occupation: farmer and home industry –as brown sugar producer. Farming and brown sugar industry are activities that require the couples to work jointly together. The percentage of men, who work in service industries and non-agricultural labor is

Table 3.5 Distribution of Enumerated Household in Kemang by Type of Occupation and Sex in 1998 (in %)

Type of Occupation	Men	Women	Total
Main Occupation			
1. Civil Servants	3.2	1.8	2.6
2. Farmer	54.8	62.0	58.1
3. Agriculture Labor	1.1	2.5	1.7
4. Non-Agricultural Labor	5.3	1.2	3.4
5. Trader	3.7	4.9	4.3
6. Home Industry	3.2	4.9	4.0
7. Service	6.9	2.5	4.8
8. Combination 2 & 6	18.6	17.8	18.2
9. Others	3.2	2.5	2.8
Total (%)	**100.0**	**100.0**	**100.0**
Total (N)	**188**	**163**	**351**
Subsidiary Occupation			
1. Retired Civil Servants	1.3	2.4	1.7
2. Farmer	24.7	28.6	26.1
3. Agriculture Labor	39.0	54.8	44.5
4. Non-Agricultural Labor	11.7	2.4	8.4
5. Trader	14.3	11.9	13.4
6. Home Industry	2.6	0.0	1.7
8. Service	6.5	0.0	4.2
Total (%)	**100.0**	**100.0**	**100.0**
Total (N)	**77**	**42**	**119**

Source: Fieldwork, 1998

higher than that of women. It is because the activities in service industries consist of *ojeg* driver and goods (agricultural product and daily goods bought by local people from Ciranjang market, sub-district market) carriers, while women who work in the service sector are migrant workers in the cities of West Java, Jakarta (capital city), or international migrant workers. Further, of the total surveyed household members who have jobs, only 109 people stated that they have a subsidiary occupation. Based on sex, the majority consists of men, about 65% higher than 30% if compared with women. Most of them worked as agricultural labor, followed by trader and non-agricultural labor. However, the percentages of women who work as agricultural labor are higher than that of men at about 15%. It seems that the farmers, who are aged, prefer to use family labor, especially women, not only in their *sawah* but also in *pasir.* Most of the household members, men and women, who work as traders usually run small shops where the daily necessary goods are sold. Those

who have their subsidiary occupation as farmers consist of civil servants, traders, and/or workers in the service sectors. Interestingly, although there were 54 landless households, the percentage of household members working mainly as agricultural labor was very low, about 1.7%. This is because they show preference to work in other sub-sectors/sectors such as trade, non-agricultural sector as well as in home industry, especially as brown sugar producer.

The data in Table 3.5 also reveals the fact that the rural households no longer depend mainly on farming. Because of the change of economic structure of Indonesia, employment structure in rural areas has also changed and the trend of accepting multiple occupations is well manifested among rural households in the Kemang village. From observation, it is found that many couples are working not only as farmers but also as traders, civil servants, and running small shops or home industries or engaging in brown sugar production. The last occupation is probably selected as many of the surveyed households in Kemang village own *aren* trees (*Arenga pinnata sp*.) as an alternative income source. Planting *aren* trees in *pasir* have also generated another occupation for local people: trading brown sugar (*gula cetak*) and/or *gula semut* (granule brown sugar) as well as producing and/or trading "*kolang-kaling*" (boiled *aren* fruit). Although about 54 households of the total surveyed household are landless, there is a "patron-client" relationship between the owners of the land with those who are landless. This patron-client relationship exist not only in farming (*sawah* and *pasir*) activities but also in the production of brown sugar. Interestingly, the patron is either husband or wife; especially who has access to and control over his or her own land, as well as owned *gono-gini* land the land belongs to the couple (*gono-gini*). Data on the working status of the enumerated household members is presented in Table 3.6.

Due to the fact that the majority of the enumerated household members work in the agricultural sector, most of the working status is self-employed and family worker (52.7%); followed by those whose working status is family worker (32.2%). By sex, interestingly, although majority of women work as family worker (52.2%), there are about 38.7% women who have working status as self-employed and family workers, as they have their own land and/or small shop usually maintained with help from their children and/or husband.

Table 3.6 Distribution of Household Members in Kemang Village by Employment Status, Occupation Category and Sex in 1998 (in %)

Employment Status	Men	Women	Total
Main Occupation			
1. Self-employed	8.0	4.3	6.3
2. Self-employed & family worker	64.9	38.7	52.7
3. Employee & Temporary Employee	2.7	1.2	2.0
4. Employee	9.6	3.7	6.8
5. Family Worker	14.9	52.1	32.2
Total (%)	**100.0**	**100.0**	**100.0**
Total household members (N)	**188**	**163**	**351**
Subsidiary Occupation			
1. Self-employed	13.0	2.4	9.2
2. Self-employed & family worker	19.5	14.3	17.6
3. Employee & temporary Employee	3.9	7.1	5.0
4. Employee	54.5	57.1	55.5
5. Family Worker	9.1	19.0	12.6
Total (%)	**100.0**	**100.0**	**100.0**
Total household members (N)	**77**	**42**	**119**

Source: Fieldwork, 1998

Furthermore, among those who have subsidiary occupation, the majority of their employment status is as employee, both women and men, as they dominantly work as agricultural and non agricultural labor. Currently, almost all the Kemang people are attempting to increase the cultivation of leaf banana trees in their *pasir* and even in *sawah* land located in remote areas. Hence, there is an opportunity for the poor household with or without land to work as leaf banana harvesters of the households with larger plots of land.

3.3 Land Ownership and Tenure

There are three types of land tenancy in Kemang village i.e., sharecropping (locally known as *bagi hasil* or *maro*), rent (*sewa*) and mortgage (*ngakad*). Sharecropping is a form of land tenure under which the owner of the land allows another person to cultivate land in return for half (50%) of the share of the produce. The system of renting land usually involves a cash payment by the tenant to the landowner before the tenant obtains the right to cultivate land. The term of *ngakad* is different from the system of renting, as landowner borrows some amount of money from others who lend him/her money and then he/she obtains the right to cultivate land as his/her own. The

period of *ngakad* is determined by reciprocal agreement; usually the period covers the time up to the repayment of the debt. These three systems are used as terms for land tenancy of paddy field and dry land.

As mentioned earlier, the total number of enumerated households in the two hamlets was 165 households; however, only 111 households had both or either *sawah* and *pasir* lands or one kind of land from the *sawah* or *pasir* categories; while the rest consisting of 54 households were landless. By type of land, only 86 of the total landowner households (111 households) had paddy field (*sawah*), but the number of households having dry land was higher, about 91 households. However, there were a number of enumerated households, which had access to other's land through sharecropping, mortgaging and renting. The figure has been presented in Table 3.7.

Table 3.7 Access of Enumerated Households to *Sawah* by Type of Land Tenure and Land Size in 1998 (in Number and %)

Land Size Category (ha)	Owned Land		Sharecropper		Mortgage		Rent	
	Number	%	Number	%	Number	%	Number	%
0,01-0.25	71	64.0	3	2.7			11	9.9
0,2- 0,5	8	7.2	1	0.9	34	30.6	3	2.7
> 0,5-1	6	5.4	2	1.8	7	6.3	-	-
> 1-....	1	0.9	-	-	2	1.8	-	-
Total	**86**	**77.5**	**6**	**5.4**	**43**	**38.7**	**14**	**12.6**

Note: The percentage above is to the total landowner households (111 households); the number of landowner households who have no *sawah* is 25 households

Source: Fieldwork, 1998

Of the total *sawah* owner households, the majority (64%) has small size of *sawah* (0.01–0.25 ha), while the rest consists of 7.2% who own *sawah* around 0.26–0.5 ha; and about 5.4% and 0.9% of those who own *sawah* in around more than 0.5–1.0 ha and more than 1 ha respectively. This may be due to the limitation of the rice field area in Kemang village (3.5% of the total area of the village).

Further, there are only four households with access to *sawah* by sharecropping and the size of land is also very small (less than 0.25 ha), while the number of households with access to land through *ngakad* is higher, about 38.7%. Farmers tend towards *ngakad* rather than sharecropping, because as mentioned above, in the sharecropping system the sharecropper must share the risk with

the landowner and the agreement is valid only for a season, while in *ngakad* she/he can harvest the paddy as long as the land owner cannot pay off the debt to those from whom the landowner borrowed the money. Interestingly, the majority of them have access to *ngakad* of a larger size of *sawah,* around 0.26–0.5 ha. This may be because some households have access to land owned by people outside the village, such as in Sukaratu and Cibarengkok. The households that own *ngakad* consist of those who work or already retired as civil servants, migrant workers, or the households with larger plots of land.

Some information regarding enumerated households' access to *pasir* is shown in Table 3.8. With respect to *pasir*, 91 (82%) of households have *pasir* with the land size larger than that of *sawah*. Of the total landowner household, almost 28% own *pasir* around 0.6–1 ha, followed by those who own *pasir* of around 0.26–0.50 ha (25.2%) and about 21% own *pasir* of around 1-2 ha. There are only seven households who have larger *pasir,* more than 2 ha. Only three households have *pasir* of around 0.01–0.25 ha. It seems that this figure is also related to the fact that the majority of agricultural land of Kemang village is dry land.

Table 3.8 Access of Enumerated Households to *Pasir* by Type of Land Tenure and Land Size in 1998 (in Number and %)

Land Size Category (Ha)	Owned Land		Sharecropper		Rent		Perhutani's Land	
	Number	%	Number	%	Number	%	Number	%
0,01 -0.25	2	1.8	1	0.9	-	-	-	-
0,26- 0,5	28	25.2	-	-	7	6.3	1	0.9
> 0.6 - 1	31	27.9	-	-	3	2.7	1	0.9
> 1 -2	23	20.7	-	-	-	-	-	-
> 2 - 3	4	3.6	-	-	-	-	-	-
>3-5	3	2.7	-	-	-	-	-	-
Total	**91**	**82.0**	**1**	**0.9**	**10**	**10**	**2**	**1.8**

Note: The percentage above is to the total landowner households (111 households). The number of landowner households who have no *pasir* is 18 households

Source: Fieldwork, 1998

As mentioned in the previous chapter, there are about 500 ha of production forest of the National Forest Land, which is cultivated by the Kemang people including members of the surveyed households. However, there are only two households who owned *pasir* with access to

the National Forestry Corporation or Perhutani's land. The NFL was distributed mainly to those who were landless, through Social Forestry Program. However, about 10 households have access to rented *pasir,* while only one household has access to *pasir* by sharecropping. Based on in-depth interview, it is known that the households, which usually rent *pasir,* are the poor households who need to have rice (*huma* paddy) and other products for staple food. Hence, the *pasir* rent usually is valid for only one year and this commences after they harvest the *huma* paddy, cassava, fruit banana and some horticultural plants such as maize and *terubuk* (*Saccharum edule*), known as Fiji asparagus (*Duruka*).

3.4 Participation in Local Organization and Institutions

As mentioned in the previous chapter (Chapter 2), many organizations were set up through government initiative during the Soeharto era; and some new village organizations were introduced after Habibi's administration promoted the decentralization policy by legitimizing Act No. 11 of 1999 on Regional Autonomy. This section describes the participation of members of the surveyed household in various local organization and institutions. Moreover, it will compare the participation of the members of the surveyed households in local organization and institutions in the situation during Suharto regime and after the reform era. Table 3.9 shows the participation of the household members during the Suharto regime.

The table illustrates that women were not involved as a members of the government program called Backward Villages Development Program (IDT) that was introduced in 1994-1997 to develop a micro credit program in the village, as well as among the forest farmer groups (*Kelompok Tani Hutan*). The forest farmer groups were established by the Social Forestry Program. There were 17 forest farmer groups of which eight groups were established in 1998, six and three groups were established in 1991 and 1992 respectively. Although women have access to Social Forestry, they are not involved in the group, as members of the forest farmer groups had to be the heads of households, i.e. the husbands. In theory and in practice too, the social forestry extension agents as well as the leaders of the groups were gender-biased. They thought that it was not appropriate to involve women in formal institutions or the public domain. They were not yet accustomed to

inviting women in the formal meetings to discuss issues relating to agriculture, although couples usually discuss the same things at home.

Table 3.9 Participation in Local Organizations and Institutions by Type of Organizaton and Sex in 1998 (in %)

Type of Organization/Institution	Men	Women
a. Rural Development Projects		
1. Social Forestry (Perhutanan Sosial)	35.2	8.5
2. Forest Farmer's Group (Kelompok Tani Hutan or KTH)	9.7	0
3. Integrated Forest Village Community Development (Pembinaan Masyarakat Desa Hutan Terpadu)	15.8	3
4. Backward Village Development Program (Inpres Desa Tertinggal)	9.7	0
b. Social Programs		
1. Family Welfare Movement (Program Kesejahteraan Keluarga or PKK)	0	3
2. Integrated Health Posts (Pos Pelayanan Terpadu/Posyandu)	0.6	33.9
3. Family Planning (Keluarga Berencana)	3	52.7
c. People Iniciated Organizations		
1. Rotating Credit Group (*Arisan*)	7.9	18.2
2. Al Qur'an Recitation Group (*Pengajian*)	51.5	54.5
3. Cooperative (Koperasi Wana Mukti)	24.2	15.8
d. Village Administrative Organization		
1. Village Council Body (Lembaga Musyawarah Desa or LMD)	1.2	0
2. Village Community Resilience Body (Lembaga Ketahanan Masyarakat Desa or LKMD)	7.3	0

Source: Fieldwork, 1998

Besides the Forest Farmer Group, there were two farmer groups, which were established as the target group of agricultural extension agents under the Department of Agriculture, which are "Giri Mukti" and "Tunas Mekar", each of which covered the total area of 25 hectares. However, none of our respondents were involved in these groups.

The relatively low involvement of women in the Government programs is apparent. When we asked the village officers about the reasons of the low-level involvement of women in the Government-sponsored agricultural and forestry programs, they answered that household heads should participate in the programs. According to them, working conditions in agriculture and forestry are harsh, so in general men would mainly be engaged in the task of cultivation. These pre-occupied perceptions may be attributed to the low-level involvement of women in the Government extension programs. For example, most of the women who participated in the focused group

discussion informed that they did not know about the field extension workers (*Petugas Penyuluh Lapangan/*PPL*, Petugas Kehutanan Lapangan/*PKL) or forestry extension field-workers, and/or *Petugas Lapangan Kehutanan* (PLP) or forestry extension workers.

Further, the data in the table also show that no woman participated in village administration. A strange exception to this is that in LMD, there is a women's section, PKK, as one of the LKMD sections, which enforced the wife of village head to be a member. As the family of the village head is living in another hamlet, consequently no woman participated in LKMD in practice.

As mentioned earlier, following Act No. 22 1999, a new institution called *Badan Perwakilan Desa* or BPD (Village Council) was introduced in the village to replace the *Lembaga Musyawarah Desa* (LMD). This was different from the LMD that was elected by the strong influence of the head of the village; the BPD was established through the democratic process of a general election, which was held in March 2001. There were 25 candidates contesting for election, 13 members were elected by obtaining the majority votes (persons who got more than 150 votes were elected). It means that under the Suharto regime no woman was chosen as member of LMD, while through general election a principal of elementary school of Liung Gunung, Kemang –one of the enumerated and surveyed household member– was elected as a member of BPD although this woman held the gender stereotype position, the secretary (Mugniesyah and Mizuno 2003).

With regard to LPM, members must be elected by involving the *Badan Perwakilan Desa* (Village Council). In Kemang, the LPM was established on November 2001 by consensus in a meeting (*musyawarah*) with the Head of the village and village apparatus, head and members of the BPD, the head of RTs and RWs and the members of LKMD, community leaders and religious leaders (39 persons). Among the participants, there were only three women, all of whom were the members of PKK and two of whom were teachers of the elementary school. The LKMD in this village was dismissed right after the LPM was established. In the LKMD there was only one position available for women (which was held by the wife of the head of the village). In LPM there are two sections e.g., the Women Empowerment and the Health and Population. The first is held by the daughter-in-law of the head of the village, the second is led by a widow and also the teacher of the elementary school, who is again a member of one of the enumerated households. Although

women's representation in the LPM was raised, women's participation in the decision-making process seems to be the same with the previous (LKMD), because the increasing gender awareness is not in line with the capacity of women to perform their responsibility.

The democratization process also influenced the school management system. The organization of *Dewan Sekolah* or School Council is a new system that replaced the former organization in the elementary school that was called as the *Badan Pembina dan Penyelenggara Pendidikan* or BP3 (The Board established to support the educational budget). This council was established as a consequence of the regional/local autonomy in conducting the educational program in districts and regions. The School Council is different from BP3 as the council consists of stakeholders chosen to be responsible for supporting the elementary school program in the village, in terms of the activities and budget. Interestingly, the School Council has the authority to decide the candidate for the principal of the school who will be appointed by the Head of District (Mizuno *et al*. 2002). The School Council was established in the four (4) elementary schools in this village. In Beber and Cikupa hamlets, there is one for the elementary school which is called SD Beber, the School Council in this school is established based on SK No. 36/SD/55/III/2002. By sex, only two of 17 School Council members of SD Beber are women, one of them is a teacher and the other one is the parent's representative and they are responsible for the quality control of the educational services. Unfortunately, none of them is among the surveyed household members.

It is significant that the School Council is also dominated by men. None of the council members, who are the parents as well as informal leaders (economic, religious, opinion leaders), are women; even the pupil representative is also a boy. Furthermore, although women hold the position, which controls the quality of educational services, in reality they are to some extent involved in the committee meeting events. In fact, women are usually responsible for preparing food (meal or snack) served in the meeting organization/institutions, so women are not very much involved in the official work of the organization/institutions.

In contrast, as shown in Table 3.9, women's participation is found to be dominant in local organizations/institutions, which are related to the domestic domain: family planning and nutrition programs. Both of the programs were introduced by the Family Planning and Integrated Family

Service referred to as *Pos Pelayanan Terpadu* (*Posyandu*), the two institutions which have regular monthly activity. Surprisingly, women who are involved in the PKK are also low (3%). It is evident that the PKK involve women only from the village elites, especially the wives of village apparatus and staffs as well as wives of the head of hamlet and sub-hamlet. In contrast to the government programs, many women were involved in the organizations set up by the initiation of the local people. There is considerable participation of women in the Al Qu'ran recitation group (*pengajian*) and a credit-rotating group (*arisan*).

Further, women of Kemang are involved actively in the rotating credit group (locally called *arisan*), which exist in the hamlet, sub-hamlet *(Rukun Warga* or RW) and sub-sub-hamlet or *Rukun Tetangga* (RT). Most of the *arisan* groups are led by women, and its memberships are predominantly women. Besides, they also participate in *Usaha Bersama Simpan Pinjam* (UBSP) or Saving and Loan Association. There are two groups of UBSP: *Liung Gunung* and *Simpay Wargi.* The *Liung Gunung* belongs to SD Liung Gunung located in another hamlet (called Jaringao) and it was established in 1985. While the *Simpay Wargi* belongs to SD Beber -the Elementary School of Beber where this study was conducted. It was established on August 7, 1988.

With regard to *Liung Gunung*, there were six members when it was established. They consisted of the principal, four teachers and one of maintenance staff; by sex, two women and four men. By 2002 the number of members increased to 99 and of the total 38% were men and 62% women. By employment, most of the members were farmers, followed by laborers, teachers and pupils, even children. The composition of SD Liung Gunung manifested the noticeable participation of women from different categories. Of the total, the farmers consisted of (36% women and only 13% men); non-farm laborers (10% men and 13% women), teachers (8% men and 5% women), traders and farm laborers (all or 4% women), 3% of pupils (boys), and the rest were children under 5 years old (4% boys and 3% girls). Meanwhile in *Simpay Wargi*, based on the data on August 15, 2002, the members were about 126 people, which consisted of all the teachers (9% men and 5% women), farmers (12% men and 33% women), non-farm laborers (8% men and 10% women); pupils (1%), children (9% boys and 13% girls), and the rest was less than 2% traders.

Interestingly, some of the members of the *Simpay Wargi* were also members of the *Liung Gunung* association. At least 38 people became members of the two consisting of 8 men and 30 women or 21% and 79% of men and women respectively. This was because the committee of SD Beber was also the teachers of SD Liung Gunung. Every year they had a meeting to allocate the saving and interest of the saving as well as loan. In terms of number of saving and loan, the association determined the rules by following the democratic norms and process among the members, especially in determining the rate of interest for loan as well as saving. According to the opinion of one of our respondent, who is a member of the two associations, membership in this association is a strategy for them to save their income as well as capital formation (through the loan activities). The presence of higher number of women in both the saving and loan associations shows that women constitute the channel in the rural households to access capital or money that is needed by the households, especially for promoting education and agricultural production.

Koperasi Wana Tani, as mentioned earlier, was set up under the Social Forestry Program before President Soeharto stepped down in 1998, but it had not started to function before a prominent trader of Kemang activated it in 1998. In the year 1998 there was relatively good participation of both men and women. In the beginning, most of the women who participated in the cooperative consisted of producers of brown sugar and those who needed small-scale credit for consumption purposes. Alongside the increase of farmers who cultivate the leaf banana trees, currently almost all the enumerated as well as surveyed households in Kemang sell their banana fruits and leaves to the cooperative, although they are not cooperative members.

3.5 Housing Condition

All the enumerated households in the two hamlets own houses of the single-storey building, and only two households have two-storey construction. Many houses in the two hamlets have no home yard (called *pekarangan*), and most of them are built close to one another, as can be seen from the roof which is jammed together. Almost all the houses have the roofs made from tile (99%). Further, the type of wall varies; about 50% with bamboo wall, followed by concrete wall (35%), while the rest are the houses with a combination of concrete and wood wall and combination of wood and bamboo, about 3% and 2% respectively. The majority of the house walls

were bamboo, and most of the houses have bamboo floors, even the ground (48%). The percentage of houses with cemented floor was about 26%, followed by that with the ceramic floor, about 13%. Besides, there was 12% with wooden floor. As the majority of enumerated households are peasant households with small plots of land, most of them have houses of the traditional Sundanese type called "*bumi panggung*". The houses with concrete walls and ceramic floors belong to those with larger landholding farmers, or those who work as civil servants (elementary school teachers), big traders and migrant workers.

In terms of facility, all the households have access to electricity for lighting. However, in terms of energy for cooking, most of them (75%) use wood as fuel obtained from their own *pasir*, other's land, buying and/or asking the remains from sawmill. Besides, many of the poor households also collect wood from the NFL. The number of households using kerosene for cooking was about 13 (8%), while the remaining use a combination of wood and kerosene. Regarding water for taking a bath and washing clothes, about 43% of the households use spring-water from "*Bantuan Kaptering Air*" facilitated by Perhutani, 33% use the well, 17% use both water sources, well and spring, while the rest use water from the river, especially Cikupa and Cihea. Since the size of the majority of houses was relatively small, many of the houses did not have separate rooms according to purpose. Although most of the houses have bedrooms and living rooms, not every house has kitchen and dining room separately. Sanitation among households is not quite good. It can be seen that almost half of the enumerated households have no sanitation facility in their houses. About 81% of the enumerated households in the two hamlets use the river for sanitation. Regarding the access to mass media, about 38% households have televisions and radios. As the majority of households are poor, only two households own cars, and these are the traders. Further, about 10 households owned motorcycles and most of them used them as *ojeg* transportation. The owners of motorcycles are households where the husband and/or wife work as elementary school teacher or migrant workers.

3.6 Rice Farming in *Sawah*

The following is a description of rice farming practiced by the Kemang people. As the average size of land cultivated by Kemang people is small, the local people use the basic unit of land in 100 *tumbak* or about 1440 square meters.

The rice farming in *sawah* is carried out in the following stages i.e., seedling (*ngabibitkeun*), and preparation of land. The entire work consists of several activities: bunds repairing (*mopok/naplok*), *nyingkal* (first ploughing), *malikan* (second ploughing), *ngagaru* (harrowing), *sorongan* (plot leveling) and *naplak* (make planting pattern), planting (*nandur*/*tandur*), weeding (first weeding called as *ngabaladah*), first fertilizing (*mupuk* or *ngaberak*), second weeding (*mindo*), second fertilizing (*mindo mupuk*), pest/insect controlling (*ngontrol hama*), spraying (*nyemprot hama*), harvesting (*panen*), and post harvesting which consists of threshing (*ngagebug* or *ngageblug*), drying (*moe*) and rice milling (*ngagiling gabah*).

Seedling (called locally as *ngabibitkeun*) is usually done before planting, by making the seedbed (*pangbibitan* that is usually done prior to preparing the land). The seedbed is usually surrounded by ditches, used for maintaining water in the seedbed. After sowing, the seedbed is surrounded by a bamboo fence covered by sheets of plastic or the used –fertilizer-plastic sack in order to prevent the chicken from eating and messing up the seeds.

Mopok/naplok or repairing of bunds is the first step of land preparation in which the main functions are to clear the weeds and grasses in the bunds, to cover holes made by rodents living in the bunds and to flood the plot (*ngabendung cai*) to soften the soil (*macak-macak*). In this stage, the farmer cleans the weeds and grasses that grow in the bunds by using machete (*parang*). Further, by using hoe, the farmer slices the soil of the edges and sides of the bunds and then puts soil on the top of the bunds. According to experience of the farmer for 100 *tumbak* (1400 m^2) of sawah, a farmer usually needs about 3-4 person days or about 24 to 36 working hours[2]. Farmer swamped the *sawah* for 7 days before the next step of land preparation, *nyingkal* or ploughing

The *sawah* is usually ploughed twice and then harrow about two days after the first ploughing (*nyingkal*). *Nyingkal* or ploughing is done by the buffalo, usually in one day from 07.00 to 11.00

2 1 Ha = 700 *tumbak*, 1 Ha = 21-28 person days.

AM. Two days later, the farmer performs the third step, which is called *malikan*. Actually, *malikan* is the second ploughing, but it is not done by buffalo. In this step the farmer plows the soil by hoeing, especially to break up the soil and turn it over. The next step of land preparation is *ngagaru* or harrowing, which is conducted 5 days after *malikan* and only once and is completed in a day. Harrowing is done to breakdown the lump of soil into soil surface level so that the water may be well-distributed over the plots well.

Sorongan done after harrowing is leveling the soil to prepare it for the surface for transplanting. *Sorongan* is usually done by men (the husband or male hired labor). The next step after *sorongan* is *naplak*, meaning to make pattern for planting the young paddy (*bibit*) keeping the appropriate spacing. Although this is usually done by men, our respondents, Ms K and Ms A sometimes conduct the *sorongan* and *naplak* by themselves, when their husbands are sick or go outside the village for other economic activities. The next step is planting (*nandur*) which is usually performed by the wives with help of wage labor. It (*nandur*) is generally done in five person days for 100 *tumbak* of *sawah*.

The weeding is usually performed twice. The first weeding *ngarambet* or *ngabaladah*) takes place 15 days after planting, by pulling the weeds, followed by burring the weeds into soil. The second weeding is conducted 2 months after the first weeding. All tasks of weeding and fertilizing are carried out by the husband and wife jointly, but there is exception for the farmers having larger size of land, they usually use hired labor.

After the first weeding, the farmer conducts the first fertilizing, usually with urea, which is done 1 or 2 days after weeding. The next step is *mindho* or the second weeding, which is done about 15 to 20 days after the first weeding (*ngabaladah*). It takes only 3 days. After weeding and fertilizing, the husband and/or wife take turn in paying attention to control the pest. Pest control is done regularly, which is started during the first weeding and continues until before harvesting. Spraying is usually done when farmers found the pest. Spraying is usually done by hired male labor; however, most of the farmer performed the task by himself as he can operate the sprayer that can be borrowed from the neighbor or relatives. Most of the farmers usually use pesticides such as thiodan, diazinon, and kurater, purchased from small shop in the hamlet.

Harvesting takes place about 100 days after transplanting. The harvesting is carried out by using rice sickles. After cutting the rice plant, the bundles of rice are left in the *sawah* for one day. One day after harvesting, the farmers, women and men, will thresh the paddy into rough rice by conducting an activity called as *ngageblog* or beating a bundle of paddy by equipment called *jojodog*. Threshing is carried out in the *sawah*. The threshing is usually done by a couple, or sometimes only women, especially the widow, and the women outside household labor who help the owner/the sharecropper during weeding.

3.7 *Huma-Talun* System

This section describes the *huma-talun* system which is agroforestry developed by the Kemang people. As mentioned earlier, the traditional agroforestry practiced by farmers of West Java have wide regional variations. Compared with the *kebun-talun* as studied by Soemarwoto and Soemarwoto (1985); Cristanty et al. 1986; Iskandar, 1992; and Christanty et al. 1996; the *huma-talun* system which is practiced by the Kemang farmers is slightly different in terms of its stages, as it consists of seven stages of land succession[3]: *rarahan-huma-jami-reuma ngora-reuma kolot-kebun campuran-talun* (Mugniesyah 2010; Mizuno et al. 2013). Each stage has its own duration period and vegetation patterns, as it is seen in Figure 3.1.

The following is the explanation for each stage of the *huma-talun*. The first stage, *rarahan*, is a plot of upland farming, which can be started at every stage of land succession, except *huma* -that is just after land preparation but just before sowing. The preparation of land usually takes nearly 3 months, from July to September and the work consists of *nyacar* (trees slashing), *ngahuru* (the first burning of slashed trees), *ngaduruk* (the second burning of the remains from the first burning process), *ngadampas* (cleaning land from the remains of burning), making terrace (*ngababantal*), and *nyara.* In July, farmers usually start *nyacar* by cutting trees, bamboo, shrubs, and other

3 The land succession is an ecological succession, defined as the gradual and orderly process of change in an ecosystem of land, which is change and develop over time, and brought about by the progressive replacement of one community by another until a stable climax is established (The Free Dictionary 2013; Naik 2011). Naik added that though the succession involves the whole community, not just the plants, the most often quoted examples of succession deal with plant succession.

horticultural trees selectively. They cut the very young and old *aren* (*Arenga pinnata*) trees that are already tapped, bamboo -*awi ageung* or *gombong* and *awi tali* (*Gigantochloa verticillata* and *Gigantochloa apus*), leguminous trees such as *kaliandra* (*Calliandra calothyrsus*), shrubs such as *sadagori* (*Sida retusa*), and old banana trees (*Musa paradisiaca* L) and leave the slash for drying. For 0.25 ha of dry land, *nyacar* usually takes about 4–5 days and the drying usually takes about 15 to 20 days, sometimes even one month depending on the condition of sunlight or temperature and the kind of slash.

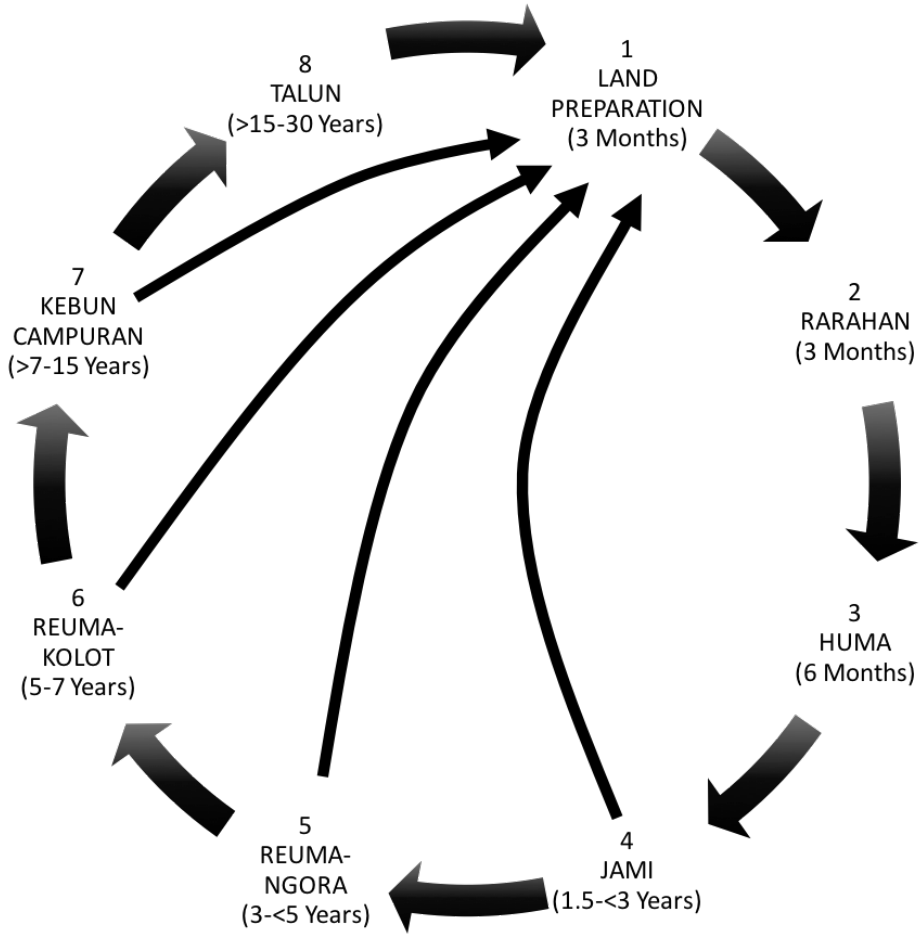

Figure 3.1 The Huma-Talun Cycle Practiced by Peasant in Kemang Village, West Java

The next activity is *ngahuru*, where farmers collect the small dried branches, leaves, and litter in piles and burn them. This activity is usually conducted by farmers in the second week until

the end of August. *Ngahuru* usually takes about one or two days depending on the volume of the slash and how long it takes to burn them until they become ash. The next is *ngaduruk,* which is conducted usually after one to two days after *ngahuru*. *Ngaduruk* is an activity where the farmer, men and women collect the remaining slash which did not burn well in *ngahuru* into piles and then burn them until they become ash again. The *ngaduruk* is conducted in two days to 2 weeks, as they must collect the remaining slash spread over the plots.

The following activity is *ngababantal* or making *babantal* (terraces) in the plot. Here farmers lay the trunks and large branches and bamboos as the *babantal* –which function as terraces to prevent erosion of the soil. Usually *ngababantal* takes more time, about 12 days. According to farmers, this is the most difficult activity in *huma-talun* system, as they have to make the terrace on a very steep and sloping land, which is called *ngais pasir* meaning to carry *pasir,* (dry land farming) as when a baby is carried with the traditional woman's cloth (*sinjang pangais*); which expresses love and care for the *pasir*. The distance between the *babantal* is usually 3 meters.

The next activity is called *ngadampas*, where farmers clean the plot from the remaining *ngaduruk* and *ngahuru* by chopping them using short machete (*parang*). The last activity of the preparation of land is *nyara*, which is done just after *ngadampas*, meaning collecting the remains from the *ngadampas* and cleaning the land, collecting the ash and putting them into *babantal*, which in turn becomes the seedbeds. Most of the farmers in Kemang village do not use manure to fertilize the seedbeds, as the numbers of farmers who raise goat or sheep are rare and the location of the plots is far from their home yard. They also tend to not use chemical fertilizer, as they think that the ash from the slashed trunks and branches make the soil fertile. There are some trees that remain in the field (*rarahan*), usually the wood trees, bamboo (*Gigantochloa sp*.), fruit trees such as mango (*Mangifera indica* L), *rambutan* (*Nepheleum lappaceum*), *petai* (*Parkia speciosa*), *jengkol* (*Pithecelobium dulce*), jackfruit (*Artocarpus heterophyllus*), *aren* (*Arenga pinnata sp*.), and leguminous trees, such as *kaliandra* and *gamal* (*Gliricidia sp*.). However, the scholars possess different opinion regarding *kebun-talun* system in West Java as discussed earlier in the introduction (Chapter 1). It should be noted, however, that the Kemang people do not called the plot as *kebun*, but they call it *rarahan*.

During the *rarahan* stage (September and October), before the first rain and *huma* paddy dibbling, the farmers start to plant two kinds of young banana trees, *cau buah* (banana fruits) and *cau manggala* or *cau daun* (leaf banana)[4]. The young banana is usually obtained from their own plot or from an adjacent plot, which is owned by their neighbor or obtained freely from another plot located far from their plot. However, the farmers from upper stratum buy them from their neighbors or relatives, as they need large numbers of young banana trees. Considering the possible approach of the day of first-rain, the seeds of horticultural commodities (vegetables and fruits) such as pumpkin (*Cucurbita moschata*), cucumbers (*Cucumis sativus* L), beans, and watermelon are planted. Cucumbers and watermelon are usually planted close to the area where the farmer burns the slashes. Except for pumpkin, two or three seeds are planted in each hole, which is made close to the stem of the trees or close to the *tuturus*[5] and placed close to the stem of the trees. Pumpkin or *waluh koneng* is planted at the edge of the sloping part of the plot (*sisi gawir*), maize (*Zea mays*), and *huma* paddy are planted in the same day. The *huma* paddy seeds are planted in the open area just after dibbling by using traditional simple tools called *aseuk*, while *cabe rawit* (small chili) (*Capsicum frustescens*) seeds are usually planted by sowing them in the area close to *babantal*. Other vegetables plants such as red chili (*Capsicum annuum* L), *terubuk (Saccharum edule),* eggplant (*Solanum melongena*), and tomatoes (*Solanum lycopesicum*) are planted in the *babantal*.

As the seeds of *huma* paddy start growing (usually in October), the land is now called *huma*. The duration of this stage is 6 months. Farmers developed the use of land during the *huma* stage, as a strategy to meet their consumption demands, especially in food crops in the form of cereals and vegetables. Horticultural commodities or vegetables such as long beans (*Vigna unguiculata*),

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4 The number of farmers who choose to cultivate leaf banana has increased significantly in the last five years and covers about 50 % of the total slope land in Kemang (Tsujii et al. 2003). It is because the quality of banana leaves from Kemang are considered to be the best for wrapping traditional foods in the markets of Jakarta, Bekasi and Tanggerang (Asmarantaka et al. 2003).

5 *Tuturus* is a bamboo stick that is usually about 1-2 meters in length and about 5 cm in width. *Tuturus* is placed close to the tree stems for the climbing beans, such as four- sided bean and long bean.

basils (*Ocimum xcitriodorum*), eggplants, big cucumbers -locally called *herbis* or *ketimun suri* (*Curcumis lativus*)- chilies (*Capsicum sp.*), and maize are harvested in the *huma* stage before the *huma* paddy is harvested (in February and March). In this stage, farmers usually start to plant young woody plants such as *jeungjing* or *Albizia* (*Albizia falcataria*) and pepper (*Peper nigrum*), depending on the size of land. After the *huma* paddy is harvested, the plot is called *jami* with a duration cycle of about 1.5 to 2 years after the *huma* paddy is harvested thoroughly. At this stage, the horticultural crops are continuously harvested, especially the local vegetables (*Fiji durika and* cassava leaves), roots and tubers such as cassava (*Manihot esculenta*) and sweet potatoes (*Ipomoea batatas*), spices such as ginger (*Zingiber officinale*) and galangal (*Alpinia galanga*), and papaya (*Carica papaya*) as well. At the end of first year, the farmers start to harvest the banana fruits as well as banana leaves. In other words, the *huma* stage reflects the strategy of farmers to obtain vegetables and starchy foods, while *jami* stage reflects a strategy chosen by the farmers to supply the vegetables and fruits for the consumption sustainability. The jami stage is also a farmer's strategy to generate cash income, especially by selling the fruit and leaf of banana trees, and other fruit trees as well, such as mangoes, *jengkol, petai*, and *durian* (*Durio zibethinus*) are noteworthy.

The next stage is *reuma ngora* with a duration of 1-3 years after *Jami*. In this stage, the land is usually dominated by young *Albizias* (and other woody trees) as well as banana leaf and fruit trees. Farmers continue to harvest the banana leaves and other fruit trees at this stage, and at the end of the period the *Albizia* trees are harvested, except for the farmers who have decided to continue to the next stage, *reuma kolot*. Hence, this stage is used to meet the needs for *Albizia* woods which are usually used for consumption, for repairing the house, for fuel needs, and also at the same time to obtain cash income. Besides, bamboo is also harvested, especially for repairing the house and making hedge for the paddy field -which is located close to the settlement-, or for making *tuturus* for climbing beans.

The duration of *reuma kolot* is usually more than 5 to 7 years. Wood trees are dominant in this stage. Some farmers cultivate *Albizia* as they want to obtain the cash income from selling the *Albizia*. However, some do not cultivate the *Albizia* as they prefer to have teak trees or other wood trees to harvest. Besides, *aren* (sugar palms), teakwood, mahogany, bamboos and other

trees are scattered in the plot. Therefore, it is dominated by woody plants. The seasonal fruit trees such as mango, *pisitan*, *rambutan*, *jengkol* and *peuteuy* are harvested every year. In consequence of the growth of woody trees, the banana leaf trees become gradually tinier. Farmers usually harvest *Albizia* trees at the end of the stage. Just after *Albizia* is harvested, the plot is called *kebon campuran*. With the duration cycle of more than 7 to 15 years old, woody trees such as teakwood, mahogany, *kihiang*, *aren* trees and bamboos together with fruit trees dominate this stage. The number of banana leaf trees also decreases sharply at this stage, while the leguminous plants such as *kaliandra* and other shrubs cover the ground. Depending on the distance and plant composition on the land, some farmers tend to decide on *kebon campuran* as the terminal stage, and some decide to harvest the woody plants, which are among others teak and *kihiang*, for the next 15 years or more and then the *talun* is formed. The length of the *talun* stage is usually between 15 to 30 years, even more especially if they want to harvest the teak wood of good quality. A *talun* consists of perennial trees and shrubs that vary in its composition. It can be differentiated into three types: (1) combination of wood, *aren* or sugar palms, bamboos and fruit trees, (2) *aren* trees, bamboos and fruit trees, (3) wood and fruit trees (Inoue et al., 2002). *Kalianda* are integral trees in all three types. Figure 3.2 shows example of land succession stage of the *huma-talun* system.

According to the discussion of the focus group, the first stage of the cycle may be started from the forest (in the case of Perhutani`s land), *talun, kebon campuran, reuma kolot, reuma ngora* or even *Jami*. Based on this starting stage, there emerge 6 cycle patterns ranging from the shortest (*huma*) to the longest one (*talun*). However, from the surveyed household samples, we found that the farmers implemented more than 6 cycle patterns, depending on many reasons, which were among others the condition of the land (duration of ownership, soil fertility and type of plants) and socio-economic situation as well. The tendency is that the higher the stratum or class of farmer household the longer the cycle. Additional resources, such as the availability of others' and Perhutani`s land that can be cultivated by the farmer households may allow lengthening the planned period of the cycle. The frequent the farmer in seeking access to National Forest Land and to others` land the longer the cycle of land succession. According to our respondents, they avoid cultivating their dry land with *huma* stage frequently, as it causes decline of soil. Therefore,

to support their rice availability they prefer to cultivate the National Forest Land (NFL) or other's land by renting and mortgaging. It may happen, as they can harvest food crops (rice, cassavas, maize, sweet potatoes and other horticultural vegetables) for household's food security in the first two years from the Perhutani and others' land. On the contrary, they do not apply the *huma* stage in two consecutive years in her/his or their own land so as not to cause infertile soil in their own land.

Figure 3.2 Land Succession Stages of *Huma-Talun* in Kemang Village, West Java

3.8 Conclusion

In this chapter attempt has been made to explain the general condition of West Java and Cianjur District with regards to administration aspects and labor force, and the characteristic of enumerated households in Kemang village regarding their social demography, land ownership and farming system.

The number of labor force of West java in 2000 was about 15.3 million people, consisting of around 64% men and 34% women; most of which work in agriculture, services and trade sector.

As Kemang is located in remote area, most of the Kemang people were born in the same village and married couples were born in the same or different hamlet in the same village; only those who gained senior or higher education and migrant workers married spouses from outside the village. As a typical Sundanese community, most women married at a young age, about 15 years old, and men at about 19 years. Interestingly, although the first marriage age of women is far lower than that of men, the average number of times married among women was lower than the men.

Most of the households consist of a nuclear family, while the extended family mainly is in the form of parents with either married or unmarried children and grandchildren, As nuclear family is predominant, while family planning is practiced among women in Kemang, the average household size in Kemang was less than 4, which is lower than that of the village level.

Since the majority of the enumerated households are married, most of them consist of those in working age category (more than 15 years old and above). Further, as the predominant potential resources available in Kemang consist of fields for rice farming in *sawah* and *huma-talun* in *pasir*, most of the working age women and men work in agricultural and home industry which are related to *pasir*, brown sugar industry, about 70%.; while their dominant employment status is self-employed & family workers (for men) and family workers. For small land-holders and landless, they have subsidiary occupations as agricultural labors and traders; therefore, their employment status is dominantly as employee.

Due to the pressure of land scarcity in the village, only 67% of the total enumerated households (165 households) have access to land. By type of land, there are about 78% and 82% of enumerated households who have access to *sawah* and *pasir* respectively. The majority of *sawah*'s owners have small plots of land (0.01-0.25 ha), while *pasir*'s owner is in the range of 0.26-0.50 ha. However, the poor and landless households could have access to other's land by way of sharecropping, mortgaging and renting or by cultivating the National Forest Land through Social Forestry or *Pengelolaan Hutan Bersama Masyarakat*/PHBM (Community-Based Forestry Management) program.

Due to the marginal situation of Kemang village, under Suharto Era there were many rural development programs introduced to the villagers. However, this study found that there was

gender segregation in terms of people's participation in these programs, where women were marginalized in the projects of productive activities, as almost all the projects were dominated by men. Conversely, women participated predominantly in social and economic oriented groups, which are initiated by women themselves such as praying group (called *Majlis Taklim*), saving and loan groups (*kelompok simpan pinjam*), amd rotating credit groups (*arisan*). Interestingly, after the reform era, women started to enter into the village political/public domain and a few women became members of School Council, Village Council (BPD) and Community Empowerment Institution (LPM), where members are elected by a democratic process.

Rice farming cultivation done by peasant households in Kemang is taking up about 100 days from land preparation until harvest. In accordance with the natural resources owned by the Kemang people, the peasant households implemented rice farming in *sawah* and *huma-talun* in *pasir*. Based on the focused group discussion and in-depth interviews, it appears that the rice farming and *huma-talun* practices are developed by the households as subsistence farming whose main purposes is to attain food security of the household, except in cases where the households change the cropping pattern by cultivating leaf banana trees as monoculture.

CHAPTER 4
GENDER RELATION IN LAND OWNERSHIP AMONG PEASANT HOUSEHOLDS

4.1 Introduction

This chapter proposes to examine the first hypothesis regarding how values and practices regarding land allocation is equal for both women and men in the Sundanese community which is belong to bilateral kinship, contrary to assumptions that are made not only in existing scholarly work but have also been at the bases of policies, statistics, and various development program, that household land belongs to the household head, i.e. the husband. It also looks at village official records to see whether external authority legitimizes the local values regarding household level gender-equal land allocation especially regarding *sawah* (paddy field) and *pasir* (dry land).

A general description of the distribution of land among the enumerated households in the two hamlets of Beber and Cikupa (hereafter referred to Kemang) will be necessary in order to understand the problem accurately. Along with these, the origin of the land and its dynamics will be discussed to trace the ways by which the household members, women and men obtain the land.

Moreover, in order to understand how access to land by gender might differ by size of landholding and economic status, the gendered access to land will also be analyzed by stratum and type of the family. At the outset, it should be mentioned that the enumerated households of Kemang are differentiated into three categories of strata based on land ownership. Meanwhile for the latter, the family is differentiated into the nuclear family, women in polygamous family as well as women as *de facto* female-headed household. Hence, life history, is instrumental to understanding how access to and control over land are created and maintained over time. These demonstrate the on-going process of women's negotiating over access and control of land in different phases of their lives.

In order to examine how the right to access land among women and men in the peasant households of Kemang is recognized formally by external legitimized authority in the village

level, this chapter provides the sex-disaggregated data on land ownership which are recorded in the document of Letter C available in the village office. The chapter intends to end with a section that includes discussion, analysis and conclusion of the empirical findings in Kemang.

4.2 The Values of *Sanak* and Its Relation to the Customary Law of Inheritance System

As already mentioned earlier, Ekadjati pointed out the phrase *lalaki nanggung-awewe nyuhun* (the man is carrying something on his shoulders -because of heaviness- and women is carrying something on her head -because of lightness-). Such a phrase implies that gender inequity is the norm, legitimizing differential treatment of men and women in any aspect of household life. On the contrary, we find that there is a word that suggests that there are valuess in Kemang regarding gender equity. This is the term *sanak*, which means that sons and daughters have equal status as children (*anak*). Due to these shared values, the parents implement fair treatment with regard to inheritance of landed property. This includes land purchased during their marriage as well as property/land that was owned at the time of marriage.

Although the Kemang people are all Muslims, customs related to land allocation in the household deviated from the scriptural textual (the Holy Quran) rules. The inheritance system that has been adopted by most of the Kemang people is bilateral, where the land is allocated based on equality of division among all children.

In general, the ownership right of land in Kemang is such that the owner, mother and/or father, can dispose of her/his land to her/his/their children according to personal or joint will. However, this should be done prior to the death of the mother or father and this is called *hibah* (grant). In the case where the mother or the father dies before allocation of the land, usually the land would be allocated by the surviving spouse. In the case where both the father and mother die when the child is still young, the eldest daughter/son distributes the land among the siblings based on the customary law of inheritance. In the case when they felt as Moslem they have to obey God Almighty's Command as stated in the Holy Quran[1] they have to allocate land according to the

1 "There is a share for men and a share for women from what is left by parents and those nearest related, whether the property be small or large – a legal share" [the Holy Quran, An-Nisaa: 7]; and "Allah commands you as regard your children's (inheritance): to the male, a portion equal to that of two females…. (These fixed shares)

Islamic law of inheritance, they tend to allocate land in two stages. At first, by implementing the Islamic law or what they call *Faroid*, the son gets twice as much as the daughter. In the second stage, the brothers divide one share of his inherited land and give half of it to their sister. The first stage is conducted to express his obedience to the Islamic law of inheritance, and the second stage is to express his respect and solidarity to his sister/s. The brother tends to share the land equally with his sister, as he is aware that in reality his sister also needs land for her livelihood. Therefore, there is a distinction between the land that a husband and wife inherit from their respective parents and the land purchased during their marriage, which is called *tepung kaya* or *gono-gini*.

There is fairness between wife and husband regarding the land, and marriage does not bring ownership rights to the land of the spouse, so in all situations a woman/man retains her/his rights to her/his own land as Soepomo (1981) and Hardjono (1987) noticed earlier. As far as the couple has children, the couple's siblings (aunt and/or uncle) have no rights to inherit the land. Interestingly, in the case that the couple does not have any children, the land is equally allocated to their siblings[2]. In the case that all the couple's siblings died earlier, the husband's and wife's land is equally allocated to the sons and daughters of the sibling. According to some informants, until recently there has been no evidence of conflict among the couple's siblings (aunts and uncles) or between nieces and/or nephews regarding the practice of customary law on land inheritance systems. This may be due to the fact that Kemang people generally respect the testaments (called *amanat*) made by their late parents or aunts/uncles, so as to ensure the parent or uncle/aunt rests in piece.

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are ordained by Allah. And Allah is Ever All-Knower, All-Wise". [The Holy Quran, An-Nisaa: 11] in Al-Hilali and Khan [1997]

2 There is a case of Mrs. HT who married twice but did not have any children. Before her death, she made a testament to her niece and nephew to allocate her land as follows: to sell the one hectare of her pasir and part of the money should be spent to ask the Islamic leader who has already gone on a Hajj pilgrimage to conduct a Hajj pilgrimage on her behalf; and the rest was for her death ritual ceremonial activity; while her *sawah* should be allocated equally among her niece and nephew.

4.3 The Distribution of Land

4.3.1 The Total Land Owned by the Peasant Households

As already mentioned above there are two types of agricultural lands that are considered important by the Kemang people i.e., *sawah* and *pasir*. Figure 4.1 shows the total lands that belong to Kemang residents. As seen in Figure 4.1, the total land owned by the two hamlets is 98.29 ha, consisting of 15.05 ha or 15.3% *sawah* and 83.24 ha or 84.7% of *pasir*. For *pasir*, all the land that belonged to the hamlet's people is located inside the village and is around 9.5% of the total *pasir* in the village.

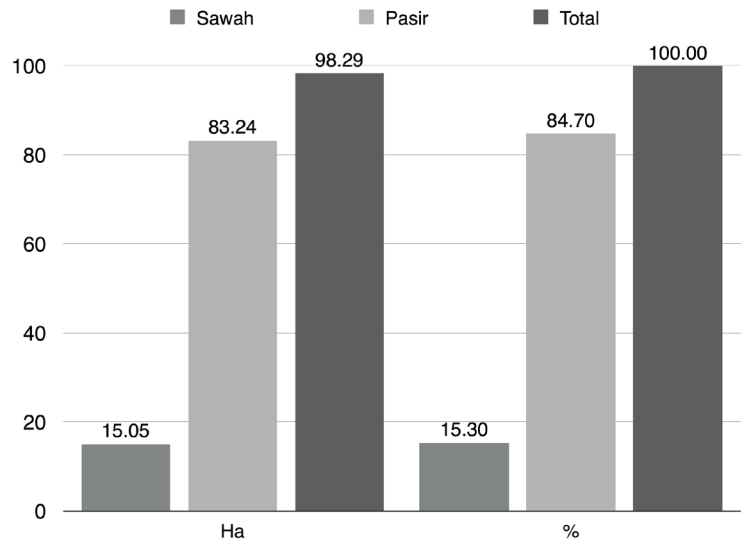

Figure 4.1 The Total Land Owned by Households of Kemang by Type of Land in 1998 (in ha and %)
Source: Fieldwork, 1998.

The *sawah* is around 17% ohe total *sawah* in the village. As mentioned above, the *sawah* that belonged to the people is located inside and outside the village. The percentage of *sawah* located inside the village is higher than that of outside the village. It is 12.83 ha representing 14.6% to the total *sawah* that belonged to the village. The remaining lands are located in Bojong Picung and Cibarengkok area, amounting to 2.22 ha or around 2.5% to the total *sawah* in the village.

Since the peasant households differ in size of landholding, this study is also concerned to look at the 'clue' of differentiation in terms of land ownership by analyzing the land distribution pattern according to stratification. Of the 165 enumerated households, there are 19 households (11.5%) of Stratum A, 21 households (12.8%) of Stratum B, 71 households (43.0%) of Stratum C

and about 54 households (32.7%) which are landless. Table 4.1 provides some information of land distribution among the peasant households according to stratification.

Table 4.1 The Total Land Owned by Peasant Households in Kemang in 1998 by Type of Land and Stratification (in ha and %)

Stratification	Sawah		Pasir		Total	
	Ha	%	Ha	%	Ha	%
Stratum A (n=19)	8.95	9.1	42.73	43.5	51.68	52.6
Stratum B (n=21)	2.23	2.3	20.64	21.0	22.87	23.3
Stratum C (n=71)	3.87	3.9	19.87	20.2	23.74	24.2
Total (n=111)	**15.05**	**15.3**	**83.24**	**84.7**	**98.29**	**100**

Source: Fieldwork, 1998

As it is seen in Table 4.1, 52.6% of the total land belongs to Stratum A. Looking at the type of land, Stratum A households owned 8.95 ha or almost 60% of the total *sawah* and also 42.73 ha or 51.3% of the total *pasir*. In terms of *sawah*, Stratum A controls 4 times the amount of land controlled by Stratum B and 2.3 times the amount controlled by Stratum C. For *pasir*, Stratum A controls almost double the amount owned by Stratum B and C. Besides landowners, the identity of the Stratum A is described by some combination of the following: banana traders or the owners of sawmill and rice milling micro enterprises and *hajis*, and teachers of elementary school. Some of them are either traders in banana leaves and fruits, or owners of rice hullers, trucks, vans and small shops. This is a tendency of what White and Wiradi stated as the strategy of accumulation, in which surpluses derived from one income activity are used for gaining access to (and higher income in) the other (White and Wiradi, 1989: 296).

4.3.2 The Average Size of Land among Peasant Households

This section aims at describing the average size of land of the household according to stratum (see Table 4.2). As seen in the table, of the total enumerated households (165 households), the average holding of the *sawah*, *pasir* and the total land is only 0.091 ha, 0.505 ha and 0.596 ha respectively. In other words, the average size of the *pasir* is almost 5.5 times higher than that of the *sawah*. However, if only land-owning households are considered (111 households), as shown in Table 4.2, the figure rises to 0.14 ha for *sawah*, 0.76 ha for the *pasir* and the total land is around

0.90 ha. The largest size of land owned by households is 0.87 ha for *sawah* and 6.6 ha for *pasir* respectively.

Table 4.2 The Average Land Size Owned by the Households in Kemang in 1998 by Type of Land and Stratification (in ha and %)

Stratification	Sawah		Pasir		Total	
	Ha	%	Ha	%	Ha	%
Stratum A (n=19)	0.47	17.0	2.30	83.0	2.77	100
Stratum B (n=21)	0.11	9.8	0.98	90.3	1.09	100
Stratum C (n=71)	0.05	16.3	0.28	83.7	0.33	100
Total (n=111)	**0.14**	**15.2**	**0.76**	**84.8**	**0.90**	**100**

Source: Fieldwork, 1998

By stratification, it was found that the households of Stratum A have access to more land than those of other strata. Of the total households that owned the land, both *sawah* and *pasir*, the average land size of Stratum A is around 2.77 ha, that is around 2.5 times and 8.3 times higher than Stratum B and C respectively. However, there is a patron client relationship between the upper stratum households with those of the lower stratum. Since the *pasir* is located in remote areas and the households of the upper stratum cultivated their *pasir* with banana leaves, the households of lower and landless get the opportunity to work during the harvesting of banana leaves and as transporting laborers. The remoter the location of *pasir* the higher the share obtained by the laborers. If the *pasir* is located close to the human settlement, the share is 50:50; but for *pasir* farther way from settlements the share is 40:60, and while for the farthest *pasir,* it is 25:75. Besides, the lower stratum and the landless also have an opportunity to harvest and process liqueur of the palm trees that grow naturally in the *pasir* that belonged to the upper stratum (Mugniesyah, Mizuno and Iwamoto, 1999).

4.4 Gender and the Practice of Land Rights on the Household Level

In the following part of this paper, attempt will be made to provide evidence on how the customary law is performed in practice, especially with regard to the landowner category on the household level and to the origin of the land, which is the way the peasant household members own or hold their land whether through inheritance, purchasing, mortgaging, renting, or sharecropping,

4.4.1 Land Owner Category at the Household Level

Based on the inheritance system mentioned above, there are three categories of land ownership at the household level: the land owned solely by the husband (heretofore referred to as husband's land) , the land owned solely by the wife (heretofore referred to as wife's land), and land owned jointly by wife and husband, which is locally called *tepung kaya/gono-gini*. Figure 4.2 shows the total land owned by peasant household by category of landowner.

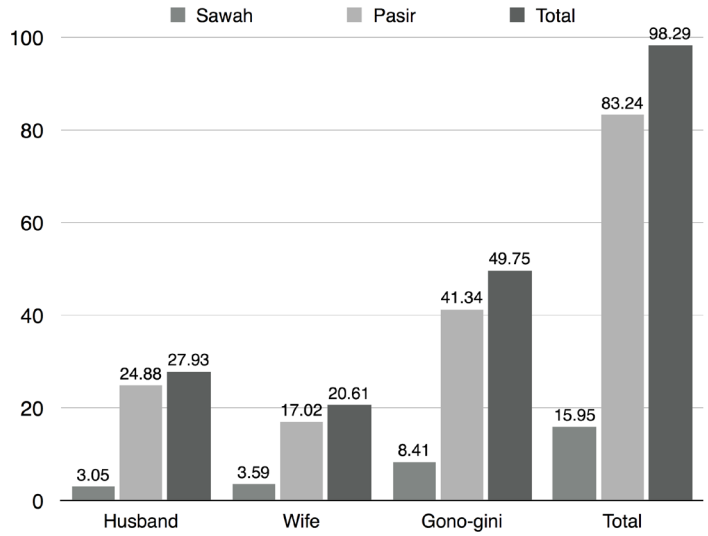

Figure 4.2 Total Land (ha) Owned by Households in the Two Hamlets by Type of Land and Owner Category in 1998

Source: Fieldwork, 1998

In general, of the 98.29 ha total land of the enumerated households, 49.75 ha (50.6%) is in *gono-gini*, while land owned by wife and husband solely is 20.61 ha (21.0%) and 27.93 ha (28.4%) respectively. It means that there is opportunity for many households to expand their land after their marriage, although the size of land is very small. By the type of land, there is a slight difference between the *sawah* and *pasir*. In terms of *sawah*, the figures of wife's ownership are higher than those of husband's: 3.59 ha (23.9%) of women's and 3.05 ha (20.3%) of husband's. While the *pasir* shows the contrary picture: wife's is 17.02 ha (20.4%) and husband's is 24.88 ha (29.9%).

Of the total land owned by the households (111 households), about 100 households owned their land through inheritance or grant system, and the rest were those owned land through purchasing after their marriage (*gono-gini*). Looking at the owner of the land, it is found that

wives owned the majority of the household's land. Of the total households that owned land, 43% of them are households where the land is owned by the wife, which could be *pasir*, *sawah* or both. Meanwhile those owned by husband is only 38%, and the remaining is *gono-gini* land. In case of other households, the *sawah* belong to the wives solely and the *pasir* belong to husbands solely (7%). Only 4% of the households owned both type of land inherited from and granted by their parents.

Figure 4.3 shows that generally the average land size of wife's land is slightly lower than that of the husband. However, the figure is slightly different as far as the type of land is concerned. The average land size for sawah of wife category is 50 m^2 larger than that of husband is; while in terms of *pasir* the husband's land is 710 m^2 larger than that of wife's.

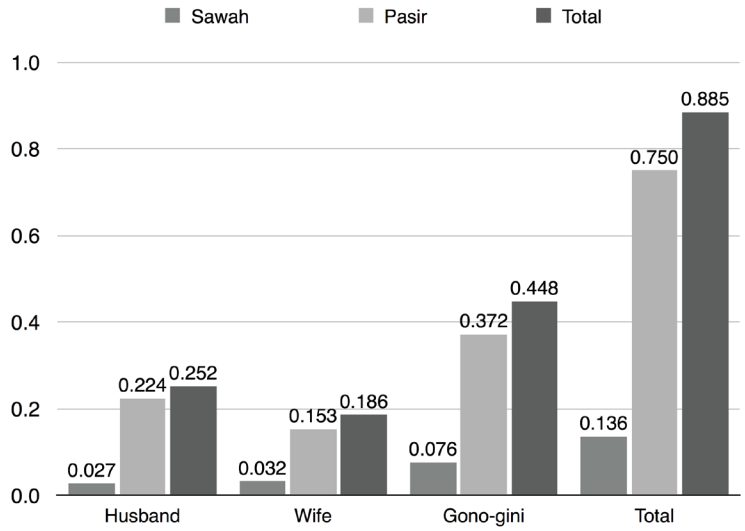

Figure 4.3 The Average Land Size Owned By Households in the Two Hamlets by Type of Land and Owner Category in 1998 (in ha).

Source: Fieldwork, 1998

Further, it is interesting to compare these among the strata, as it can be seen in Table 4.3. As shown in the table the higher the stratum the higher the average land size remains in the three categories for both type of land. Among Stratum A and C households, in terms of the *sawah*, the average land size of wife-owned is slightly higher than that of husband-owned. It occurs due to the fact that some women with half a hectare of land married to men with little or no land. Interestingly, some of the Kemang women prefer to marry a man who is capable of managing her land. This

is different from the findings of Hardjono who studied in Sukahaji, Bandung and reported the tendency for "land marry land" where it was quite unusual for a man or women with half a hectare of land to marry a person with no assets in the form of an anticipated *warisan* (inheritance) of land (Hardjono, 1987). While among Stratum B, the average land size that is owned by husband and wife is almost the same for both the *sawah* and *pasir*.

Table 4.3 The Average Size of Land (Ha) Owned by Peasant Households In Kemang by Type of Land, Land Owner and Stratification in 1998 (in Ha)

Stratification	Sawah			Pasir		
	Husband	Wife	Gono-gini	Husband	Wife	Gono-gini
Stratum A (n=19)	0.049	0.064	0.358	0.563	0.272	1.467
Stratum B (n=21)	0.038	0.038	0.030	0.286	0.274	0.423
Stratum C (n=71)	0.019	0.022	0.014	0.129	0.086	0.064

Source: Fieldwork, 1998

Furthermore, we find a different land ownership pattern among the strata as may be seen in the Table 4.4. Among Stratum A, the land ownership pattern for *sawah* and *pasir* is similar. There are 4 dominant categories: (a) Husband's-Wife's-*Gono-gini*, (b) Husband's and *Gono-gini*, (c) Wife's and *Gono-gini* and (d) *Gono-gini* only. Among the Stratum B and C, the percentage of women-owned category is slightly dominant, especially for the *sawah*. The percentage is 23.8% among Stratum B and 32.4% among Stratum C. However, for the *pasir* there is a difference between the two strata. Among Stratum B, the percentage of *gono-gini* land is dominant (28.6%), and then the pattern of Wife's and *Gono-gini* and Husband's, each 19%, followed by wife's (14%).

In other words, among Stratum A, most of the households are those that can expand or accumulate the land that derived from the couple, or from each of the couple, wife or husband. While among Stratum B and C, *sawah* derived from the wife was so dominant, while *pasir* that derived from both wife's and husband's was also dominant. It seems that the figure mentioned above reflects that in general equality in access to land among women and men in Kemang village is practiced.

Table 4.4 Land Ownership Pattern: Among Peasant Household in Kemang by Type of Land and Stratum in 1998 (in %)

Land Ownership Pattern	Sawah			Pasir		
	Stratum A	Stratum B	Stratum C	Stratum A	Stratum B	Stratum C
H-W-GG	21.1	0	0	20	4.8	0
H – W	0	14.3	0	5	9.5	2.8
H- GG	26.3	4.8	4.2	20	4.8	1.4
W-GG	15.8	14.3	8.5	15	19	2.8
W solely	5.3	23.8	32.4	0	14.3	21.1
H Solely	5.3	14.3	18.3	10	19	32.4
GG solely	26.3	4.8	7	30	28.6	15.5
None	0	23.8	29.6	0	0	23.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

Note: H = Husband's solely, W = Wife's solely, GG = *Gono-gini*
Source: Fieldwork, 1998

4.4.2 Origin of the Land and Its Relationship to Decision Making on Land Usufruct

Table 4.5 presents information on the origin of land, which is based on in-depth interviews of 20 selected families. The data show that husband and wife obtained inherited and granted land from their parents through their mother and father as well as from both of them.

Table 4.5 The Total Land Owned by Households in Kemang by Owner and Origin of Land in 1998 (in ha)

Origin of Land	Sawah				Pasir				Total
	Inheritance		Grant		Inheritance		Grant		
	H	W	H	W	H	W	H	W	
Mother	0.343	1.057	0.10	0.049	0.25	3.56	0.03	1.00	6.389
Father	0.014	0.293	0.07	0.014	4.98	1.375	0.75	0.00	7.496
Mother and Father	0.000	0.000	0.00	0.098	0.00	1.000	0.25	1.05	2.398
Total	**0.357**	**1.350**	**0.17**	**0.161**	**5.23**	**5.935**	**1.03**	**2.05**	**16.283**

Note: H = Husband, W = Wife
Source: Based on our field research conducted in April 2002 (n=20 households)

The table also shows that, of the total land, 6.389 ha (39.23%) land was obtained from the mother. This amount was not so different compared to that obtained from the father (7.496 ha or 46.04%); while land obtained from the parents was 2.398 ha or 14.73% of the total land. Furthermore, based on the obtaining process, the majority of the land obtained by husband and

wife was by way of inheritance for *sawah* and *pasir*. It is interesting to note that in case where the mother dies before the father, the father must allocate the mother's land directly to their children as soon as possible, especially when the son/daughter is adult. In the case where the son/daughter is still young, her/his brother/sister kept the land and he/she gave the land after they became adult or married.

The data analysis for the total inherited and granted land shows that there were considerably more land owned by wives through inheritance and grant in regard to *sawah* and *pasir*. As may be seen in Table 4.5, the total *sawah* owned by wife is about 1.51 ha and that owned by husband is only 0.52 ha. While for *pasir* the amount of wife's and husband's land was 7.985 ha and 6.53 ha respectively. In other words, almost 74% of *sawah* and 55% of *pasir* are inherited lands owned by wife.

In terms of the average land size, the figure is similar to the total land as mentioned above (see Table 4.6). Women (wives) inherited larger *sawah* and *pasir* than men (husband's) by 0.050 ha and 0.035 ha respectively. Women (wives) supported their households by gaining access to land in almost all strata. Of Stratum A, there is a case of polygamous household. In this case, it is found that the husband who has 0.07 ha of *sawah* and 0.98 ha of *pasir* is married to his first wife who has 0.25 ha of *sawah* 0.25 ha of *pasir*, and then to the second wife who has 0.42 ha of *sawah* and 3.1 ha of *pasir*. According to the opinion of his two wives,their husband's land is not enough to support their household expenditure. In another case, we found two cases of women, each from Stratum B and C who married twice, and neither her first husband nor the second husband had any land.

Table 4.6 The Average Land Size among Households in Kemang by Owner and Origin of Land in 1998 (in ha)

Origin of Land	Sawah				Pasir			
	Inheritance		Grant		Inheritance		Grant	
	H	W	H	W	H	W	H	W
Mother	0.017	0.053	0.005	0.002	0.013	0.178	0.015	0.025
Father	0.001	0.015	0.004	0.001	0.249	0.069	0.038	0.000
Mother and Father	0.000	0.000	0.000	0.005	0.000	0.05	0.013	0.078
Total	**0.018**	**0.068**	**0.009**	**0.008**	**0.262**	**0.297**	**0.065**	**0.103**

Note: H = Husband W = Wife

Source: Based on our field research in April 2002 (n=20 households)

Since land is considered a very important source for the household economy, it is common that women (wife) and husband would prefer to keep their inherited land under their own possession. But there is exception to this practice which is when they sell land. This happens when they find the possibility to buy another piece of better quality of land. In cases where they have the *gono-gini* land, everybody irrespective of gender prefers to sell the land in *gono-gini* status (rather than the wife's or husband's land).

A number of cases among the respondents showed that they usually sell their own land after they find out the possibility of buying another piece of land either *sawah* and or *pasir*. It is also found that a woman as well as a man also has respective right to buy land individually. Of the 20 cases, 0.78 ha of wet-rice land were bought by woman/wife (three households) and 1.18 ha were jointly bought by husband and wife as *gono-gini* (9 households). In terms of the *pasir*, around 2.23 ha (3 households) and 9.54 ha (8 households) were bought by wife and *gono-gini* respectively.

The women of Kemang maintain control over the land inherited from their mother or father. In the case of a woman of Stratum A in a polygamous family, the second wife stated that she sold the *pasir* three times at different stages. First, she sold the *pasir* inherited from her mother to purchase wet-rice land, which was more productive i.e., 300 percent of harvesting intensity. This means that the *sawah* can be harvested 3 times in a year and the cropping pattern is exclusively paddy. She also decided to adopt three children -one foster daughter and two foster sons- to whom she, later on, gave rights to cultivate a part of her *sawah* as well as *pasir* based on the sharecropping system. In the following is her explanation regarding the reason for adopting her three foster children:

> "I decided to adopt AM, a young boy from Cililin-Bandung who came to Kemang village initially to stay with his uncle. Unfortunately his uncle and aunt did not welcome him, as they already have many children. I was informed by my son and his' friends that AM felt uncomfortable living with his uncle and intended to go back to his family in Cililin. Due to the fact that my husband stayed in Cianjur with his first wife, I, as a second wife and had three small children, felt too busy to take care of my *sawah* and buffalos. For that reasons, I offered AM to stay with my family and gave him scholarship, in exchanged for AM to take care my buffalos after he went back from school. After AM finished his elementary school, he continued to stay with my family. However, as AM became older, at about 18 years old, his parents asked him to return home in Cililin and asked him to marry a girl that was chosen by his mother. Besides AM, than I adopted another boy, RS. In this case, the boy's parents came to me and offered their son to stay with me due to their poor condition. I also paid his school fees until he finished elementary school. As I already had two biological daughters, I decided to adopt

two other girls, YY and NN. Just like the other foster sons, I also paid my foster daughters's scholarships. My foster daughters helped me with house chores, while my foster sons helped me with the buffalos and sheeps. Other than my foster children, I also paid the school fee of my husbands' younger brother (EY) who stayed with me. Nowadays, all of my foster children are married and live by themselves."

Next, she sold a part of another piece of *pasir* when she decided to go for a Hajj pilgrimage to Mecca. Curiously enough that she even asked her husband to accompany her with the money she earned by selling her landed property. Third, she decided to sell a part of her *sawah* that was bought by the money earned from selling the *pasir* to support her youngest daughter for studying at the university. She said that all their children were enrolled in academic institutions including universities in the capital city of West Java (Bandung) using the money earned from her land. The income of her husband is not enough, since her husband has 9 children from his first wife. However, she recognizes that her husband helps her in maintaining her land, especially after he retired from his office as the head of the village.

The second case is a woman of Stratum B who married a second husband who had no land and worked as a civil servant. She manages her own land by herself since her husband works as a civil servant outside the village. She also keeps the income drawn from her inherited land due to the fact that the land under question belongs to her and also two of her sons from the first husband. Her land in fact consists of land that she inherited from her mother (in kind of *sawah*), from her father (in kind of *pasir*), and from her first husband (*sawah* and *pasir*). Another case is a land-owning woman of Stratum C, who divorces her husband because according to her opinion, he was not working hard enough for her land. She decided to remarry a person whom she considered hardworking. Interestingly, she decided to buy another piece of land during the second marriage, which she called the *gono-gini* land, as she thought that her husband contributed largely to the income that derived from her *sawah*. This demonstrates the fact that the land categorized as *gono-gini* is also supported by the income originating from the wife's property.

4.4.3 Gender and Land Tenancy

According to Agarwal (1994), the rights in land can be in the form of ownership or usufruct (that is rights of use), which are associated with varying degrees of freedom e.g., to lease out, mortgage,

bequeath or sell. In the case of Kemang village, the people also have access to land in the way of sharecropping[3] (*bagi hasil* or *maro*), renting (*sewa*)[4] and mortgaging (*ngakad*)[5], even cultivating the National Forest Land (Perhutani's Land). As it is shown in Table 4.7 that there were 33.215 ha land that was accessed by the residents of two hamlets (Beber and Cikupa hamlets), where our survey was conducted.

Table 4.7 The Total and Average Land Size Accessed by Peasant Households in the Two Hamlets by type of Agreement (in ha)

Type of Agreement	Sawah		Pasir		Total	
	Total	Average	Total	Average	Total	Average
Sharecropping	3.431	0.021	7.000	0.042	10.431	0.06
Rent	0.924	0.006	1.000	0.006	1.924	0.012
Mortgage	0.560	0.003	0.000	0.000	0.560	0.003
National Forest Land Cultivators	0.000	0.000	20.300	0.123	20.300	0.123
Total	**4.915**	**0.030**	**28.300**	**0.169**	**33.215**	**0.198**

Note: NFL = National Forest Land
Source: Fieldwork, 1998

Of the total enumerated households, 23 and 18 households from different strata have access to *sawah* or *pasir* sharecroppers at the rate of 14% and 11% respectively. The average size of land cultivated by sharecroppers is about 0.15 ha for *sawah* and about 0.39 for *pasir*.

In terms of *sawah*, sharecroppers consist of 2 households that belong to Stratum A and B, and about 11 and 8 households from Stratum C and Stratum D respectively. For *pasir*, sharecroppers belonging to Stratum B, C and D were 3, 7, and 8 households respectively. There are only five households that have sharecropping agreement on both types of lands.

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3 Sharecropping is a form of land tenure under which the landowner allows another person to cultivate land in return for a 50% share of the production.

4 The system of land renting usually involves a cash payment to the landholders by the tenant in advance before the tenant acquires the right to cultivate it.

5 The system of *ngakad* is different from rent. In this system, the landowner borrows some amount of money from other person who lends him/her money; and in lieu of that, the lender acquires the right to cultivate the land as his/her own. The period of mortgage (*ngakad*) depends on the agreement, but usually it exists until the debt is repaid.

Decision of accepting the sharecropping agreement is made by the couple, as they are the main family labor who cultivate the land. Besides, most of the money required for cultivating land (agricultural input production, i.e. fertilizer and incectiside) derives from the income of the couples' land (*gono-gini*). However, there are four households that earned the capital necessary for sharecropping. Such capital originated from money earned by the wives as international migrant workers. Sharecropping system is usually restricted to land located exclusively in the village. Households of the lower stratum are not interested in becoming sharecroppers of land outside the village. It is because the transportation cost from Kemang to the lowland villages located around the village is too expensive for the poor households. Sharecropping system involves the land-owning households, men and women from all strata as well as the landless, men and women; even among those of the same stratum, especially Stratum B and C. The sharecropper may even be the landless daughter or son of the owner.

As mentioned earlier, *sawah* is limited in Kemang village and the average land size is too small. In consequence, the opportunity for the landless households to rent land was also limited. There are only eight households who rent *sawah*, and they belong to the households that do not have *sawah* but have a small size of *pasir*. The average land size they rented is about 0.12 ha. In the case of *pasir*, only two households were found renting in this study area. Both of them have no *sawah* but own *pasir*, one case belonging to the husband, and the other belonging to the wife. In terms of mortgage, there are only three households of Stratum B and C that possess mortgage of *sawah*, and the average land size they mortgaged is slightly higher than those who rent which is about 0.19 ha. All of the households use the income generated by women from non-agricultural activities (migrant worker, small shop owner and trader) for mortgaging.

Of the total enumerated households, there are 69 households (41.8%) of all strata that cultivated Perhutani's land as they participated in the Social Forestry Program. Of the 69 households, there are five households each from Stratum A and B; while 32 and 27 households are from Stratum C and D respectively. There is a tendency that the higher the stratum the higher the average land size of Perhutani's land. The average land size of Stratum A is 0.55 ha, while among Stratum B and C it is around 0.30 ha and 0.29 ha respectively; and about 0.25 among Stratum D. The reason is

because a number of husbands from Stratum A and B were also appointed by the National Forest Company (Perhutani) as heads of the forest farmer groups.

Widows and widowers in Kemang village also have access to land. Of the total enumerated households, there are 19 widow/widower households, 8 of them widows. It is interesting to note that even among widower households, besides access to land inherited from his parents; the widower also has access to *sawa*h and *pasir* originating from his wife. Of the total widower's households, there are two households where the composition of landholding of each household is the following: (a) the *sawah* as well as the *pasir* belonging to his late wife, (b) the sawah that belonged to them as *gono-gini*'s *pasir*, (c) the *pasir* that belong to husband and access to Perhutani's land. The rest are landless, but two of them have accessed to Perhutani's land. The composition of land holding of this type of households is the following: (a) the wife's *sawah* and husband's *pasir*, (b) wife's *sawah* and *pasir*, (c) wife's *sawah* and access to Perhutani`s land, (d) only the Perhutani`s land, and (e) access to land only by mortgaging. The remaining households have no access to any land due to aging.

4.4.4 Recognition of Rights in Land

As already mentioned earlier, the evidence on formal recognition of women's right in land can be supplied by the help of a document known as Letter C, which is available at the village office. Table 4.8 shows the data of the total land and the average land size in the two hamlets based on Letter C of Kemang village in 1976.

Table 4.8 The Total and the Average Land Size Owned by the People of Kemang in 1976 by Type of Land and Sex (in ha)

Sex	Total Land Size		The Average Land Size	
	Sawah	Pasir	Sawah	Pasir
Men (n=85)	8.60	51.56	0.10	0.61
Women (n=68)	5.53	23.00	0.10	0.41
Total (n=153)	**14.13**	**74.57**	**0.09**	**0.49**

Source : Letter C of Kemang Village, 1976

Based on the number of the landowners, it can be seen that about 68 women were documented as landowners, which is about 44% of the total landowners in the two hamlets. Though the total

land belonging to women was lower than those of men, there was no difference with regard to the average land size of the rice field (0.10 ha) between men and women. However, in terms of the *pasir* the average land size belonging to women was lower than of men. Without looking at the average land size owned by women and men, the data shown in the table gives evidence of the formal recognition of women as well as men's right in land.

At the level of ideology and legal regulation, the bilateral Sundanese customary law as practiced by the Kemang people is ameliorated by the Constitution of 1945, which supported the principle of gender equality for all citizens. In terms of rights in land, the Basic Agrarian Law of 1960[6] also guaranteed the right of woman as well as men to own land.

It is found in the group discussions and in-depth interviews that the village officers and almost all the villagers have detailed knowledge of each other's land, e.g., about the location, the type of land and the boundary and they even usually recognize the land by naming the owner of the land. Since the customary law is enforced and accepted by the village community, there is lack of awareness among the Kemang people on the importance of the legal document of land. In general, most of the land they owned has still remained in the official document in the name of her/ his mother, father, even in the name of their grandmother and or grandfather or any other previous owners.

4.5 Conclusions

This chapter has attempted to give evidence to the gender values, which influence peasant households of the Sundanese community with bilateral kinship in West Java in implementing the equal gender to landownership.

In contrast to Ekadjati (1995) who states that the Sundanese inheritance system is based on the '*lalaki nanggung, awewe nyuhun*' which means son inherits twice as much as the daughter, this study discussed *sanak*, as evidence of values of gender-equal values concerning status of son and daughter regarding the rights of household property. The peasant households treat their

6 The article No. 9 version 2 stated that "every Indonesian citizens, man and woman, have the same opportunity to obtain the right on land and to obtain the benefit and the production for himself/herself, and his/her family (Anonymous 1984).

daughter and son equally as *anak* (children) and allow both of them to have the same right to the mother's, father's and/or parent's property, including agricultural land.

Despite the fact that Kemang people are Muslim, the values of *sanak* strongly influence the peasant households to adopt customary law in allocating their land through inheritance and grant system. This leads to gender equality in access to and control over land among the household members. Based on analysis of the household data, we find three categories of land ownership pattern for *sawah* and *pasir*: husband, wife and joint ownership called *gono-gini/tepung kaya*. Of the 98.29 ha total land of 165 enumerated households, about 50.1% is in *gono-gini* category, while the land owned by husband's and wife's is 28.1% and 20.8% respectively.

In terms of *sawah*, the average size of land in the category of wife's is slightly higher than the husband's, which is 0.032 ha and 0.027 ha respectively. On the contrary, for *pasir*, the average land size is 0.153 ha for women and 0.224 ha for men. Further, of the 111 households that owned land, about 100 households owned land through inheritance, grant and/or *gono-gini*, while the rest owned land through *gono-gini* only. Moreover, the majority of the household's land was the wife's (43%), while that owned by husband's is only 38%. The others consisted of households with the wife's *sawah* and the husband's *pasir* (7%), and only 4% households that either the husband or the wife had inherited and granted both the types of land from both of their parennts as well. It means that women have the right to dispose exclusively over 43% land and they have customary legal rights over 50.1% of the *gono-gini* land.

Gender equality in land ownership is also shown in the practice of the inheritance system, which is calculated through the male and female lines. Using the data gathered by in-depth interviews of 20 households regarding the origin of the land, it is found that the total land obtained from the mother is 6.159 ha (37.2%), while from the father and both is 7.496 ha (45.2%) and 2.898 ha (17.6%) respectively. These findings highlight the domination of women in access to and control over the household's *sawah*. Of the total land owned by 20 households, a considerable amount of land is owned by wives through inheritance and grant, for *sawah* and *pasir*. The total *sawah* under the possession of women is about 1.51 ha or almost 74% of the total household's

sawah. In the case of *pasir*, the women's ownership is higher than men too. It is 7.985 ha or 55% of the total households' *pasir*.

As the peasant households are heterogeneous, it is found that the higher the stratum the higher the women and men's access to and control over the land. The woman, including the polygamous household cases, has her own right to sell and to buy land, to accumulate her land and/or to support the daughter and son's higher education, even to go on a pilgrim Hajj. Women as well as men could also control other's land by sharecropping, renting and mortgaging; and could also join the National Forest Land through Social Forestry Program. This was prevalent among widow/widower, especially among the migrant workers, small shop owners and traders.

The women's access to and control over the land are also recognized by the community and legitimized by external authority on the village level as it is found in the documents entitled *Letter C* and Notification Letter of Payable Tax on Land and Building Tax (*Surat Pemberitahuan Pajak Terutang Pajak Bumi dan Bangunan*). Meanwhile, at the national level, women's and men's right to land are also recognized by Basic Agrarian Law No.5 of 1960 as stated in article 9 version 2. Based on the Letter C of Kemang Village in1976, it may be said that in general the average size of land that belonged to women solely and men was not so different. This is applicable for both s*awah* and *pasir*.

It seems from the explanation given above that the hypothesis of this study is supported by the findings. These findings have important policy implications. The mainstreaming of gender should be integrated in all aspects of the agricultural policies, programs and projects especially under the administration of the Ministry of Agriculture. Further, the national agricultural census should take into account the sex-disaggregated data on land ownership, as the information is very important to evaluate the women's contribution on peasant household economies not only on the micro level but also on the macro level.

CHAPTER 5
GENDER RELATION TO PEASANT HOUSEHOLD ECONOMY AND FARMING ACTIVITIES

5.1 Introduction

This chapter intends to examine the second hypothesis regarding the relationship between women's access to land and their contribution to household economy. The hypothesis is that as women and men have equal access to and control over the land, women as well as men equally contribute to the household economy, with the tendency that the higher the ratio of the woman's landholdings within the household land, the more significant her contribution towards the household economy.

In order to examine the proposed hypothesis, this study uses gender analysis with respect to the productive activities of the household conducted by the surveyed households of Kemang Village. This questions how gender figures in the household economy by explaining gender relation among peasant households i.e. the division of labor and responsibility, labor allocation, and decision-making in terms of rice farming in *sawah* and *huma-talun* in *pasir,* as well as contribution of women and men to the household economy deriving not only from farming but also from other productive activities essential for supporting the household economy.

Furthermore, due to the fact that *huma-talun* is the central point for the peasant household economy of Kemang village, this chapter will subscribe a considerable portion towards demonstrating the significance of women's landholding towards the practice of *huma-talun* system by analyzing their practice in various activities related to *huma-talun* management according to the category of the land owner.

5.2 Division of Labor and Time Allocation in Rice Farming

Table 5.1 shows the total labor allocation of the surveyed households in wet rice farming in rainy and dry seasons of 1998. As seen in Table 5.1, the average working hours for rice farming in *sawah* amounts to about 1,996 hours in the rainy season and 1,826 hours in the dry season or about 399

person days and 365 person days respectively (in Kemang one person day is equal to 5 hours, from 07.00 AM to 12.00 PM).

Table 5.1 Average Working Hours in Rice Farming (per Ha) Among Surveyed Households in Kemang by Type of Activity, Season and Sex in 1998 (in %)

Type of Activity	Wet Season					Dry Season				
	Men		Women		Total	Men		Women		Total
	Family	Labor	Family	Labor		Family	Labor	Family	Labor	
1. Land Preparing	10.0	7.2	0.3	-	17.4	10.7	8.8	0.3	-	19.7
2. Seedling	1.8	0.2	0.2	0.5	2.7	1.7	0.2	0.2	0.5	2.6
3. Planting	0.6	0.4	1.9	7.0	10.0	0.7	0.5	2.5	7.0	10.7
4. Fertilizing	2.5	0.2	0.6	-	3.3	2.2	0.2	0.5	-	2.9
5. Weeding	1.0	-	6.9	11.7	19.6	1.0	-	6.0	12.9	19.9
6. Spraying	1.7	0.3	1.5	-	3.6	1.4	0.2	0.8	-	2.3
7. Pest Controlling	8.5	0.1	5.0	-	13.6	8.5	0.1	5.3	-	13.9
8. Harvesting	1.3	3.2	3.6	11.8	19.9	1.3	3.0	3.0	11.1	18.4
9. Sun Drying	2.0	0.6	3.4	0.6	6.6	1.7	0.8	3.2	0.7	6.4
10. Milling	2.2	0.1	0.9	0.2	3.3	1.8	0.2	1.0	0.1	3.0
Total (%)	**31.6**	**12.4**	**24.3**	**31.7**	**100.0**	**31.0**	**14.0**	**22.7**	**32.3**	**100.0**
Total (Working Hour)	**631**	**247**	**485**	**633**	**1,996**	**565**	**256**	**415**	**589**	**1825**

Source: Fieldwork, 1998

Interestingly, there is no gender difference in the rice farming activities in Kemang. In contrast to general perception about the gender stereotype that preparation of land and spraying work are male work exclusively among the peasant household, the women and men in Kemang village are involved in preparing land and spraying works, although the working hours is relatively short. As alluded to in the previous chapters there are five steps necessary for the preparation of land for rice farming i.e., *naplok* (bunds repairing), *nyingkal* (first ploughing), *malikan* (second ploughing), *ngagaru* (harrowing), and *naplak* (make planting pattern). The women in Kemang households were usually involved in *ngagaru* and/or *naplak* stages. In these activities, male labor from outside the family (land owner's relatives or close neighbors) conduct the *naplok* and/or *nyingkal,* while men within the family conduct *naplok*, *malikan*, *ngagaru* and/or *naplak*. As many of the surveyed households are poor, they are inclined to use family labor for conducting almost all the works

related to the activities of rice farming, including *naplo*k and *nyingkal*. The circumstances compel the women to conduct the activities of the men's domain, especially when their husbands are sick or they do not have adult sons, and/or they do not have enough money to pay for the labor.

As the households have only small plots of *sawah* and have little cash income, most peasant households in Kemang use family labor rather than hired labor: almost 56% and 54% in the wet season and dry season for family labor. However, by sex, the data given in the table show that contribution of women in rice farming in *sawah* is quite significant. Of the total working hours necessary for rice farming, women contributed about 56% and 55% in the wet season and dry season respectively. Differentiating by status of labor, hired women conducted the three major activities: planting, weeding and harvesting. As mentioned in the previous chapter, hired female laborers who are involved in the weeding have the right also to be involved in harvesting work. The harvesting work in Kemang is usually conducted by a group consisting of one or two couples (the owners and hired woman labor with her husband), and other hired female labor. In most of cases the same group is employed regularly by the *sawah* owner. There is no wage system for the hired labour in harvesting work; but there is a local system known as *bawo*n system. In the *bawo*n system, the production is divided in 6 parts of which the owner shares 5 parts and the labour gets the remaining one part. Besides, the hired labor also accepts *sedekah*[1]and *zakat maal*[2] from the *sawah* owner. As the peasants of Kemang are Muslim and most of them obey the Islamic law regarding *zakat*. The farmer usually gives the *sedekah* and *zakat* to the hired labor directly just after the harvesting work is finished, as the hired laborers have the right to accept *zakat* according to the Islamic law.

As explained in the field methodology section of Chapter 1, to examine the research hyphoteses, the surveyed peasant households are divided into two categories, WH and WL.

1 *Sedekah* is one of the Islamic values where God suggests the believers, men and women, to donate money or goods to the poor. *Sedekah* is depending on the altruism of the landowner. Usually landowner donates about one part of the *bawon/babon.*

2 Zakat maal is an obligation for the owner of the land to share the harvested product from agricultural land to the right persons. The Islamic law on zakat regulates the amount of *zakat,* it is about 10% of the total yield.

Interestingly, the women's role, which is significant in rice farming, is also reflected in the two categories of households as can be seen in Table 5.2.

Table 5.2 Average Working Hours in Rice Farming Among Surveyed Households in Kemang by Type of Activity, Household, Season and Sex in 1998 (in %)

Type of Activity and Household	Wet Season				Total
	Men		Women		
	Family	Labor	Family	Labor	
Wet Season					
WL					
Production	26.8	7.3	16.9	18.9	69.9
Post harvest	5.4	4.1	8.4	12.2	30.1
Total (%)	**32.3**	**11.4**	**25.3**	**31.1**	**100.0**
Total Working Hour	**690**	**244**	**540**	**664**	**2138**
WH					
Production	25.0	10.6	15.4	19.7	70.6
Post harvest	5.5	3.5	7.2	13.1	29.4
Total (%)	**30.5**	**14.1**	**22.6**	**32.8**	**100.0**
Total Working Hour	**547**	**252**	**406**	**589**	**1793**
Dry Season					
WL					
Production	26.3	8.8	18.2	19.0	72.2
Post harvest	5.2	4.2	7.6	10.8	27.8
Total (%)	**31.4**	**13.0**	**25.8**	**29.8**	**100.0**
Total Working Hour	**632**	**262**	**518**	**598**	**2,010**
WH					
Production	26.2	12.1	10.7	23.0	72.0
Total (%)	**30.1**	**15.8**	**17.1**	**36.9**	**100.0**
Total Working Hour	**470**	**247**	**267**	**577**	**1,562**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 1998

As seen in the table, the time used by the WH is lower than that of the WL, about 84% and 78% in wet season and dry season respectively of the WL. This is because the number of the WL, which own or mortgage *sawah* outside the villages, is more than the WH. In consequence, the *sawah* owner needs to use hired local labor in the villages where the *sawah* is located, rather than their family labor in the villages. Interestingly, although the time spent in rice farming among WH is lower than that of the WL, in percentage there is a similarity in terms of time spent for

production and post harvest activities. The working hours for production activities are about 70% and 72% in wet season and dry season respectively for the WL and the WH.

By sex, as it is seen in Table 5.2, women contribute in the rice farming among the WL for the two seasons, each about 56%, while among the WH their contributions are about 55.4% in the wet season and about 54 % in the dry season. By status of labor, in terms of the average working hours, the number of hired labor use by the WL is higher than that of the WH; it is about 908 hours and 860 hours in the wet season and dry season respectively; or higher about 67 hours and 34 hours respectively if compared with the WH. This is because they tend to hire more female labor for weeding. However, as the total working hours in the two seasons of the WH is lower than that of the WL, in terms of percentage, the use of hired male and hired female labor in WH is higher than that of the WL. About 42.5% and 42.8% of hired labor used by the WL in the wet season and dry season respectively; while among the WH the use of labor in rice farming is about 46.9% and 54.7% in the wet and dry season respectively.

5.3 Decision-making in Rice Farming Activities

Table 5.3 presents data on the distribution of decision-making patterns in the rice farming among peasant households in Kemang.

Table 5.3 The Decision-Making Pattern in Rice Farming Among Surveyed Households in Kemang in 1998 by Type of Activities and Household (in %)

Type of Activity	WL			WH		
	Husband	Wife	Husband & Wife	Husband	Wife	Husband & Wife
1. Land Preparing						
2. Seedling	19.2	7.7	73.1	30.0	0.0	70.0
3. Planting	3.3	16.7	80.0	14.3	19.0	66.7
4. Fertilizing	15.4	11.5	73.1	27.8	11.1	61.1
5. Weeding	3.4	20.7	75.9	10.5	26.3	63.2
6. Spraying	31.3	6.3	62.5	30.8	7.7	61.5
7. Pest Controlling	16.0	0.0	84.0	31.3	18.8	50.0
8. Harvesting	3.3	3.3	93.3	15.8	10.5	73.7
9. Sun Drying	0.0	12.5	87.5	16.7	11.1	72.2
10. Milling	23.5	17.6	58.8	10.0	20.0	70.0
11. Selling	21.8	10.2	69.0	18.4	21.5	60.1

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source : Fieldwork, 1998

Generally, Table 5.3 validates that the couple, husband and wife are the major decision-makers among both types of households, WL and WH in almost every stage in rice farming activity. However, in land preparing especially, among WH households the percentage of decision maker by husband and wife is lower than that of WL households. It is due to the fact that WH households able to pay for labor, while among WL households the land preparing rely on family workers (husband and wife).

5.4 The Input-Output Analysis in Rice Farming in *Sawah*

Table 5.4 shows the average value of input-output analysis in rice farming among the surveyed households in Kemang.

Table 5.4 The Average Value of Input-Output in Rice Farming in Kemang by Category of Households and Season in 1998 (in % and thousands rupiah)

Item	WL		WH		Total	
	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
A. Input Production						
1. Labor Cost	45	53	36	50	41	52
2. Tractor	2	2	1	2	2	2
3. Animal	8	10	8	9	8	9
4. Seed	9	8	10	8	9	8
5. Fertilizer	21	20	21	24	21	22
6. Pesticide	4	3	6	6	5	5
7. Irrigation Fee	2	3	6	2	4	2
8. Tax, and other	7	1	11	-	9	0
Total Input (%)	**100**	**100**	**100**	**100**	**100.0**	**100.0**
Total Input (rupiah)	**1,834,722**	**1,648,410**	**2,270,461**	**1,825,006**	**2,022,688**	**1,724,589**
B. Production Value	**6,347,296**	**5,516,764**	**8,056,898**	**5,092,946**	**7,084,771**	**5,333,940**
C. Income/Revenue	**4,512,574**	**3,868,354**	**5,786,438**	**3,267,940**	**5,062,084**	**3,609,352**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 1998

The data presented in Table 5.4 reveals that the highest percentage of input production cost is the labor cost, which is about 41% and 52% in the wet and dry season respectively. This is the same between both categories of households. However, in general the percentage of the labor cost among the WL is higher than that of the WH. It is in line with the data shown in Table 5.2, which demonstrates that the wage labor used in rice farming among the WL is higher than that of

the WH, which was about 908 hours and 860 hours in wet season and dry season respectively, or higher about 101 hours than that of the WH. It is occured due to the fact that a number of sawah plots which belong to WL is located in outside village, such as in Pangawaren, Cibarengkok and Sukaratu. As the transportation cost to reach these villages are more expensive, the WL tend to use local wage labor.

Also shown in Table 5.4, the revenue per hectare obtained among the WH in wet season is higher than that of the WL, it was about 5.7 million rupiah or about 1.3 million rupiah higher if compared with the WL; while in the dry season the revenue obtained were about 3,3 million rupiah or lower than that of the WL at about 0.5 million rupiah.

Table 5.4 also illustrates that the income/revenue derived from farming in the wet season is higher than that of the dry season. This revenue is related to the average of paddy production. As mentioned in the previous chapter, that the average *sawah* production in Kemang is not as high as in the irrigated areas, it is about 3.5 to 5 ton per hectare, depending on the location of *sawah* in Kemang. *Sawah* which is located in Sawah Tengah and Kalapacondong are categorized as *kelas satu* or first class with the average production about 5 ton per ha, while *sawah* in other areas categorized as *sawah kelas dua* or second class *sawah*, where the average production is about 3.5 ton per ha. The average paddy production among surveyed households in the wet season is higher than in the dry season, about 4 ton per hectare and 4.5 to 5 ton per hectare in dry season and wet season respectively. Surprisingly, the revenue derived from rice farming in wet season is higher than the dry season. However, in general, farmers obtained good revenue from rice farming in 1998, as the price of unhusked rice (*gabah*) was about 175,000 rupiah per quintal or 1,75 million rupiah per ton (Mizuno and Mugniesyah, 2003). By looking at the category of household, it is found that the revenue obtained among the WH in the wet season is higher than that of the WL. On the contrary in the dry season, the revenue obtained among the WH is lower than that of the WL. This is probably due to the percentage of fertilizer used by the WH which is higher than that of the WL.

The high percentage of labor cost is also influenced by the increase of wage labor in 1998 due to the economic crisis which hit throughout Indonesia right after Suharto's regime collapsed.

In Kemang village, the cost of wage labour increased both for women and men during this time as presented in Table 5.5.

Table 5.5 Change in Wage of Agricultural Labor Cost (per day) in Kemang by Year

Wage Labor By Sex	1997 (before the crisis)		1998	
	Rupiah	Rice (liter)*	Rupiah	Rice (liter)*
Female				
Wage per day	3000	3	4000	1,6
Meal Cost	1500	1,5	3000	1,2
Without Meal	"Never"	-	5000	2
Male				
Wage per day	3500	3,5	5000	2
Meal Cost + cigarettes	3000	3	5000	2
Without Meal	"Never"	-	5000	2

Note: 1 liter is equal to 0.8 kg
Source: Fieldwork, 1998

As seen in the table, there is an increase of wage labor from 1997 and 1998 at about 35% for female and 42% for male labor. Contrary to the price of rice, there is a decrease of wage labor about 47% and 43% for female and male labor respectively. Further, as the price of rice as well as other foodstuffs such as sugar, coffee and snacks rose, most landowners were inclined to hire female and male labor which was locally termed as *lepasan*, meaning without giving meal and/or cigarettes, especially for those who cultivated *sawah* outside the village.

5.5 Gendered Division of Labor in *Huma-Talun* Activities

5.5.1 Division of Responsibilities in Preserving and/or Collecting Seed and Young Trees

The availability of seeds and young trees is very important to the farmers for developing their *huma-talun*. In these activities, the women in Kemang play important role as seed preserver. According to the kind of plants, as can be seen in Figure 5.1, in general the women prominently responsible for preserving the seeds of horticultural trees (80%) such as cereals (maize), peanuts, and vegetables (egg plant, beans, chili) and for paddy - including *huma* paddy, wet-rice paddy and glutinous rice (53%). Other than that, women are also responsible for storing seeds for both consumption and barter. Except for the teak seeds, women are not responsible for collecting the seedlings of wood, banana and fruits trees; men are usually responsible for taking care of these.

Meanwhile, the collection tubers and roots and also the preservation works are conducted by both men and women equally (exactly 50% each).

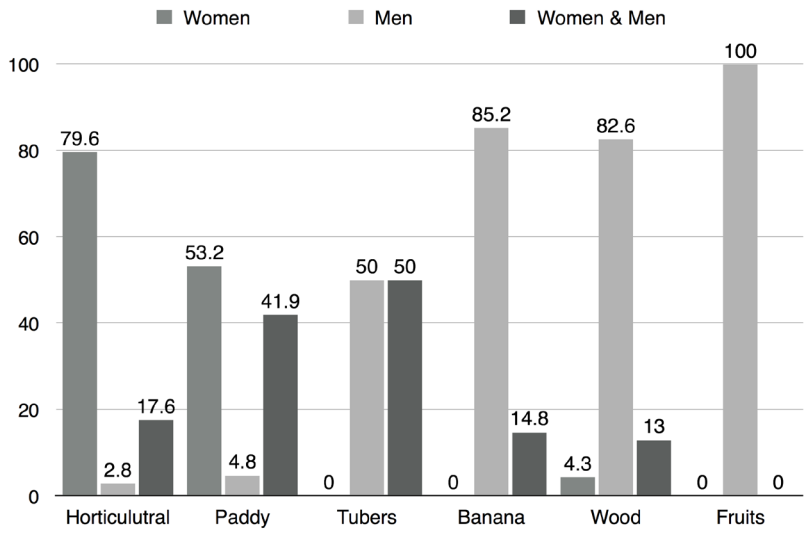

Figure 5.1 Seeds/Young Trees Preserver and Collector among Surveyed Households (in %)

Based on the information gathered from the focus group discussion, it may be fairly said that the *huma-talun* is subsistence oriented; the majority of farmer households obtained the seed of cereals crops, horticultural/vegetables and teak seeds as well as young trees of various crops/plants from their own land. According to information supplied by the farmers, women and men that the seedlings are usually grown in their land naturally or propagate themselves which is locally called *sampakan*. These include, among others, leaf and fruit bananas, teak, and *ki hiang* and *aren* trees. As already mentioned above, there are two kinds of leaf banana trees: *cau aro* and *manggala*. The leaf banana trees are grown scattered in almost all the sloping land (*pasir*) in Kemang village, as wildcats (locally called *careuh*) eat the *aren* and leaf banana fruits and left the seeds in their dirt (waste). They also state that *manggala* leaf-banana trees originate from *aro* banana trees, which have already been cultivated by farmers. Thus, although women are not directly responsible for collecting seedlings , but since the majority of seedlings grow wildly and/or naturally in their plots, women also contribute to the use of seedlings in the form of simply letting the plants grow on their land.

The data on the source of seeds and seedlings for surveyed household supported the result of focused group discussion (see Figure 5.2). About 49% of the households obtained them from their own land. For those who do not have seeds or seedlings, they obtained them by taking from their parents and relatives (20%) or from their neighbors (9%). Only 10% of farmer households bought them, especially peanuts, wet-rice paddy and fruit trees. The same pattern was also found in all ownership categories of husband, wife and *gono-gini*.

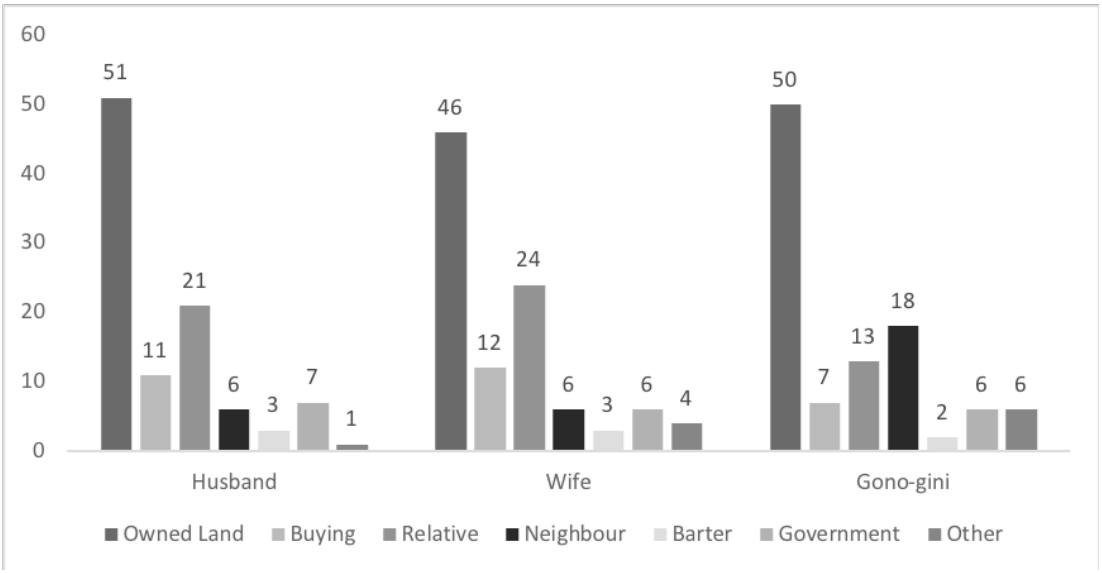

Figure 5.2 Source of Seed/Young Trees (in %) by Landowner category

The farmer households who do not have *sampakan* in their land, either by the husband or by the wife, usually collect the teak seeds from National Forest Land (Perhutani's Land) which is located about 4 km from their settlement. For others plants, especially species of mahogany (*Swietenia mahogany* Jacq.), cotton (*randu* or *Ceiba pentandra*), *tangkil* (*Gnetum gnemon*), *Albizia* (*Paraserienthes falcataria*), mango (*Mangifera indica*) and snack head fruits *(Zalacca edules*), the farmers collected them from the Perhutani's projects called Social Forestry Program and Integrated Forestry Community Program (PMDHT) which were introduced at Kemang Village in 1986, 1991 and 1992. As shown in Figure 5.2, there were about 6% of farmer households that obtained the seeds or seedlings from the government.

5.5.2 Division of Labor and Time Allocation in *Huma-Talun*

There are two activities that absorb the labor of the household members in the management of the *huma-talun*. The first is related to the activities of preparing for *rarahan* and *huma* paddy cultivation, and the second one is the production of brown sugar as a small household industry. The following is the time allocation used by the surveyed households irrespective of women and men. The women and men in Kemang village are engaged in almost all the land succession stages of upland farming. However, the busiest activities occurred during preparation of land, preparing *rarahan* and *huma* stages. Table 5.6 shows the data on time allocation in these activities.

Table 5.6 Average Working Hour in Preparing *Rarahan* and *Huma* Stages per Hectare among Surveyed Households in Kemang Village by Type of Activity, Labor and Sex in 1998 (in %)

Type of Activity	Men		Women		Total
	Family	Labor	Family	Labor	
Slashing	8.9	3.1	3.3	0.0	15.2
Trees Burning	2.9	0.6	0.9	1.2	5.6
Land Cleaning	9.6	3.3	9.6	0.7	23.1
Dibbling	1.4	1.8	2.5	3.5	9.2
Pest Controlling	5.6	0.0	5.4	0.0	11.0
Weeding	7.7	0.1	6.7	2.7	17.3
Fertilizing	0.9	0.1	0.4	0.7	2.1
Harvesting	4.9	0.0	5.9	3.0	13.9
Sun Drying	0.4	0.0	0.2	0.0	0.6
Transporting	1.1	0.0	0.6	0.0	1.7
Milling	0.1	0.0	0.1	0.0	0.2
Total (in %)	**43.5**	**9.0**	**35.7**	**11.8**	**100.0**
Total Working Hour	**972**	**200**	**798**	**264**	**2,234**

Source: Fieldwork, 1998

As it is seen in the table, the total working hours required for preparing *rarahan* and *huma* paddy production is 2,234 hours. The women, who are engaged in almost all activities, contributed around 47.5% out of the total hours. The data shown in the table contradicts the perception of the Extension Agent that the harsh conditions on the sloping land prevent women from working there. In fact, women as well as men in Kemang village are engaged in the “heavy tasks” such as slashing,

burning of tree and cleaning the land. In these activities, which are required for preparing *rarahan*, women contributed 15.7% of the total activity, or about fifty-five percent of men's contribution.

In the *huma* stage, women participated in all activities including dibbling and rice milling and finally contributed around 31.8%, or about 7.6% higher than that of men. By the labor type, due to subsistence farming in nature (mainly for household consumptions), the majority of the average working hour derived from labor within households, almost 80%; and the remaining is labor from outside the household (20%). However, of labor from outside the household, participation in dibbling is not paid, as dibbling is a mutual help activity between the relatives or close neighbors. During dibbling, the landowners usually prepare various special kinds of food for meal. The kinds of food supplied by the landowner include rice with meat, chicken, or/and eggs, soup, vegetables, cake or other sweets and also *es cendol* (traditional beverage with ice cubes). They usually eat together just after finishing the task of dibbling.

Further, in the *huma* stage, women were also found engaged in the pest control and weeding activities, which in fact were also not an easy task for women. This is due to the topography of the dry land which is hilly and undulated. There are four local terms of weeding in *huma* stage. First weeding is called as *ngoyo*s, which is conducted just after the *huma* seeds dibbling. The next step is *ngabaladah*, which is conducted 15 days after the dibbling. The third step of weeding is called as *mindo*, which is conducted in the third month after dibbling, and the last weeding is done one month after *mindo* and it is called *ngaramas*. Weeding in the *huma* stage usually uses *parang*. In these activities, women contributed about 14.8% or about 1.4% higher than that of men. In line with the end of harvesting of food plants, especially the cereals and some horticultural plants, the activity in the latter stages of the *huma-talun* system tends to decline.

Table 5.7 demonstrates the data on average working hours (labor input) in *huma* farming by category of the household. As seen in Table 5.7 the labor input in *huma* farming among the WH is higher by 371 hours than that of the WL. However, the highest percentage of labor input in both categories of households is used for production activity; it is about 76% among the WL or lower at about 11% compared with the WH. By status of labor, the WH, which uses the family labor is higher than that of the WL, 65.4% and 89% for the WL and WH respectively. On the contrary, in

terms of hired labor, it is about 34.6% and only 13% for the WL and WH respectively. By sex, the hired female labor among the WL is almost double that of the WH. The high input of family labor among the WH is a strategy in response to the increasing need of the wage labor as mentioned above.

Table 5.7 Average Working Hour in *Huma* Farming per hectare in Kemang by Type of Activity, Status of Labor, Category of Household and Sex (in %)

Type of Activity	Men		Women		Total
	Family	Labor	Family	Labor	
WL					
Production	26.6	14.7	19.6	15.2	76.0
Post Harvest	8.2	0.1	11.1	4.6	24.0
Total (%)	**34.8**	**14.8**	**30.6**	**19.8**	**100.0**
Total Working Hour	**699**	**298**	**616**	**398**	**2011**
WH					
Production	42.9	5.7	33.2	5.2	86.9
Post Harvest	5.6	0.0	5.4	2.1	13.1
Total (%)	**48.4**	**5.7**	**38.6**	**7.3**	**100.0**
Total Working Hour	**1154**	**135**	**918**	**175**	**2382**

Source: Fieldwork, 1998

The explanation given above reveals that women's access to and control over the *pasir* is followed by the women's contribution in terms of working hours in managing the *huma* farming too.

Besides the *huma* farming, women also involve in other stage of *huma-talun*. In *jami* the main activity is harvesting of some vegetables such as *cengek* (*Capsicum frutescense*), *terubuk* (*Saccharum edule* or famous as duruka (Fiji asparagus), cassava (*Manihot esculenta*), banana (*Musa paradisiaca*) fruits and leaves, papaya (*Carica papaya*) and other seasonal fruits such as *rambutan* (*Nephelium lappaceum*), and (*Durio zibethinus*). Excepting those households with larger plots of land and aging households, most of the banana leaves are harvested by couples. It is usual for the husband and wife to work together in cutting the leaves, folding and transporting them to their house and or to the trader's house for selling.

In *reuma ngora, reuma kolot and kebun campuran,* the farmers usually continue to harvest leaf and fruit banana as well as seasonal fruits. Besides, they harvest the bamboos (*Gigantochloa sp.)* and wood tree, especially *Albizia*. As the trees are not homogenous in age and diameter, selective cutting is employed as the conditions allow. Most of this activity is done by men, and usually by hiring chainsaw machine operator who are paid according to the volume of the woods. Husband and wife usually carried the small branches to their house after drying for use as fuel. The couple, husband and wife are also engaged in collecting fuel wood, especially by cutting the *kaliandra* (*Calliandra calothyrsus*), which can be harvested in almost every stage after the *huma* stage. Further, in *talun* stage, men predominantly do the harvesting of wood tree; the same is done for the cases of bamboos and *Albizia*. A *talun* consists of perennial trees and shrubs that vary in its composition; but wood trees, bamboos and fruit trees are dominant in *talun*. Excepting the fruit trees, the men harvest other trees, such as *jengkol*, *petai* and *durian*, and cutting the trees as well. Women harvest from the fruit trees, especially seasonal fruits such as mango, *sawo* (*Manilkara zapotta*)*, rambutan*, and *duku* (*Lansium domesticum*).

Huma-talun plays an important role in the livelihood of the peasant household, not only as the source of staple food, but also it provides sugar palm (brown sugar) production locally called *gula aren.* As *aren* trees grow naturally on the dry land, peasant households can tap the sap from *aren* trees almost every year. So, as long as farmers have one or some old trees in the appropriate age (usually around 8 to 10 years old) for tapping, they can harvest the *aren* trees on a regular basis for a long time. The production of palm sugar, as well as farming, involves couples, husband and wife, with a gendered division of labor where the husband is responsible for preparing the sap (*lahang*) tapping and harvesting and transporting the sap to their house, while the wife is responsible for the whole process in order to make the sap either traditional brown sugar (*gula cetak*) or granular brown sugar (*gula semut*). Nevertheless, from observation, it was noticed that sometimes there were women who tapped the sap when their husbands were sick and had no adult son to tap. Of the 62 surveyed households, there were 14 households involved in the production of brown sugar. It was known that the average time allocation for the household members was around 269 working hours per month. Out of the total, women contributed about 78%. This was

not surprising, as women did all the activities from preparing equipment, processing the *aren* sap, and packing to sell the product.

5.6 Decision Making in the *Huma-Talun* Activities

5.6.1 Decision Making in Collecting and/or Preserving Seed and Young Trees

Figure 5.3 shows the decision makers for the preservation of seed and collection of seedlings according to the land ownership pattern.

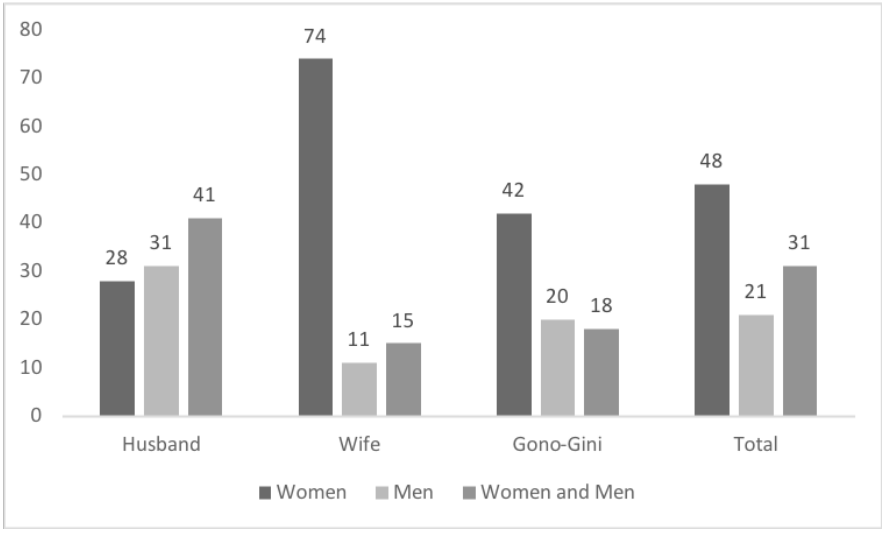

Figure 5.3 Decision Maker of Seed and/or Young Trees by Land Owner Category (in %)

Of the total household surveyed, the decision makers were mostly wife (48%), followed by wife and husband together (31%) and husband solely (21%). However, there was a slight difference according to the landowner. Among the plots that belong to women, it seems that wife decide about 74% and 11% is decided by husband only. But among those plots owned by husband, although the decision maker was distributed into three categories, the majority cases were decided by wife and husband together, that was about 41%. Meanwhile among those in *gono-gini* category the majority of decisions on seeds were made predominantly by wife then followed by wife and husband together, that was 48% and 31% respectively. Decision-making for the preservation of horticultural and paddy seeds was dominantly performed by wife solely, it was 70% for horticultural and 46% for paddy seeds. Husband played dominant role in deciding regarding the cutting of trees (79%) and collection of fruits trees (100%). The husband domination in the collection of wood and

trees was due to the fact that the trees were obtained from the Perhutani's gender blind project in which the target groups were male-headed households only.

5.6.2 Decision Making in Selecting Type of Plant to Cultivate

Figure 5.4 below reveals decision making in selecting type of plant. Generally the majority of the decision-making cases for selecting the type of plants were done by a couple (husband and wife) together. However there is a secondary relationship between the landowner and the specific actors who have role in making decision, as can be seen in Figure 5.4. Namely, beside the couple that predominantly select the type of plants, a wife or a husband will be in charge of the decision-making process if the land belongs to her or him.

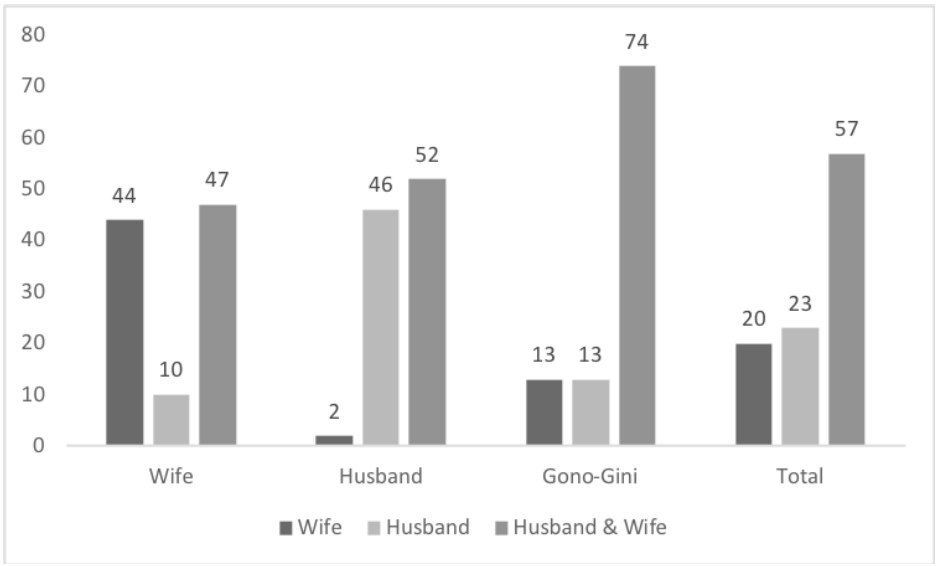

Figure 5.4 Decision maker for Selecting Type of Plant by Land Owner Category (in %)

As mentioned before, it is found that there is a sex-differentiated responsibility for collecting and preserving all the seeds and seedlings. The collection of seeds and preservation of foods constitute the domain of wife, while the woods and banana trees, which are the sources of cash income, constitute the domain of husband (Figure 5.1). Therefore, it is presumed that if the responsibility of collecting the seeds and preserving the food are wife's tasks, the decision-maker for selecting the kind of seeds is wife too, and the same is the case with the wood and fruit trees. However, this is not true in the case of Kemang. It means there is no positive correlation between

the decision-maker and the performer for collecting and preserving the seeds and young trees in Kemang village, as seen in Figure 5.5.

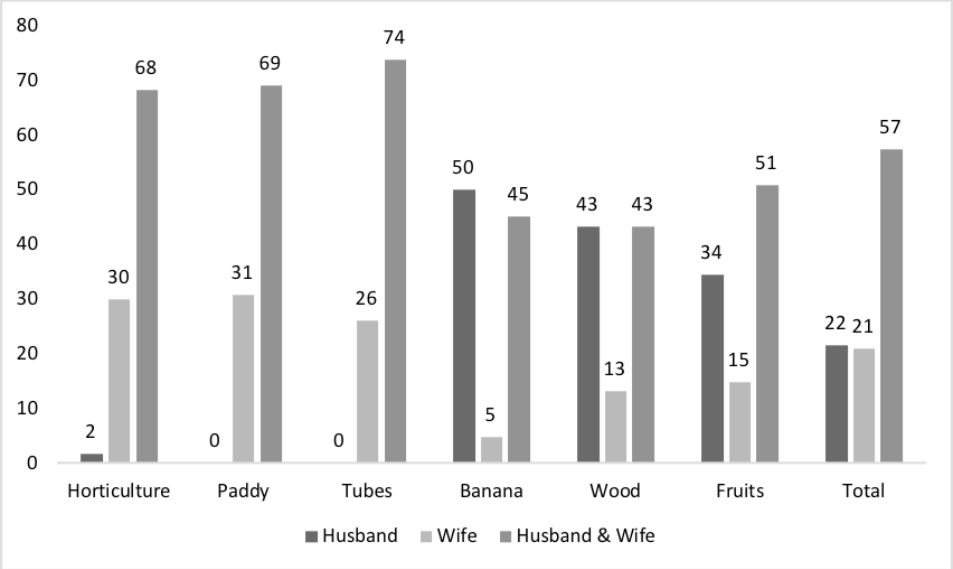

Figure 5.5 Decision maker in Selecting Type of Plant (in %)

The decision made for the selection of food crops for household consumption is not only the task of husband. The decisions for food crops such as paddy and horticultural are made by husband and wife together (68% to 74%), while wife only (26% to 31%) make decisions for vegetable cash crops as well as roots/tubers.

This is probably because wife predominantly engage in decision-making processes regarding all the food crops related to food supply as domestic activities. On the other hand, the dominant decision makers for fruits and banana trees were made by husband and wife together, each around 50%; while for the wood trees the decision making were done by husband only and husband and wife together, each 43%. For banana trees especially, the pattern of husband as decision maker is slightly higher than the husband and wife together pattern, it is at about 5%. For the case of wood trees, it might be due to the fact that farmer households cultivate the wood plants for their own consumption, especially for repairing their parent's as well as their son and/or daughter's house.

Interestingly, in contrast to the food crops in the three following types, it was also found that wife made the decision solely, although the percentage was small: 5% on banana trees, 13% on fruit trees and about 13% on wood trees. It shows that wife are starting to enter the arena of cash

crop production in cases where wife have access to and control over the land. In this case, women of Kemang village engaged in decision making for the preservation of seeds or seedlings and also for cultivating them to meet both the subsistence and cash income. This finding is different from a study on the Vietnamese farmers conducted by Trinh *et al.* (2003), where it was reported that among the Vietnamese farmer households, men made decision on paddy, fruits trees and other commodities, which generated the greatest income.

5.6.3 Decision-Making in Land Preparing for *Rarahan* and *Huma* Stages

As can be seen in Table 5.8, wife took part in decision-making in almost all activities of upland rice farming either as co-decision-maker or sole decision maker.

Table 5.8 The Decision-Making Patterns in Preparing *Rarahan* and *Huma* Stages Among Surveyed Households in Kemang Village in 1998 by Type of Activity and Category (in %)

Activity	WL			WH			Total		
	H	W	H and W	H	W	H and W	H	W	H and W
Slashing			100	33	-	67	19	-	81
Trees Burning			100	33	-	67	19	-	81
Land Cleaning			100	33	-	67	19	-	81
Dibbling			100	-	11	89	-	7	93
Pest Control	17		83	-	-	100	7	-	93
Spraying	20		80	-	13	88	7	7	73
Weeding			100	11	-	89	7	-	93
Fertilizing			100	33	11	56	20	7	73
Harvesting			100	-	22	78	-	13	87
Drying		50	50	11	67	22	7	60	33
Transporting			100	22	-	78	13	-	87
Milling		100		-	78	22	-	87	13

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings; H = Husband, W = Wife; H and W = Husband and Wife

Source : Fieldwork, 1998

Usually wife made decisions with their husbands. They discuss the situation and make decisions together. However, as shown in Table 5.8, some important activities like drying and milling were subject to solely the decision by wife. No activity was subject to decision solely made by husband. It is noteworthy that in *huma-talun*, husband and wife in both categories of households, the WL and WH, are also involved in the decision making process for those activities

that are stereotypically within the male domain; namely preparation of land (including slashing trees, burning them and cleaning land as well).

Interestingly, the percentage of wife as sole decision maker among the WH is found higher than those of the WL, especially regarding dibbling, spraying, fertilizing, harvesting, drying and milling. Generally, the dominant roles of husband and wife in decision making regarding *huma* is also found in both categories of the households. This is because, as already stated above, both men and women have equal access to dry land and they are very much involved in almost all *huma-talun* activities, as shown by the data given in Table 5.8. Both women and men are engaged in the decision-making process as most of the labor for developing *huma-talun* is derived from within the household, especially the husband and the wife.

5.6.4 Decision Making on Land Succession Stage

One of the important aspects for analyzing women's contribution to *huma-talun* is their participation in the decision-making process or the control over land succession stage as well as the types of plants that would be planted on each stage. With regard to power of decision-making on land succession stage, the information gathered from the focused group discussion and the survey, it was found that the dominant pattern of decision-making was the decision jointly made by the couple (husband and wife). Figure 5.6 shows the decision-making in land succession stage is done by the landowner. As can be seen, generally, there are 57% of plots where decision-making was conducted by the couples. This is due to the fact that the choice of land succession stage is very much depended on the availability of family labor, especially wife and husband. This is also supported by the data on time allocation as mentioned above (Table 5.7). Besides, they have to allocate the land that they own wisely by considering the needs of the households, such as food, wood for housing and other products for generating cash income as well as the ecological aspect which is important for sustaining their dry land (*pasir*).

However, if we look at the decision-maker by landowner category, there is a correlation between the landowner and the person who makes the decision on land succession stage. In women-owned plots, the proportion of decision-making made by wife alone was dominant i.e., 88%, while in *gono-gini* all the decisions were exclusively made by the couple. It is interesting to

see, that in men-owned plots the decision made by husband only and by the couple together bears the same percentage.

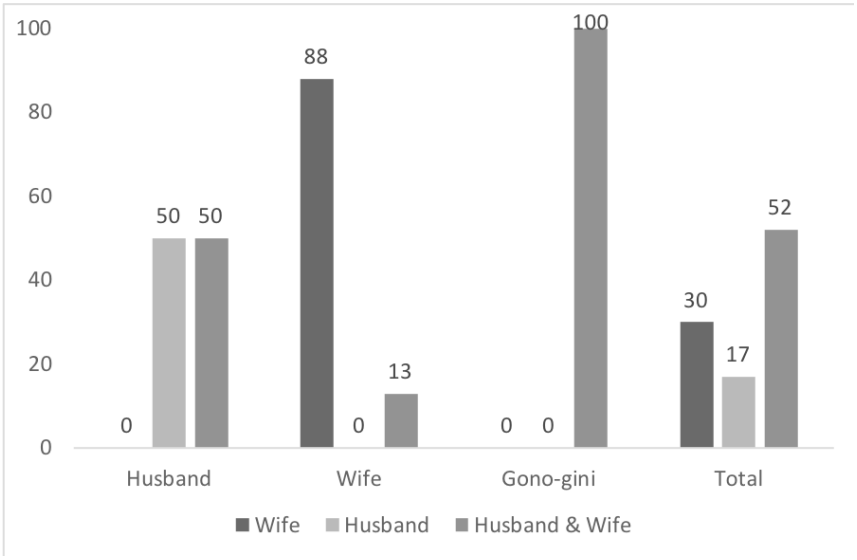

Figure 5.6 Decision Maker on Land Succession by Land Owner (in %)

5.7 Input-output Analysis of *Huma* Farming in Pasir

Table 5.9 provides some information regarding the input-output analysis in *huma* farming has been provided. As may be seen in the table, which is similar to that of the rice farming in *sawah*, the highest percentage of input cost for *huma* paddy farming is the labor cost, especially for land preparing and dibbling. As mentioned previously, the land preparing for *huma* paddy took about 2-3 months prior to dibbling. It was found that in 1998, the hired labor for land preparation and dibbling used among the WL was about 14.7% male wage labor and 8.3% female wage labor, while among the WH it was about 5.3% male wage labor and 3.7% female wage labor. Besides, the land owner also serves the meal and snack which is better in dibbling, as dibbling is not only an agricultural activity, but also social and recreational for the owner and the labor, women and men and their family who joint the activities, as they tease each other and enjoy themselves during the dibbling. As many of the poor labor do not consume beef or other protein food in their daily meal, the landowner usually serves such kind of food during dibbling activities.

The revenue per hectare derived from *huma* paddy farming was not as high as rice farming in *sawah.* This is because the average productivity of *huma* was not as high as the *sawah*. In 1998,

the *huma* paddy production was about 0.9 to 1.0 ton per hectare. In fact, the farmers usually do not sell the *huma* paddy; they cultivate it for household consumption. However, in 1998 the price of *huma* paddy was equal to 1,400 rupiah per kg or 1.4 million rupiah per ton.

Table 5.9 The Average Value of Input-output in *Huma* Farming in Kemang in 1998 by Category of Household (in % and rupiah)

Item	WL	WH	Total
A. Input Production			
1. Labor Cost	71.0	64.9	68.7
2. Seed	8.3	12.6	9.9
3. Fertilizer	11.2	9.7	10.7
4. Pesticide	1.1	3	1.8
5. Transportation	1	-	1.0
6. Tax, and other	7	10	8.0
Total (%)	**100**	**100**	**100.0**
Total (rupiah)	**662,936**	**578,000**	**627,962**
B. The Value of Yield (paddy)	**954,000**	**896,000**	**930,118**
C. Income/Revenue	**291,064**	**318,000**	**302,155**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 1998

5.8 Time Allocation and Household Income Structure in Various Productive Activities

As mentioned in Chapter 3 the majority of surveyed household members, men and women, work as farmers, 54.8% and 62% respectively. However, both of them are also found engaged in various other types of occupation, which are directly or indirectly related to farming or sometimes in non-agricultural sectors (See Table 5.10).

Of the total surveyed households the average working hour in a month is about 316 hours. By sex, the working hour of women is about 47.8% or slightly (5%) lower than that of men. Meanwhile by activity, excepting the fish raising, non-farm wage labor and wood factory, women were generally engaged in almost all the fields of productive activities including wood collecting that was regarded as a male dominant activity by outside people, even researchers. Interestingly, for trade and brown sugar industry, the working hours of women are more than men, and the hours for livestock keeping, farm wage-labor, and services are almost the same as that of the men.

By comparing the two categories of households, it can be seen that the total working hour of the WH is higher than that of the WL, at about 62 hours. Among the WL, the average working

hours of women and men is the same, each 127 hours (50%). Interestingly, although the average working hours of women among the WH is about 47.6%, however, the amount of their working hours is higher than women and men of the WL. Further, by analyzing the type of productive activity, interestingly, the average working hours of women among the WL in farming, trade and production of brown sugar are higher than that of men in the same household. Meanwhile among women of the WH, their average working hours is higher than that of men in services, trade and the production of brown sugar. The data shown in the table above, again, reveal that as women and men have access equally to land and also participated in the decision-making process of productive activity, both of them contribute to productive activity in farming and other activity related to farm production (such as production of brown sugar and collection of fuel wood).

Table 5.10 Average Working Hour of Surveyed Household in Kemang in 1999 by Type of Productive Activity and Household Category (in %)

Activity	WL			WH			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
a. Agricultural Activity									
1. Rice Farming	26.2	29.1	55.2	33.0	24.8	57.8	30.1	27.5	57.6
2. Fish raising	0.2	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1
3. Livestock keeping	2.7	2.2	5.0	3.0	2.8	5.8	2.9	2.6	5.5
4. Farm-Waged Labor	0.3	0.3	0.6	0.5	0.4	0.9	0.4	0.4	0.8
Sub-total	29.3	31.6	61.0	36.6	28.0	64.6	33.5	30.4	64.0
b. Non-agricultural									
5. Non-Farm Waged Labor	4.2	0.0	4.2	1.1	0.0	1.1	2.7	0.0	2.7
6. Services	3.1	1.8	5.0	0.1	2.1	2.1	1.7	1.9	3.5
7. Trade	3.3	6.9	10.3	6.3	9.4	15.7	4.9	8.3	13.2
8. Brown Sugar Production	6.4	8.1	14.5	4.7	5.4	10.1	5.7	6.9	12.6
9. Wood Factory	1.8	0.0	1.8	0.0	0.0	0.0	0.9	0.0	0.9
Sub-total	18.8	16.8	35.7	12.1	16.9	29.0	15.9	17.1	32.9
c. Wood/Fuel Wood Collecting	1.8	1.5	3.4	3.7	2.8	6.4	2.8	2.2	5.0
Total (a+b+c) %	**50.0**	**50.0**	**100.0**	**52.4**	**47.6**	**100.0**	**52.2**	**47.8**	**100.0**
Total (working hour)	**127**	**127**	**254**	**165**	**150**	**316**	**165**	**150**	**316**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 1999

Table 5.11 shows the income contribution by surveyed household members, men and women, to the household economy.

As seen in Table 5.11, the average income of the surveyed households was 6.862 million rupiah, and women are directly involved in 73% income generation activities of the household, while men's contribution is slightly lower (70.5%). This relatively high-rate of women's

Table 5.11 Average Income of Surveyed Households in Kemang in 1999 by Income Source, Category of Household and Sex (in %)

Income Source	WL			WH			Total		
	M	W	M&W	M	W	M&W	M	W	M&W
a. Farming									
1. Rice Field			14.6			26.1			19.2
2. Dry Land			15.9			10.4			13.9
3. Livestock Keeping			1.4			0.4			1.0
b. Waged Farm Labor	0.3	0.9	0	1.0	1.0	-	0.6	1.0	0
Sub-total	0.3	0.9	31.9	1.0	1.0	36.9	0.6	1.0	34.1
b. Non-agricultural									
1. Banana Traders	0.2	0.0	0	1.4	-	-	0.7	0.0	0
2. Small Shop	0.9	2.9	0	1.8	-	-	1.3	1.8	0
3. Civil Servant	19.0	6.8	0	3.9	7.8	-	13.4	7.2	0
4. Construction waged labor	1.3	0.0	0	-	-	-	0.8	0.0	0
5. Migrant (Middle East)	-	24.7	0	-	11.1	-	0.0	19.7	0
6. "Ojeg" * driver	1.2	0.0	0	1.7	-	-	1.4	0.0	0
7. Wood Factory/trader	0.7	0.0	0	9.1	-	-	3.9	0.0	0
8. Rice Mill	0.4	0.0	0	3.7	-	-	1.7	0.0	0
9. Palm Fiber Trade	0.0	0.0	0	6.0	-	-	2.3	0.0	0
10. Palm Brown Sugar	0.0	0.0	7.6	-	-	14.0	0.0	0.0	9.1
11. Other Non-Agric. Labor	1.1	0.0	0	0.7	-	-	0.9	0.0	0.0
Sub-total	25.0	34.3	7.6	28.3	18.8	14.0	26.5	28.7	9.1
Total (%)	**25.2**	**35.3**	**39.5**	**29.3**	**19.9**	**50.8**	**27.1**	**29.7**	**43.3**
Total (thousand rupiah)	**1,929**	**2,694**	**3,018**	**1,796**	**1,219**	**3,114**	**1,871**	**2,051**	**2,994**

**Ojeg* is passenger motorcycle. Note: M = men. W = Women, M & W = Men and Women.
Source : Fieldwork, 1998

contribution to the household economy is consistent with their profound involvement in farming (as managers, laborers or in their production of the palm sugar) and non-agricultural activities. Women contribute 35.1% of the farming activity and about 37% of non-agricultural activity; meanwhile men's contribution is slightly lower than that of women at about 0.4% and 2.2%, in farming and non-agricultural activity respectively. By category of the household, it is known that the average household income of the WL and WH are about 7.641 million rupiah and 6.129 million rupiah respectively. In other words, the average household's income of the WL is higher than that

of the WH at about 1.512 million rupiah. However, interestingly, the percentage of the household's income that derived from farming (*sawah* and *pasir*) of the WH is about 50.8% or higher than that of the WL at about 11.3%.

Comparing the two categories of households and sex, women of the WL contribute about 74.8% to the household's income, while among the WH it is about 70.7%. It means that in the case where women's land-holding is lower than the husband, women's sole contribution to household's income is higher than the husband. On the contrary, in the case where women's land-holding is higher than the husband, women's sole contribution in income is slightly lower than that of the husband.

Further, in non-agricultural activity women of the WH and WL contribute about 18.8% and 34.3% respectively to the average household income, and the major source of income is derived from migrant worker and civil servant among the WH, while among the WL this is also derived from working as migrant workers, civil servant and running small shop. Interestingly, even among the WL, women's contribution to the household economy is higher than that of the husband.

5.9 Practice of *Huma-Talun* among Surveyed Households

In this secion, I discuss the practice of *huma-talun* prevalent among the surveyed household as reflected in many aspects, especially in the distribution of plot, the average size of land, plant population, the rotation and the duration of the *huma-talun* cycle and vegetation index according to land succession stage and land owner category.

5.9.1 The Distribution of Plot

Table 5.12 shows the data of the distribution of plots according to the land succession stage and landowner category. As seen in Table 5.12, the majority of the plots are in *reuma kolot* -the stage is used to meet the needs or *Albizia* woods- (30.7%), followed by reuma ngora -the stage which usually dominated by *Albizia* seedlins, banana and fruit trees- (22.8%) in the second rank, while the third are *kebun campuran* -the stage which dominated by woody trees- and *talun,* each 18.8%. Meanwhile the shorter stages are occupied by small percentage of the plots, about 8% for *Jami* and only 1% for *Huma*.

Table 5.12 The Distribution of Plot among the Surveyed Households by Land Owner and Land Succession Stage (in %)

Land Owner	Land Succession Stage						Total (%)	N Total Plot
	Huma	Jami	Reuma Ngora	Reuma Kolot	Kebun Campuran	Talun		
Husband	2.6	7.7	12.8	33.3	17.9	25.6	100.0	39
Wife	2.9	2.9	22.9	31.4	11.4	17.1	100.0	35
Gono-Gini	0.0	14.8	18.5	25.9	29.6	11.1	100.0	27
Total	**1.0**	**7.9**	**22.8**	**30.7**	**18.8**	**18.8**	**100.0**	**101**

Source: Fieldwork, 2002

The highest percentage of plots owned by wife and husband of *reuma kolot* type is 31.4% and 33.3% respectively, while for *gono-gini*`s land it is *kebon campuran*. Nevertheless, there is slightly different pattern in the second and the third rank. The lands owned by husband were dominantly used for *talun* (25.6%) and *kebun campuran* (17.9%), while lands owned by women are in *reuma ngora* and *talun*, which are about 22.9% and 17.1% respectively. Meanwhile for *gono-gini`s* land, the second and third rank were *reuma kolot* and *reuma ngora*. Although here also we find slight difference in allocation, the tendency is that peasant's household tends to choose the longer land succession cycle than the shorter one regardless of the landowner. This is due to the economic as well as ecological reasons. In *reuma kolot* and *reuma ngora,* farmers can harvest leaf banana for cash income more than in *kebun campuran*, while in *kebun campuran* they obtain less number of leaf banana but can harvest bamboos and wood as well as *aren* liquor for producing brown sugar. Besides economic reasons, the farmers choose the longer cycle for ecological reasons, especially for avoiding the decline of soil fertility as well as erosion of land.

5.9.2 The Average Land Size by Land Succession Stage

Table 5.13 presents the average size of land for *huma-talun* plot that is cultivated by farmer households according to the landowner and land succession stage. Of the total plots, the average size of land owned by the farmer households was 0.50 ha. The figure was quite different if we look at the landowner category. The largest size of land is found in *gono-gini* (0.74 ha), while in case of land owned by husband and by wife, the size of land is almost the same, about 0.4 ha.

Table 5.13 The Average Land Size of Plots by Land Owner and Land Succession Stage

Land Owner	Land Succession Stage						Total
	Huma	Jami	Reuma Ngora	Reuma Kolot	Kebun Campuran	Talun	
Husband	0.25	0.38	0.46	0.36	0.50	0.48	0.43
Wife	0.25	0.25	0.42	0.39	0.50	0.34	0.39
Gono-Gini	-	0.50	0.40	0.84	0.98	0.67	0.74
Total	**0.25**	**0.38**	**0.42**	**0.49**	**0.70**	**0.47**	**0.50**

Source: Fieldwork, 2002

Although the highest percentage of the plots is in *reuma kolot,* however, it was found that the larger size of plots was used for the longer cycle i.e., *kebun campuran* (0.70 ha), followed by *reuma kolot* (0.49 ha) and *talun* (0.47 ha). By looking at the landowner category, it is interesting to note, excepting for *talun* and *jami*, the average land size of husbands's plot for the other stages were not so different from women's land. With regard to *gono-gini'*s plots, the average land size for *kebon campuran* was the highest (0.98 ha), followed by *reuma kolot* (0.82 ha) and *talun* (0.67 ha). Interestingly, as women and men have not only access to and control over the land equally but also experience of the management of *huma-talun*, they shared the same indigenous knowledge for managing *huma-talun* as indicated by their preference to allocate larger land for the longer stages.

5.9.3 The *Huma-Talun* Cycle and the Average of the Cycle Duration

The *huma-talun* cycle, which is practiced by farmers' households, can be started from different stages e.g., *jami, reuma ngora, reuma kolot, kebon campuran and talun*, as seen in Table 5.14.

Table 5.14 Category of *Huma-Talun* by Starting Stage and Land Owner

Category of Starting Stage of *Huma-Talun*	Husband	Wife	Gono-gini
Started from jami	0.0	5.7	3.7
Started from reuma ngora	10.3	11.4	0.0
Started from reuma kolot	17.9	22.9	40.7
Started from kebon campuran	17.9	28.6	25.9
Started from talun	53.8	31.4	29.6
Total (in %)	**100.0**	**100.0**	**100.0**
Total plots	**39.0**	**35.0**	**27.0**

Source: Fieldwork, 2002

By land owner category, it is found that the majority of women's as well as men's plots of *huma-talun* are started from *talun* stage, where the percentage of men's plots is about 22% which is higher than that of women's plots. Meanwhile the majority of *gono-gini's* land was started from *reuma kolot* (40.7%).

In general, the land succession stage reflects the duration cycle as revealed in Figure 3.1. Nevertheless, in order to understand the farmer's strategy for managing their land better, it is important to know the real condition of the duration cycle chosen by the farmers' households.

Table 5.15 Type of *Huma-talun* Cycle by Landowner

Type of Cycle	Husband	Wife	Gono-gini
J-R-H-J/RN/RK	0.0	5.7	3.7
RN-R-H-J-RN or with RK	10.3	11.4	0.0
RK-H-J-RN	5.1	14.3	14.8
RK-R-H-J-RN-RK-KC	12.8	8.6	25.9
KC-R-H-J-RN-R	12.8	14.3	11.1
KC-R-H-J-RN-RK	5.1	14.3	14.8
T-R-H-J-RN-RK- or RN/RK	23.1	11.4	22.2
T-R-H-J-RN-RK-KC	23.1	11.4	0.0
KC-T; T-T ; RN-RK	7.7	8.6	7.4
Total (%)	100.0	100.0	100.0
Total Plots	39	35	27

Note: the abbreviation in the type of the cycle refers to the stages of *huma-talun*
Source: Fieldwork, 2002

Further, the above Table 5.15 presents the cycle of the *huma-talun* stages, which are practiced by surveyed households according to landowner category. Most of the surveyed households practice the cycle, which is *huma* stage -as an integral part of the *huma-talun* system- and the reason behind this that it plays an important role to support the food security of the household among the surveyed households. Only less than 10% of the plots were never used for *huma* stage. Further, it can be observed that the percentage of wife's plots used for shorter cycle -the first three type of cycle- is about 31% or almost double compared to the men's land category, while the majority of husband's land is used for the longer cycle (the last three type of cycle). Meanwhile the *gono-gini*'s land is in the medium cycle -the second three cycles- (almost 52%). It seems that as

women are more responsible for food crops, which are again related to household food availability, they tend to cultivate their plots in shorter cycles.

Table 5.16 shows the average duration of the *huma-talun* according to the land succession stage. The data obtained from the focused group discussion show that the average duration length in every stage is in the range of the stage duration length as already mentioned in Chapter 3 (See Figure 3.1). Meaning that the practice of *huma-talun* among surveyed households is quite similar to the explanation by informants who participated in focused group discussion.

As it is seen in Table 5.16, the average duration of the *talun* among the surveyed households was 21.5 years. By the landowner, the longest is found among *gono-gini*`s land. It is interesting to see that the average duration of the *talun* stage of wife's land was longer than that of husband's, it is about 21.4 years; while the *gono-gini* was the longest of all (26.7 years). Thus, in this case, wife also contribute to the sustainability of *huma-talun* as they also allocate their land for *talun* stage.

Table 5.16 The Average Duration Cycle by Land Owner and Land Succession Stage (in years)

Land Owner	Land Succession Stage					
	Huma	Jami	Reuma Ngora	Reuma Kolot	Kebun Campuran	Talun
Men	0.5	1.9	4.0	6.1	13.9	20.0
Women	0.5	2.0	3.4	5.4	10.1	21.4
Gono-gini	-	1.8	3.5	5.4	11.0	26.7
Total	**0.5**	**1.9**	**3.6**	**5.7**	**11.9**	**21.5**

Source: Fieldwork, 2002.

5.9.4 Plants Populations and the Average Index of Plants Diversity

Figure 5.7 provides an insight into the different composition of plants population according to the landowner categories. The majority of plants cultivated by the farmer households, whether in general, wife, husband and *gono-gini's lan*d, are horticulture and banana fruits, followed by *huma* paddy and *palawija* (maize and legumes such as peanuts). This happens due to the fact that the farmer needs food for their home consumption not only in kind of staple food, but also vegetables and banana fruits for their daily consumption.

The leaf banana tree occupies the next rank, which is cultivated to obtain cash income on a regular basis, usually to derive monthly income. However, it is interesting to point out that

the highest percentage of *huma* paddy and *palawija* is found in wife's land, while the highest percentage of leaf banana plants is found in husband's land. This supports the previous findings that as wife are more responsible and also control the food plants to support the food availability of the household, they prefer to cultivate their land for food, while as husband lean towards the preference of the cash income, they cultivate more leaf banana in their plots in order to generate fresh and sustained cash income. Further, the percentage of land conservation trees is also found slightly higher in the wife's plot compared with the other two landowners, because wife are also concerned with the availability of the fuel wood for cooking. It is common for wife in Kemang to slash the *kaliandra* and/or other kind of fuel wood and carried them out to their houses with or without the help of other adult household members. On the other hand, it is also found that wife's land is occupied by the leaf banana trees, for about 9%, meaning that wife also have interest for cultivating commercial or market-oriented commodity for generating cash income.

Figure 5.7 The Distribution of Plant Population by Land-owner Category and Group of Plants (in %)

The following Table 5.17 shows the distribution of plant populations by group of plants and land succession stage of the *huma-talun.*

It is important to note that the *rarahan* is the stage when the farmers have just finished the task of preparing the land for *huma* stage, which could be derived from the other stage excepting

the *huma*. Farmers usually plant the young leaf and fruit banana trees in the *rarahan* stage before dibbling. As can be seen in the table, the population of leaf banana trees forms the majority in *reuma kolot* and *reuma ngora*.

Table 5.17 Distribution of Plant Populations by Group of Plants and Land Succession Stage

Group of Plants	Land Succession Stage							Total
	Rarahan	Huma	Jami	Reuma Ngora	Reuma Kolot	Kebun Campuran	Talun	
Horticulture & Fruit Banana	47.8	56.9	77.1	19.9	15.0	52.2	11.1	55.9
Huma Paddy & Palawija	0.3	35.9	3.8	3.4	2.0	3.2	0.0	19.8
Leaf Banana	25.0	2.0	9.5	45.5	39.4	0.1	23.5	11.0
Fruits	2.1	0.5	1.0	2.6	1.9	2.7	10.1	1.1
Wood & Bamboo	12.1	3.1	4.6	13.2	18.4	17.9	28.8	6.2
Land Cons. Trees	12.7	1.6	4.1	15.5	23.3	23.8	26.6	5.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Fieldwork, 2002

Table 5.18 shows the average index of plant diversity of plots according to land succession stage and landowner category. In general the average index of plant diversity of the *huma-talun* in Kemang village is only 1.21. By land succession stage, the highest average index of plant diversity is found in *huma* stage (1.55). This is probably because as in this stage the farmers cultivate various kinds of plants for food and also for cash income. In contrast, the lowest average index of vegetation is found in *rarahan* stage for all category of landowner. This is because in this stage many wood and horticultural trees, as well as shrubs such as *kaliandra*, are slashed.

Table 5.18 The Average Index of Plant Diversity Index by Land Succession Stage and Land Owner Category

Land Owner	Land Succession Stage							Total
	Rarahan	Huma	Jami	Reuma Ngora	Reuma Kolot	Kebun Campuran	Talun	
Husband	0.89	1.67	1.15	1.01	1.02	0.85	1.40	1.15
Wife	1.20	1.47	1.28	1.32	1.51	1.37	1.46	1.34
Gono-gini	0.80	1.51	1.09	1.03	1.47	0.97	-	1.14
Total	**0.99**	**1.55**	**1.17**	**1.12**	**1.25**	**1.02**	**1.41**	**1.21**

Source: Fieldwork, 2002

Compared to the findings from the study on the Baduy community conducted by Iskandar (1992: 48) the average index of plant biodiversity of *huma* stage in Kemang is higher than that of the Baduy community (less than 1). This is probably because farmers of Kemang have relatively better access to various commodities that they can obtain from the PMDHT and Social Forestry programs introduced by Perhutani. Comparison between the landowner categories found that the highest average index of plant diversity among women's land is in *reuma kolot* stage (1.51), while among men's and *gono-gini's* land is found in *huma* stage, about 1.67 and 1.51 respectively. This data support the fact mentioned earlier that the highest percentage of plots owned by women for *reuma kolot* is 31.4%. Interestingly, the highest percentage of plant population in this stage is leaf banana, followed by land conservation trees and wood as well as bamboo. In other words, women of Kemang village are now interested in the production of cash crops as much as men.

5.10 Conclusion

This chapter examined gender differentiation in the economy of the peasant households by analyzing the relationship between the women's landholding within the total household land on the one hand, and the gendered differentiation of contribution to the household economy. This chapter presents evidence that as women and men have access to and control over the agricultural land -*sawah* and *pasir*- equally, women and men are also engaged in productive activity, especially in farming either in *sawah* or in *pasir*.

The information and data gathered from the surveyed household of Kemang village clearly indicate that there is no significant difference in rice farming either in *sawah* or in *pasir*. In Kemang village women as well as men are involved in various productive activities, where women even actively participate in the post-harvesting work which is associated with men's domain because of the heavy physical tasks or use of technology such as land preparing, fertilizing, spraying and harvesting, often assumed to be the prerogative of men. The average working hours required for rice farming in sawah are about 1,987 hours in the rainy season and 1,826 hours in dry season. Women (family and hired labor) contributed about almost 56% in the wet season and 54% in the dry season. Similarly, of the total working hours required for huma paddy production, women contributed around 47.5% out of the total hours (2,234 hours in six months period).

Generally, the highest percentage of input cost spent by both categories of the households is allocated for labor cost, either in rice farming in *sawah* or *huma* in *pasir*. However, there is a tendency that the WH spend lower labor cost than that of the WL, both for rice farming and *huma* farming. Interestingly, although the average production of rice farming in *sawah* is not high (only about 4 ton per hectare), both categories of households obtained good revenue from rice farming in 1998 due to the increase of the price of unhusked rice (*gabah*) (about 1.75 million rupiah per ton). The revenue per hectare obtained among the WH in wet season is higher than that of the WL, it was about 5.7 million rupiah or 1.3 million rupiah higher if compared with the WL; while in the dry season the revenue obtained were about 3.3 million rupiah or lower than that of the WL at about 0.5 million rupiah. In *huma* farming the revenue of the WH is about 318,000 rupiah or about 28,000 rupiah higher than that of the WL.

Agricultural sector is not the only employment sector for members of the peasant household irrespective of women and men in Kemang. Women as well as men in this village are also engaged in non-agricultural sectors, which are directly and indirectly related to farming. The non-agricultural activities, directly related to farming, are the brown sugar industry, trading leaves and fruits of banana trees and wood factory. Meanwhile, the non-agricultural activities not directly related to farming are running small shops and working as migrant workers, etc. Besides farming, there is similarity between both categories of households in that women also participated significantly in trade, brown sugar industry and services. However, in terms of working hours, women and men of the WH allocated more time for various productive activities (agricultural and non-agricultural activities) than that of the WL. Women and men of the WH allocated about 165 hours and 150 hours respectively, while women and men of the WL allocated 127 hours each.

Women's contribution toward the household economy is also reflected in their contribution to household income. The average income of the total surveyed household was 6.862 million rupiah, and women were directly involved in 73% of the income generation activities of the household, while men's contribution was slightly lower amounting to 70.5%. The significant contribution of women to the household economy is consistent with their active participation in farming in *sawah* and *huma-talun*, as well as in non-agricultural activities. Women contribute 35.1% to farming

By women's landholding, women of the WL and WH allocated more than half of the working hours (around 55%) needed to cultivate rice in the wet and dry seasons in *sawah*. The average working hours of women family labor among the WH is slightly lower than those of the WL, however, the WH tend to hire more female and male labor than the WL. Of the total working hours in rice farming, the WH use about 46.9% and 54.7% hired labor in the wet and dry season respectively, while among the WH these are about 42.5% and 42.8% respectively. Women also allocated a lot of time for *huma* farming in *pasir*, even in physically demanding activities such as slashing, tree burning, land preparing and cleaning on steep slopes. The average working hours in *huma* farming among the WH is 2,382 hours or 371 hours more than that of the WL. Women contribute about 50.4% and 45.9% to the average working hour between the WL and the WH respectively. The family labor of the WH contribute more to *huma* farming than those of the WL, respectively about 89% and 65.4%. The interesting thing is that women within the family of the WH contribute about 38.6% to the total working hour of *huma* farming or about 8% higher than that of the WL.

Since women and men of the peasant households in Kemang have access to and control over land equally, women are also involved in the decision-making process of rice farming in *sawah* and *pasir;* both as sole decision makers as well as co-decision makers. For rice farming in *sawah,* the dominant decision-maker in both the categories of households, the WL and WH, is the wife and husband jointly pattern, although the percentage of household in which wife alone is dominant as decision-maker is found more among the WH than among the WL, especially in planting, weeding, spraying, pest controlling, harvesting and milling. Similarly the same occurs for *huma* farming in *pasir*.

Generally the women take part in the decision-making together with their husbands in 80% or more households, for almost all activities of production and post harvesting works; however, women took part as the sole decision maker in the drying and milling activities. The high percentage of the women alone pattern among the WH proves that the higher the womens landholdings the bigger opportunity left for the women to decide the farming activities by her own authority.

activity and about 37% to non-agricultural activity; meanwhile men's contribution is slightly lower than that of women at about 0.4% and 2.2%, in farming and non-agricultural activity respectively. This study found that the average household income of the WH is about 6,129 rupiah or about 1.5 million rupiah lower than that of the WL, however, the WH's income that derived from farming in *sawah* and *pasir* is about 50.8%, or about 11.3% higher than that of the WL.

Gender relation to household economy is also reflected in the role of women and men in managing the farming, especially the *huma-talun* that is practiced by the majority of peasant households in Kemang. In this case, the gender relations to farming management were analyzed by elaborating the practice of *huma-talun* which developed by farmer according to the land owner category: women, men and *gono-gini.*

The farmer of Kemang village generally implemented 7 stages of *huma-talun* cycle: *rarahan, huma*, *jami*, *reuma ngora*, r*euma kolot*, *kebun campuran* and *talun*. The *rarahan* can be derived from *jami*, *reuma ngora*, r*euma kolot*, *kebun campuran* and *talun.* However, activities on most of the *huma-talun* plots of women and men are started from *talun* stage i.e., the longest stage; though the percentage of women's plot is lower than that of men.

With regard to preserving seeds and seedlings, there is a gender-differentiated responsibility in preserving seeds and young trees, except for tubers. Women were dominantly responsible for preserving the seeds of the cereals and horticultural items; while men were dominantly responsible for collecting banana, wood and fruit trees. The preservation of tubers of the seedlings are conducted by men solely and both by women and men together with their joint responsibilities. As most of the planted seeds and seedlings are derived from their owned land, including women's land and *gono-gini*'s land, it means women also contributed for the availability of all kind of seeds and seedlings for cultivation of the *huma-talun*.

Women dominantly took part in the decision-making process for the preservation and collection of seeds and seedlings for *huma-talun* in their own land (70%) and *gono-gini*'s land (42%), while their participation in men's land was only 28%. Although the decision for selecting the type of plant was dominantly made by the couple (women and men jointly), each of them was dominant in the decision-making process about the type of plants in their own land Interestingly,

there is a relationship between the division of labor –in regards to women responsibility in providing the meal to the table in the household level-, with the decision making and the plant population according to landowner category. As women responsible for cooking food, the decision making with regard to seed collecting and preserving regarding starchy food, predominantly done by women (48% of the total household's land and about 74% in their own land). This lead to the fact that the percentage of *huma* paddy and *palawija* population in their plot is also the highest (about 29%) or higher at about 10% and 15% compared to men's land and *gono-gini*'s land respectively. And as women also responsible for the fuel woods availability, this in turn lead to the fact that the population of land conservation trees in their own land is also the highest (about 7%) or higher at about 2% compared to men's land and *gono-gini*'s land.

It appears from this study that although most of the surveyed households practice the cycle, which consisted of *huma* stage for obtaining food, there is a different pattern of cycle that is chosen by the landowner. Usually the women's plots are allocated for the shorter cycle -from *jami* to *reuma ngora/reuma kolot*, from *reuma ngora* to *reuma ngora* or *reuma kolot*, or from *reuma kolot* to *reuma ngora*- which is 31% or almost double if compared to men's plot. Meanwhile, most of the men's plots are allocated dominantly for the longer cycle -from *talun* to *reuma ngora/reuma kolot*, or from *talun* to *kebun campuran*, or other cycle without *rarahan-huma-jami* stages- which were almost 54% or 10% higher than that of women's plot. But the *gono-gini*'s plots are dominantly allocated for the medium cycle (from *reuma kolot* to *reuma ngora*, from *kebun campuran* to *reuma ngora* or *reuma kolot*), especially in obtaining cash income which derives from selling fruits and producing brown sugar from aren sap. Further, as the highest percentage of plant population in reuma ngora and reuma kolot is leaf banana trees, it leads to the fact that women of Kemang village are now involved in the production of cash crops as much as men. This is contrast to what Boserup previously found, that men not only became increasingly engaged in the production of commercialized commodity but also took over women's traditional role of farming.

Further, as women are responsible for making food available in their household, they prefer to allocate the shorter cycle as a strategy for obtaining food relatively more frequently than the other landowner category. It is also supported by the fact that the percentage of plant population among

women's plot related to the production of starchy food e.g., cereals and *palawija* is the highest (29%), or about 10% and 15% higher than that of men's plot and *gono-gini*'s plot respectively. Besides, except the *talun* stage the average duration of cycle among the women's plot was also lower than that of the men's plot. On the other hand, although the average index of plant diversity of the total plots is 1.21, the average index of plant diversity was the highest in the women's plots (1.34).

The findings of this chapter distinctly support the second hypothesis, that since women and men have access to and control over the land equally, women as well as men also contribute to household economy, with the tendency that the higher the women's landholding the significant is their contribution towards household economy.

CHAPTER 6
GENDER RELATION IN LAND OWNERSHIP AND ITS RELATION TO HOUSEHOLD FOOD SECURITY

6.1 Introduction

Understanding the impact of women's landholdings on peasant household food security has remained incomprehensible due to the tendency to analyze the household food security by mainly using the aggregate data at national, regional and district levels and by assuming rural household as a homogeneous group where a husband is assumed to be the household head as well as the landowner of the household and thereby treating his nutrition status as the representative of the household's food security. The husband, however, does not necessarily own all the land of the household. As presented in the previous chapter the conditions of the Sundanese peasant households in an upland village in West Java, it is found that as according to the values of *sanak* among the households, the parents practice equal treatment between sons and daughters, where the land is allocated through either inheritance or grant system based on gender equality division for all children, women and men. This practice has resulted in the emergence of three categories of land ownership i.e., the land owned by the husband, the land owned by wife, and the land with joint ownership (locally called *gono-gini* or *tepung kaya*). This categorization lead to the possibility to devide the peasant households of Kemang into two groups based on women's landholdings: WL and WH as it is explained in the sub-section of field methodology in Chapter1. Accordingly, the relation between women's landholdings and household food security, either aggregately or individually, based on each aspect of food security (availability of food, access to food and food utilization), can be analyzed.

This chapter will examine the third hypothesis that the higher the women's landholdings in ratio to the total land of household, the higher the status of household in food security, i.e. in terms of food availability, access to food and food utilization. However, if the gender-bias in food allocation is still present among peasant households, the number of women in the households who

are in sufficient category of food utilization to be lower than that of men, regardless of the ratio of women's landholdings to the total household's land.

To have better comprehension on the position of the first aspect of food security in Kemang Village, especially the food availability and access to food, this chapter will illustrate and compare the aspects with the national and West Java food availability where the study village is located. The household food availability is measured by the average of three indicators: total land size annual rice production and rice calorie availability per capita of the surveyed households. While access to food in the households is measured by three other indicators: household income, household expenditure and Desirable Dietary Pattern (DDP). With respect to individual food utilization, the variables consist of dietary energy and protein intake (DEI and DPI), energy and protein sufficiency level (ESL and PSL), and nutrition status of the household members. The measurement of all these household food security variables in this chapter are already explained in sub-section of research methodology as mentioned earlier in Chapter 1.

Further, it is imperative to examine whether any gender-bias in the allocation of food among the peasant households influences the individual food utilization among household members. Keeping this objective in view, this chapter will examine the existence of gender-biased values in food allocation among the peasant households as well as the decision-making pattern on food distribution and expenditure. Finally, this chapter will analyze the correlation between women's land-holdings and food security of the household aggregately.

6.2 An Overview of Food Security in National Level and West Java

6.2.1 Food Availability

Table 6.1 shows the Per Capita Dietary Energy and Protein Supply in Indonesia during the period 1996-2000. As may be seen in Table 6.1, the average per capita food supply (in terms of energy and protein) was found to exceed the RDA of 2500 Kcal and 55 grams protein during the period 1996-2000 (Center for Development of Food Supply (*Pusat Pengembangan Ketersediaan Pangan*), Ministry of Agriculture 2001).

The data given in the table reveal that the average dietary energy supply (DES) ranges from 115.6 to 127.8%, while the protein energy supply (PDS) varies from 114.0 to 151.6% in comparison

to the RDA. Due to the striking economic crisis in Indonesia combined with the drought caused by the El Nino led to the decrease of national food production; the energy supply in 1997 and 1998 went down remarkably in comparison to that of 1996. However, the average DES in Indonesia (2,993 Kcal/cap/day) is found to be higher than the average world's DES (2,780 Kcal/cap/day) and other average DES in developing countries (2,650 Kcal/cap/day). This means that in comparison to the average DES of other developing countries, the situation in Indonesia is better off (Center for Development of Food Supply, Department of Agriculture, 2001). Based on the data available in 1998, it is reported that average DES in 14 provinces exceeded the RDA of 2500 Kcal/cap/day, with the highest supply found in South Sulawesi (231.0%). On the other hand, the average DES was considered to be inadequate (lower than the RDA of 2500 Kcal/cap/day) in 24 other provinces, including West Java.

Table 6.1 Indonesia per Capita Dietary Energy and Protein Supply, 1996-2000

Year	Dietary Energy Supply (DES)		Dietary Protein Supply (DPS)	
	Kcal/cap./day	% Adequacy*	Grams/cap./day	% Adequacy*
1996	3193	127.7	71.8	130.5
1997	2899	116.0	66.7	121.3
1998	2888	115.5	62.7	114.0
1999	3184	127.4	83.4	151.6
2000	2992	119.7	80.0	145.5

*) To its RDA, and the RDA is 2500 Kcal/cap/day

Source: Pusat Pengembangan Ketersediaan Pangan, Badan Bimas Ketahanan Pangan, Departemen Pertanian (2001)

The following table (Table 6.2) provides information on the energy and protein availability in 2000 according to food groups. From the data given in the table, it can be seen that cereals contribute more than 60% of total energy and protein available in the country. The second source of protein comes from legumes, followed by the animal-based food, while the second sources of energy come from oils and fats, followed by tubers. Hence, the data reflect the poor diet of Indonesians. According to scholars, the higher the percentage of energy and protein is from starchy staples (cereals, tubers and legumes) the poorer the diet is in terms of diversity.

Table 6.2 National Energy and Protein Availability in 2000 by Group of Food

No.	Group of Foods	Energy		Protein	
		K. Calorie	%	Gram	%
1	Cereals	2032	65.3	53.49	62.9
2	Tubers	248	8.0	1.84	2.2
3	Animal Based-Foods	101	3.2	11.58	13.6
4	Oils and Fats	286	9.2	0.01	0.0
5	Oils and Fats	77	2.5	0.73	0.9
6	Legumes	166	5.3	14.75	17.3
7	Sugar	122	3.9	0.03	0.0
8	Vegetables and Fruits	80	2.6	2	2.4
9	Other Foods	0	0	0	0
	Total	**3112**	**100**	**85.02**	**100**

Based on Food Balance Sheet (FBS 2001)

Source: Pusat Ketersediaan Pangan, Badan Bimas Ketahanan Pangan, Departemen Pertanian, 2004.

A comparison of Dietary Energy Supply (Kcal/cap/day) between the whole country and West Java province based on the secondary data of 1998 is given in the following table (Table 6.3). It could not be updated due to the dearth of data of 2000.

Table 6.3 Average per Capita DES in Indonesia and West Java in 1998

Level	Dietary Energy Supply (Kcal/cap/day)					
	Plant Sources		Animal Sources		Total	
	Kcal/cap/day	%*	Kcal/cap/day	%*	Kcal/cap/day	% RDA
Indonesia	2,802	97.0	86	3.0	2,888	115.5
West Java	2,161	97.2	63	2.8	2,224	87.2

*) Percentage to total energy available

Source: Pusat Pengembangan Ketersediaan Pangan, Badan Bimas Ketahanan Pangan, Departemen Pertanian (2001:7)

The data show that the average DES per capita in West Java is not so different from that of the national level, where most of the available energy is from plant sources (97%), while the rest is from animal sources, meaning that the energy from animal sources is only one-fourth of the total protein recommended.[1] Furthermore, the data in Table 6.3 show that the food supply in terms of energy and protein in West Java was affected by the economic crisis, i.e., the level of adequacy was

1 According to Badan Bimas Ketahanan Pangan (National Mass Guidance Board for Food Security), Ministry of Agriculture (MOA), the role of animal-based food in the diet should be around 12%

only 87.2%. It seems that the situation was in contrast to the fact that rice production in West Java was still the highest in Indonesia. It was reported in 1998 that the rice production in this province was 9,795,638 tons (Mass Guidance Board for Food Security, Department of Agriculture, 2001).

6.2.2 Access to Food: The Desirable Dietary Pattern

Table 6.4 shows the real energy consumption of the population at the national level and in West Java. The data available in 1999 show that at the national level the average Desirable Dietary Pattern (DDP) in terms of energy was 1852 Kcal/capita, which means that it was slightly lower than that of West Java. However, in terms of the DDP's score, the situation is the opposite; the West Java score of DDP is lower than that of national level at about 4%.

Table 6.4 Real Energy Consumption of Population in Indonesia and West Java Compared to the Indonesia's Desirable Dietary Pattern in 1999

No	Group of Food	Desirable Dietary Pattern (DDP) *)				Indonesia 1999*				West Java 1999*			
		Gram	Ener-gy	% RDA	DDP Score	Gram	Ener-gy	% RDA	DDP Score	Gram	Ener-gy	% RDA	DDP Score
1	Cereals	275	1000	50	25.0	346.3	1239	62	25	367.9	1353	67.7	25.0
2	Tubers	100	120	6	2.5	49	69	3.5	1.7	38.4	54	2.7	1.4
3	Animal Based-Foods	150	240	12	24.0	59.3	89	4.5	8.9	50.0	86	4.3	8.6
4	Oils and Fats	20	200	10	5	19.3	171	8.6	4.3	19.7	175	8.8	4.4
5	Oily Seeds/ Fruits	10	60	3	1	8.7	41	2.1	1	2.8	16	0.8	0.4
6	Legumes	35	100	5	10	40.3	53	2.7	5.3	18.7	54	2.7	5.4
7	Sugar	30	100	5	2.5	25.3	92	4.6	2.3	17.5	64	3.2	1.6
8	Vegetables and Fruits	250	120	6	30	162.8	71	3.6	17.8	152.8	62	3.1	15.5
9	Other Foods	-	60	3	0	34.6	26	1.3	0	0	22	1.1	0.0
	Total		**2000**	**100**			**1852**	**92.6**	**66.3**		**1886**	**94.3**	
	DDP Total score				**100**				**66.3**				**62,2**

Note: *Based on surveyed households (62 households) in Kemang Village in 2000; The Recommended Dietary Allowance (RDA) according to National Workshop on Food and Nutrition VIII 2004; Energy is in calorie; Gram is for the weight of food by type group of foods.

Source: Based on Susenas 1999, proceed by Pusat Kajian Pengembangan Ketahanan Pangan, Departemen Pertanian

Comparing by the food groups, in line with the food availability, most energy consumption is originally drawn from plant sources, while the share of energy from animal-based food is very low on both national as well as West Java province levels. In comparison to the RDA, the share of energy from cereals in West Java is 67.7% or higher by 5.7% compared to the national level. This may be because, as West Java is one of the rice producing provinces in Indonesia, as mentioned above. West Java is also well known for the production of vegetables and fruits. However, surprisingly the share of energy and the score of DDP of the two commodities are remarkably lower than that of national level (almost 50%). This may be accounted by the decrease of arable land for non-agricultural activities, such as industries, roads and other infrastructures.

On the national and provincial levels, the energy share from animal-based food is almost the same, that is, respectively around 4.3% and 4.4%. This is remarkably lower than the requirement of Indonesia's DDP as stated in Strategic Plan of National Bureau for Food Security, Ministry of Agriculture (2001), where the role of animal food in the diet should be around 12%.

Although Kemang village lacks quantitative data in this regard, there are several reasons to support the fact that food availability in this village could not meet the RDA. First, Kemang village has limited natural resources; having only 3.5% *sawah* of the total land in the village and most of the *pasir* is occupied with perennial plants. Due to the absence of irrigation system, and drought, as well as limited use of fertilizer and insecticides by the farmers, because of soaring prices of agricultural inputs, the rice productivity in this village has decreased. On the other hand, human resources in Kemang are economically low or poor, as reflected by the high percentage of households having little or no land and working as agricultural labor and low purchasing power. It was reported that in 1998 and 2000 about 36.6% and 32% of the households owned land less than 0.1 ha and between 0.1-0.5 ha respectively. Meanwhile the number of agricultural labor was 283 and 384 in 1998 and 2000 respectively. The data are taken from the Monograph of Kemang Village. According to the document the number of labor in agricultural sector was about 283 and 384 persons respectively for the year 1998 and 2000 (Anonymous 1998 and 2000). Besides, it is also supported by the fact that the village received 250 tickets from the Special Operation Program, which were not enough to cover all the poor households of the village

6.3 Household Food Security in Kemang Village

6.3.1 Household Food Availability

As pointed out earlier, the household food availability in Kemang is measured by three indicators of average: total land size, annual rice production and rice calorie availability per capita of the surveyed households. Different from the explanation on Chapter 4 which is intended to examine the first hyphothesis with regard to the meso evel analysis. In the following, the average total land size of peasant households will analyzed, especially with regard to measure one of the indicator of the food vailability in the household level. Table 6.5 provides some information of the average land size based on the category of the household, landowner and the types of land.

Table 6.5 The Average Land Size owned by Surveyed Households by Category of Women's Land-holding, Land Owner and Type of Land in 1998 (in ha)

Owner	WL (n =35)		WH (n=27)	
	Sawah	Pasir	Sawah	Pasir
Husband	0.04	0.43	0.01	0.05
Wife	0.01	0.04	0.05	0.35
Gono-Gini	0.09	0.35	0.09	0.63
Total	**0.14**	**0.82**	**0.15**	**1.03**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000

The total land of 62 households found in the survey is 65.6 ha, meaning that the average land size per household is 1.06 ha. According to the type of land, about 86.2% of the total land is *pasir*, while the rest is the *sawah*. The average size of the *pasir* owned by the surveyed household is larger than that of the *sawah*, almost 6 times. In terms of ownership, it is found that the average size of *pasir* of *gono-gini* is almost 0.5 ha or almost double and greater compared to those of the husband's and wife's land respectively. As for the *sawah*, the average size of the *gono-gini* is almost 3 times compared to those of husband's and wife's land.

Based on the women's land-holding, the average size of the *pasir* belonging to husbands is slightly larger than those of wife. However, in terms of *gono-gini* land, it can be seen that the average size of land belonging to WH (0.63 ha) is almost double than those of WL (0.35 ha). It

seems that the *gono-gini* land owned by WH could derive from the wife's land, on the contrary for the WL that is derived from the husband's land.

By type of land, the average total land size of *sawah* belonging to both categories of the households is not so different. In percentage, among WL, the contributions of *sawah* and *pasir* to the total land size are about 15% and 85% respectively, while among WH,are about 12.7% and 87.3% respectively. In other words, the ratio of *sawah* to the total land size among WH is slightly lower (2%) than that of WL, while in terms of *pasir*, the average total land size of the WH is almost a quarter (25%) larger than those of the WL.

As it is seen in the table, the average total land of the WH is greater than that of WL, at 1.18 ha, and 0.95 ha respectively. The average total land size is related to the average total paddy production in the two categories of households. Based on the data of 2000, the average total paddy production of the surveyed households seems to be very low, i.e. only 1,399 kg. Comparing by the category of household, it is found that although the average total land size among the WH is larger than that of WL, the average paddy production of the WL in 2000 (1,515 kg) is higher than that (1,248 kg) of WH. This is because some of the WL has *sawah* outside the village (Sukaratu and Cibarengkok villages) where the average productivity is better. In the normal condition, the average rice production of *sawah* in Kemang village is only 3.5 ton per ha, as the *sawah* is surrounded by the hills; while in the outside villages the production of rice is almost double (6-7 ton per ha).

The low production of paddy in 2000 was also due to the impact of drought of El Nino. Besides, in 2000, most of the farmers of Kemang did not apply optimal agricultural inputs because almost all of the agricultural inputs soared rapidly in price. The price of urea fertilizer and KCL, for example, rose by almost 200%, while pesticide rose by almost 242%. The wage of hired labor increased almost double, from Rp.3,000 before the crisis to Rp. 6,000 and Rp. 7,000 in 1999 and 2000 respectively (Mugniesyah, Mizuno, and Iwamoto 1999; Mizuno and Mugniesyah 2000). Below is the information on rice calorie availability among the surveyed households (Table 6.6).

It can be seen that the average rice calorie availability of the total households as well as the total of each category of the household is of high category, as the value is more than 2500 Kcal./ capita/day. However, those who are really of high category comprise about 33.9% of the total

households in the survey; the remaining consists of those with the medium and low category, 40.3% and 25.8% respectively. Interestingly, the average calorie availability among those in high category is 5,707 Kcal/capita/day or about 2.8 times of the medium category and 5 times compared to those of the low category.

Table 6.6 Distribution of Surveyed Households by Category of Rice Calorie Availability and Household, 2000 (in K.Cal/capita/day and %)

Household Category	Category of Calorie Availability						Total
	Low		Medium		High		
	Kcal/Cap/ Day*	% HH**	Kcal/Cap/ Day*	% HH**	Kcal/Cap/ Day*	% HH**	Kcal/Cap/ Day*
WL (n=35)	1122	28.6	2034	40.0	7262	31.4	3417
WH (n=32)	1098	22.2	2044	40.7	3997	37.4	2557
Total (n =62)	**1113**	**25.8**	**2039**	**40.3**	**5707**	**33.9**	**3042**

Note: *) The average calorie derived from rice; **) HH = Households; WL = Households with women's low land-holdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000

Comparing the two categories of the household, it is found that the average of rice calorie availability among the WH is lower than that of the WL making it only three-fourths (75%). However, the percentage of the households in the high category of calorie availability among the WH is higher (about 6%) than that of the WL. In contrast, the data in the table also reveal that the percentage of households in the low category of calorie availability among the WH is lower (about 5.4%) than that of WL. It means that there is a tendency that the higher the women's landholdings, the higher the percentage of households in high category of calorie availability.

6.3.2 Household Food Access

The household food access consists of three variables: average household income, average income per capita, the Desirable Dietary Pattern (DDP), and food expenditure. Below is the description of the four aspects. Table 6.7 shows the average household income of the surveyed households in Kemang.

As it is seen from Table 6.7, the average total income of the household is 827,235 rupiah per month. The comparison between the WH and WL shows that average total income of WH is higher (217,746 rupiah) than that of the WL. Interestingly, the average non-farm income of

both types of households is not so different. However, in percentage the non-farm income share in the total household income is slightly different, i.e. 50.8% and 65.7% for the WH and the WL respectively. It means that in 2000 the agricultural activity was not the main income source of the peasant households.

Table 6.7 Average Household Income per month by Source of Income and Category of Household, 2000 (in rupiah)

Income and Expenditure	Category of Household		Total
	WL	WH	
Farm Income	251,333	467, 277	345,373
Non-Farm Income	481,077	482,879	481,862
Total Income	**732,410**	**950,156**	**827,235**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000

In terms of income per capita, it is found that the average income per capita of the total surveyed households is about 203,742 rupiah. The comparison between the WH and WL shows that average total income of WH is about 245,825 rupiah or higher about 74,547 rupiah than that of the WL.

Further, some information on the total expenditure according to the kind of expenditure is presented in Table 6.8. The data in this table indicates that the average food expenditure among the surveyed household is only 364,689 rupiah per month. However, the average food expenditure among the WH is about 383,617 rupiah, or slightly higher than that of the total surveyed households and WL which is at about 19,073 rupiah and 33,783 rupiah respectively. By the kind of expenditure, it can be seen that the major share of food expenditure for both household categories is devoted to rice (cereals); followed by the share of animal-based food, cookies and tobacco & cigarettes. However, the share of cereals and tubers among the WL is higher than that of the WH.

In terms of tubers, the percentage of expenditure of the WL is almost double compared to the WH. It seems this condition is similar to the findings at the national level as reported by Martianto and Ariani (2004: 185) that some of the people tend to consume tubers (cassava and sweet potatoes) to substitute rice consumption because of the high price of rice. The moderate percentage spent on cookies as most household members tend to buy cookies for their children;

cookies are available in every small shop in the two hamlets. However, in the WH, it is found that the expenditure for tobacco and cigarettes is almost double than that of WL. On the other hand, it seems that the percentage of the animal-based food expenditure of the total surveyed households is slightly higher than that of the national level for the rural area in 1999, which was 17.3% (National Board of Food security, Department of Agriculture, 2001:30). This happens owing to the fact that some of the wives in both household categories have better level of education and some have better knowledge of nutritious food for they have worked as the international migrant workers.

Table 6.8 Share of Food Expenditure among Surveyed Households by Groups of Food and Women's Land Contribution in 2000 (in %)

Kind of Expenditure	Household Category		Total
	WL	WH	
Cereals/Grains	29	26	27
Tubers	6	3	4
Animal Based Food	20	18	19
Legumes	3	3	3
Fruit & Coconut Oil	4	3	4
Fruits & Vegetables	9	9	9
Coffee & Tea	2	1	1
Sugar	3	3	3
Spices	4	5	4
Cookies & Others	15	14	15
Tobacco & Cigarettes	7	15	11
Total (%)	**100**	**100**	**100**
Total (Rupiah)	**349,831**	**383,950**	**364,689**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source : Fieldwork, 2000

With respect to the DDP, as mentioned above, the calculation is based on food consumption. Table 6.9 in the following page presents the DDP of the total surveyed households in Kemang Village in 2000 and its comparison with Indonesia's DDP.

Table 6.9 indicates that the average DDP in this village in 2000 was 1353 Kcal/capita/day or about 68% of the RDA, while the score of the DDP was 73.0%. Further, the total energy consumption of the household members in Kemang Village was lower than that of the West Java province in 1999. The low consumption of cereals may have been because of low rice production

and this means the availability of low rice calorie. Besides, since 1998 the economic crisis continued to hit the Kemang people, so that the price of rough rice increased almost double, from 90,000 to 175,000 rupiah per quintal, while the consumer's price of rice soared 150% from 1,000 rupiah in the previous year (before the crisis) to 2,500 rupiah (Mizuno and Mugniesyah 2003). Hence, the government distributed rice under the *Operasi Pasar Khusus* (Special Market Operation) Program to Kemang people between 1998 and 2000. About 250 households were given tickets with which the households could buy 10 kilograms of rice at the rate of 1,000 rupiah per kilogram in a month. However, only 17 of the total surveyed households received the tickets (Mizuno and Mugniesyah 2003).

Table 6.9 Real Energy Consumption of Peasant Households in Kemang Village in 2000 Compared with the Indonesia's Desirable Dietary Pattern

No.	Group of Foods	National Desirable Dietary Pattern (DDP) *				Kemang Village 2000 **			
		Gram	Energy	% RDA	DDP Score	Gram	Energy	% RDA	DDP Score
1	Cereals	275	1000	50	25.0	241.3	846	42.3	21.2
2	Tubers	100	120	6	2.5	38.5	130	6.5	2.5
3	Animal Based-Foods	150	240	12	24.0	58.0	158	7.9	15.8
4	Oils and Fats	20	200	10	5	0.2	0,3	0.0	0.0
5	Oily Seeds/Fruits	10	60	3	1	0.1	0,1	0.0	0.0
6	Legumes	35	100	5	10	10.9	32	1.6	3.2
7	Sugar	30	100	5	2.5	2.9	11	0.6	0.3
8	Vegetables and Fruits	250	120	6	30	168.9	146	7.3	30
9	Other Foods	-	60	3	0	17.8	30	1.5	0.0
	Total	**870**	**2000**	**100**		**538.7**	**1353**	**68**	
	Total score of DDP				**100**				**73.0**

Source: *Pusat Kajian Pengembangan Ketahanan Pangan, Departemen Pertanian;
**Based on surveyed households (62 households) in Kemang Village in 2000

Moreover, it is interesting to see that the households in Kemang met the Indonesia's DDP, especially in terms of tubers, vegetables and fruits, even tubers exceeded the Indonesia's DDP. This could occur due to the fact that the majority of the *pasir* was cultivated with horticultural plants, including tubers like cassava, sweet potatoes and taro. It was reported that the production of these commodities occupied about 42.9% of land solely owned by women (wives), and 44.8% to 57.3% of the *pasir* belonged to husband and *gono-gini* respectively (Mugniesyah and Mizuno

2004). Further, the energy consumption from animal-based food was higher than those of West Java in 1999, as many household members of Kemang consumed fried or salted eggs, and salted fish in their meal. In Beber hamlet, there is a small shop owned by a Cikupa resident selling fresh fish and salted steamed fish (*ikan pindang*) as the product of home industry. The owner, especially the wife often offers the residents of the hamlets loan of fresh fish as well as processed fish for their meal and even by offering door-to-door service as a strategy to sell the fish immediately (*jual dedet*). Hence, even the poor households have access to animal-based food.

The following Table 6.10 contains information indicating the relationship between women's landholdings to land ownership among peasant household with their DDPs.

Table 6.10 Desirable Dietary Pattern of Surveyed Peasant Household by Group of food and Household Category Based on Women's Land Contribution, 2000.

No	Food Group	Energy	% RDA	Weighted	RDA Score	DDP Score	Max Score
WL							
1	Grains	730	36.5	0.5	18.3	18.3	25
2	Tubers	116	5.8	0.5	2.9	2.5	2.5
3	Animal Based Food	175	8.8	2	17.5	17.5	24
4	Oil and Fats	0.5	0.0	0.5	0.0	0.0	5
5	Oil Seed/Fruits	0.1	0.0	0.5	0.0	0.0	1.0
6	Legumes	38	1.9	2	3.8	3.8	10
7	Sugar	12	0.6	0.5	0.3	0.3	2.5
8	Vegetables & Fruits	142	7.1	5	35.4	30.0	30
9	Others	22	1.1	0	0.0	0.0	0
	Total	1236	62		78	72.4	100
WH							
1	Grains	996	49.8	0.5	24.9	24.9	25
2	Tubers	148	7.4	0.5	3.7	2.5	2.5
3	Animal Based Food	135	9.4	2	13.5	13.6	24
4	Oil and Fats	0.0	0.0	0.5	0.0	0.0	5
5	Oil Seed/Fruits	0.0	0.0	0.5	0.0	0.0	1.0
6	Legumes	24	1.6	2	2.4	2.4	10
7	Sugar	9	0.6	0.5	0.2	0.2	2.5
8	Vegetables & Fruits	153	10.6	5	38.1	30	30
9	Others	40	2.8	0	0.0	0.0	0
	Total	1504	75		83	73.5	100

Source: Fieldwork 2000

As seen in the above table, the figure on the DDP of the WH is higher than that of the WL. The energy consumption among the WH is higher than that of WL, about 268 Kcal/capita/day; and the percentage and score of the RDA are also higher than those of the WL, about 13% and 5 points respectively. Meanwhile the score of the DDP is slightly higher for the WH (1%) than that of the WL. In terms of the DDP's score based on food group, curiously enough, the WH has met the Indonesia's DDP for 3 kinds of food (cereals, tuber, and vegetable & fruits), while among those of the WL met only 2 kinds of food, especially tubers, vegetables and fruits. It seems that there is higher energy from cereals among the WH, which almost meets the Indonesia's DDP (24.9). This happens because of the availability of food in terms of the percentage of households with the high category of rice calorie availability is higher compared to that of the WL, and the opposite is for the percentage of those with the low category of rice calorie availability (Table 6.6). Besides this, as mentioned above the purchasing capacity among the WH is also higher than that of the WL as reflected in their total income and expenditure.

6.3.3 Food Utilization

As pointed out above, the food utilization in this study consists of the average Dietary Energy Intake (DEI), Dietary Protein Intake (DPI) and sufficiency level, as well as the nutrition status of the surveyed household members. The following is the explanation of each aspect of the food utilization mentioned above.

Dietary Energy and Protein Intake (DEI and DPI)

The following Table 6.11 shows the average Dietary Energy Intake (DEI) and its adequacy based on household category and sex. The table shows that in general the average DEI is 1356 Kcal./ cap./day or only 67.8% of the RDA. However, in terms of the household category, it is found that the average DEI among WH is higher (about 273.8 Kcal./cap./day or about 14%) for its adequacy level compared to those of the WL. It means that the higher the women's landholdings, the higher the average of DEI and its adequacy level.

Table 6.11 Average Dietary Energy Intake (DEI) and Percentage of Adequacy Level Among Surveyed Household According to Category of Household and Sex, 2000.

Category of Household	Men		Women		Total	
	Kcal/cap. /day	% Adequacy Level *	Kcal/cap. /day	% Adequacy Level*	Kcal/cap. /day	% Adequacy Level *
WL	1415	71.8	1058.3	52.9	1236.6	61.83
WH	1622	81.1	1368.7	68.4	1510.4	75.52
Total	**1511**	**75.6**	**1184.3**	**59.2**	**1356.1**	**67.81**

Note: RDA for energy is 2000 Kcal./cap./day, while protein is 50 gram/cap./day (WKPN, 2004); WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork: 2000

Based on sex, it is found that the average DEI among women is only 1184 Kcal/cap/day or 59% of its RDA. It is remarkably lower than that of men whose average DEI is 1,511 Kcal/ cap/day or 75.6% of its RDA. Further, in terms of the household category, it can be seen that the higher the women's landholdings, the higher the average DEI and its RDA. However, the average DEI of women remains lower than that of men in both household categories. In the other words, starchy food contributes only about 53% and 68% of its RDA for women in the WL and the WH respectively. As for men, starchy food contributes more than 70% of the diet in the two household categories. In other words, for men among the WH the contribution of the starchy food exceeds the satisfactory diet. According to the Committee on World Food Security, to reach a satisfactory diet, the contribution of energy from starchy foods should not exceed 70-75% (Ministry of Agriculture, 2001). Although the average DEI of the surveyed households is lower than its RDA, some households have met the adequacy of the RDA (see Table 6.11).

It can be seen from Table 6.12, only 16% that of the total households meet the RDA (2000 Kcal./capita/day and above). Based on the household category, it can be seen that the number of WH where their DEI meet the RDA is higher than that of WL at almost 15%. Further, by sex, the percentage of women of the total households who meet the RDA is only around 10%, while among men it is rather higher, i.e. 22%. It is also seen that although in general the number of women and men in the WH who meet the RDA is higher than that of women and men in the WL, the percentage of women in that category is always lower than that of men in the same category. It is surprising that there are only 3.3% of women in the WL whose DEI meets the RDA. Based on

these findings, we can say that there are gender-biased values regarding food distribution which affect the individual dietary energy intake of the household members."

Table 6.12 Distribution of Surveyed Households Member in Kemang Village According to Category of Dietary Energy Intake (DEI), Household and Sex, 2000 (in percent)

Women's Land Contribution	< 2000 cal/cap./day			≥ 2000 cal/cap./day		
	Men	Women	Total	Men	Women	Total
WL	83.3	96.7	90.0	16.7	3.3	10.0
WH	71.2	80.5	75.3	28.8	19.5	24.7
Total	77.7	90.1	83.6	22.3	9.9	16.4

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000

Based on in-depth interviews, it is found that because of the economic crisis; almost all the households reduce their rice consumption. However, women tend to consume less rice than husbands and children. They prefer to do this because they think that husbands need much energy to work and the children is also prioritized because they already know that children need more food for their growth.

Table 6.13 provides some information on the average Dietary Protein Intake (DPI) among the surveyed households and its adequacy based on household categories and sex. As shown in the Table 6.13, generally, the average protein intake of the total surveyed household is only 31 gram/cap./day or 59.7% of the RDA. In terms of the household category, it can be seen that although the average DEI among WH is higher than that of the WL, the difference is not so significant both for DPI and its RDA, as it is 1% and 2% respectively.

Table 6.13 Average Dietary Protein Intake (DPI) and Percent Adequacy among Surveyed Household According to Category of Household and Sex, 2000

Category of Household	Men		Women		Total	
	grams/cap./day	% Adequacy	grams/cap./day	% Adequacy	grams/cap./day	% Adequacy
WL	35.0	67.4	26.2	50.4	30.6	58.89
WH	33.6	64.5	29.2	56.1	31.6	60.81
Total	**34.3**	**66.1**	**27.4**	**52.7**	**31.1**	**59.73**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000

This result is quite different with respect to sex. DPI among women is always lower than that of men both in general and according to the household category. As can be seen from the table, in the total surveyed households, the average DPI among women is lower by about 7% and its RDA is also lower by about 13.4% than those of men. If it is compared by the household category, it is found that none of the women in the two household categories has the same average DPI as men, that is, their DPI is less than 30 gram/capita/day. Besides, although women in WH have higher average of DPI and its RDA than women in the WL, no woman even meets 60% of the RDA. As for men, if compared to women, their average DPI is more than 30%, which means that the RDA is higher too, i.e. about 65% and above for both household categories. The data in the table above also show again that there are gender-biased values in food allocation and consumption among household members that cause women to have less access to food, even though their landholdings is higher than that of men in the household.

The data on the distribution of members of the surveyed household according to the category of Dietary Protein Intake (DPI), households and sex is shown below (Table 6.14).

Table 6.14 Distribution of Surveyed Households According to Category of Dietary Protein Intake (DPI), type of household and Sex, 2000 (in gram/capita/day and Percent).

Women's Land Contribution	**< 52 grams/cap./day**			**≥ 52 grams/cap./day**		
	Men	**Women**	**Total**	**Men**	**Women**	**Total**
WL	78.3	93.3	85.8	21.7	6.7	14.2
WH	86.5	87.8	87.1	13.5	12.2	12.9
Total	**82.1**	**91.1**	**86.4**	**17.9**	**8.9**	**13.6**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000

As can be seen from the table, of the total surveyed household, the number of households whose DPI meets the RDA is very low, only about 13%. By sex, the percentage of men who consume the protein that meets the RDA is almost double that of the women. However, based on the household category, it is found that the percentage of the household in the WL who meets the RDA is slightly higher than that of the WH. As mentioned above, among the WL, there are husbands working as government employee (PNS) with a higher income that enables them to

consume some animal-based food. Besides, there is one household of a fish trader and another one that owns a fish pond; which help them procure fish a little more often as a part of their meal.

Energy and Protein Sufficiency Level

As pointed earlier in order to analyze the Energy Sufficiency Level (ESL), the surveyed households are categorized into two categories of ESL: deficient and sufficient, by using the cut-off criteria used by the Indonesian scholars for assessing the nutrition status of the Indonesian people. Table 6.15 presents some information on the Energy Sufficiency Level (ESL) among the surveyed peasant households based on women's landholdings and sex.

Table 6.15 Distribution of Surveyed Households Member According to Energy Sufficiency Level by Category of Household and Sex, 2000

Category of Household	≤ 70 (Deficient)			> 70 (Enough)		
	Men	Women	Total	Men	Women	Total
WL	36.4	44.6	40.43	63.6	55.4	59.6
WH	25.3	39.0	31.0	74.7	61.0	69.0
Total	**31.0**	**42.3**	**36.1**	**69.0**	**57.7**	**63.9**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000.

As can be seen from the table, only 63.9% of the total household is in the sufficient category of ESL. By sex, the number of women in sufficient category of ESL is only 57.7% or about 11.3% lower compared to that of the men. On the other hand, the percentage of women in the deficient category of ESL is higher than that of men, by the same percentage (11.3%). According to the household category, it is found that the percentage of WH in sufficient category of ESL is higher (about 10%) than that of WL. Further, it is found that the household members, men and women who are in the sufficient category of ESL, are higher in number among WH than WL. However, by sex, the percentage of men in the sufficient category of ESL is always higher than that of women in the two household categories. The data show that the highest percentage of those in the sufficient category of ESL is found among men of WH (74.7%). It is seen also that generally in the two household categories, the percentage of women in the sufficient category of ESL is always lower than that of men; while women in the deficient category of ESL is always higher than that

of men. Therefore, it can be concluded that the greater the women's landholdings, the higher the percentage of household members, women and men, who are in the sufficient category of ESL. However, as women's energy consumption is lower than that of men, the percentage of women among the surveyed household in the sufficient category of ESL is lower than that of men.

The following Table 6.16 reveals the Protein Sufficiency Level (PSL) among household members according to the household categories and sex. As seen from the table, almost less than a half of the total surveyed households are in the sufficient category of PSL. It means that there are a number of households that are in the sufficient category of ESL, but they are in the deficient category of PSL. Of those who are in the sufficient category of PSL, only 45.5% of women are in the sufficient category of PSL; in other words about 6.3% lower than that of men in the same category. Parallel with the result of the ESL distribution, the percentage of women in the deficient category of PSL is also higher than that of men too, also with the same percentage (6.3%).

Table 6.16 Distribution of Surveyed Households Member in Kemang Village According to Protein Sufficient Level (PSL) Category, by Women's Land Contribution and Sex, 2000

Category of Household	≤ 70 (Deficit)			> 70 (Enough)		
	Men	Women	Total	Men	Women	Total
WL	46.7	56.7	51.7	53.3	43.3	48.3
WH	50.0	51.2	50.5	50.0	48.8	49.5
Total	**48.2**	**54.5**	**51.2**	**51.8**	**45.5**	**48.8**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000.

The comparison between the two categories of household shows that the percentage of WH in the sufficient category of PSL is higher than that of the WL although the difference is not so large (1.2%). However, according to sex, as it is also found that in the case of ESL, in general, the percentage of women who are in the sufficient category of PSL is always lower than that of men. Surprisingly, the percentage of men of WL is found to be slightly higher than that of men and women in the two categories of households.

As mentioned earlier, the low percentage of the surveyed households in the sufficient category of the PSL is due to the low access of the household to animal-based food. Most of the

local people tend to consume the traditional plant sources of protein, such as *tempe* (soybean cake) and tofu, which are cheaper and affordable from their income. On the other hand, in general, the availability of animal-based food among the surveyed households is too low because most of the households do not have a home yard to raise livestock such as chicken. Besides, Kemang village is located in an upland area where the pond is rare, so the number of households who keep fish ponds is limited. Moreover, it is well known that the Sundanese community, including Kemang people, tends to eat more vegetables in their meals.

Nutrition Status of Household Members

Table 6.17 presents the data on nutrition status of the surveyed household members according to the household category. As shown from the table; in general, the nutrition status of the majority of adult household members is in the normal category (71.7%). The rest is of the underweight category (16.7%) and of overweight category (11.6%). Based on the household category, there is a tendency that the greater the women's landholdings, the higher the percentage of adult household members who are in the normal category.

Table 6.17 Distribution of Household Members of Surveyed Households by Category of Nutrition Status, Households and Sex in 2000

Category of Household	Underweight			Normal			Overweight		
	M	W	Total	M	W	Total	M	W	Total
Adult									
WL (nm=38,nw=39)	7.9	30.8	19.5	81.6	53.8	67.5	10.5	15.4	13.0
HWHL (nm=31;nw=30)	16.1	10.0	13.1	83.9	70.0	77.0	0.0	20.0	9.8
Total (nm=69;nw=69)	11.6	21.7	16.7	82.6	60.9	71.7	5.8	17.4	11.6
Children									
WL (nb=22;ng=21)*	27.3	47.6	37.2	72.7	52.4	52.8	0.0	0.0	0.0
WH (nb=20;ng=13)*	40.0	7.7	27.3	60.0	76.9	66.7	0.0	15.4	6.1
Total (nb = 42; ng = 15)	33.3	32.4	32.9	66.7	61.8	64.5	0.0	5.9	2.6
Children Under Five									
WL (nb=5;ng=10)*	0.0	50.0	33.3	100.0	50.0	66.7	0.0	0.0	0.0
WH (nb=4;ng=5)*	75.0	20.0	44.4	25.0	60.0	44.4	0.0	20.0	11.1
Total (nb=9;ng=15)	**33.3**	**40.0**	**37.5**	**66.7**	**53.4**	**58.3**	**0.0**	**6.7**	**4.2**

Note: M = Men; W = Women; WL = Households with women's low landholdings; WH = Household with women's high landholdings.

Source: Fieldwork, 2000.

However, in terms of sex, the percentage of men of the two categories of the households in the normal category of nutrition status is found to be above 80%. It is significantly higher than that of women in the two household categories. In the WL, women in the normal category of nutrition status is only 53.8% or lower at about 27.8% compared to men in the same category of the household, while women in the WH who are in the normal category of nutrition status is lower (around 14%) compared to men in the same household category. There are about 30% of women with the low category of nutrition status in the WL, while the percentage of men is only around 8 percent. However the incidence of overweight among women in both categories of household is also found to be higher than that of the men.

Based on the data shown in the table (Table 6.17), it can be concluded that the greater the women's landholdings, the higher the percentage/number of household members, women and men are in normal category. However, because of the gender bias in food allocation among the household members, the nutrition status of women, who are in normal category of nutrition status, is significantly lower than that of men.

In terms of nutrition status of the children (under 18 years old), only 64.5% children in the total surveyed households are in normal category, while those of underweight are about 32.9%. Based on the two household categories, the underweight children are also found to be about 27.3% in the WH and 37.2% in the WL. In other words the percentage in WH is lower than those of WL. On the other hand, the incidence of the overweight (above-2sd of weight-for-age) is only found among the children of the WH (2.6%).

Interestingly, the analysis by sex indicates that the prevalence of underweight children is found higher among boys of the WH (40%), while in the WL it is found higher among girls (47.6%). In contrast, those who are in the normal category are higher in number among girls of the WH, while in the WL the number of boys is found higher. During the in-depth interviews, most of the mothers report that they tend to prioritize children without considering their sexes, because boys and girls have the same status in the family. With respect to children under five (the vulnerable among household members) of the total surveyed households, it is found that 37.5% of them are underweight, while only 58.3% are normal.

Based on the household category, the prevalence of underweight children among the WH is found (11%) to be higher than that of WL. On the other hand, the percentage of normal children among the WH is found 22.3% lower than that of the WL. By sex, it is also found that the underweight children under five years in WH are found to be higher among the boys, while those of WL are found to be higher among the girls. Further, the prevalence of overweight children under five years is also found only among those of WL. Hence, although the mothers' state that they do not treat their children discriminately, but it seems that the mothers in WH tend to treat girls better, while those of WL tend to do the opposite. However, this conclusion has to be more elaborated, as the number of children under five years in the survey households is relatively small.

6.3.4 Gender-biased Values on Food Distribution

Generally, the stereotype of a gender-specific division of labor in domestic activities still exists among the peasant households of Kemang village. Thus, domestic work still constitutes one of the central aspects of the traditional role performed by the Kemang women. Woman (wife) has to manage almost all the activities relating to food, among those the management of the income and expenditure of the household, preparation and distribution of food to the household members. Almost all adult female members of the surveyed households view that those activities are the essential responsibilities of the wife, because women's status in their household is that of a housewife (locally called *ibu rumahtangga*). For them, it is similar to a kind of religious compulsion such as being the Muslim[2]. They have been conducting such responsibility since their childhood. So, it is not always the wife (mother) but often the daughter and/or the grandmother who perform these tasks relating to food, especially among the poorest families where the mother

2 As reported by Abdullah ibn Umar, the Messenger of Allah -may peace and blessings be upon him- said, "Each of you is a shepherd and each of you is responsible for his flock. The man is a shepherd over his family and he is responsible for his flock. The Ameer (government leader) who has been placed in charge of the people is a Shepherd, and he is responsible for his flock. The woman is a shepherd within the house of her husband and she is responsible for her flock. The servant is a shepherd over his master's wealth and is responsible for his flock. Then he said: Indeed each of you is a shepherd and each of you is responsible for his flock." (Narrated by Imaam Bukharee in Shaheeh Bukharee no. 6719)

has to work as a labor inside the village, even sometimes as international migrant workers. In cases where they work abroad, their husbands sometimes take up their responsibilities, especially in the case that they do not have girls and/or mothers/mothers-in-law to take up the responsibility.

Regarding the distribution of food, most of the wives believe that food is for all the members of the family. But when they were young, their mothers tend to prioritize the father and the male adults because life was very hard at that time, so the wife treated the man better in order to make them stronger for working in either their own or others' farms. This practice is found prevalent among the entire household category, especially for the poor. Interestingly, the wife in the two households' category, either the owner of larger farm or the sharecropper, stated that prioritizing husband was the way to express their respect to the husband as suggested by the maxim of religion. Thus, although the distribution of food is women's (wife) responsibility, she never treats herself as priority in the food distribution. This situation is not so different from today, although there is slight difference among the wives who have better education and have experience of working as migrant workers outside Kemang village, such as in Bandung, Jakarta, and even in the Arab countries. After the husband, they intend to prioritize the children, irrespective of the boy and girls equally, as they think that children need food for their growth and also for becoming an intelligent student in the school. On the other hand, there is a tendency for mother, even father not to reject their children in complementing their food intake by purchasing snacks from small shops that spread at the hamlets or in the school.

6.3.5 Decision Making Pattern on Food Distribution and Expenditure and Its Relation to the Average per capita Energy Consumption

A considerable number of studies conducted on the domestic affairs in the Asian countries found that women played prominent role in the consumption process of the family. This is especially applicable in the rural areas. However, there are many instances where decisions concerning food distribution and expenditure are not by women (wife) alone. Gender relations, especially in the decision-making process related to consumption activities, could also affect the food consumption of the household.

In Kemang, although almost all the activities for the preparation of food in the two household categories are done by women (wife and daughter), however, the decisions relating to the distribution of food are taken in three patterns: by women solely, men solely and jointly by wife and husband. However, the distribution pattern is slightly different in the two households. In the WL, the three patterns are found, and it is about 83%, 14.2% and 1.2% respectively for women solely, men solely and jointly by wife and husband. Meanwhile in the WH, only two patterns are found i.e., women solely (93%) and men solely (7%). It seems that there is a positive association between the control on food distribution made by women and the average energy consumed per capita especially in the WL. In this household category, the average energy consumption per capita of the household with the pattern of wife solely is 1,248 Kcal/capita/day, while in the household with husband solely and jointly taken decisions patterns are about 1,209 Kcal/capita/day and 843.7 Kcal/capita/day respectively. Meanwhile in the WH, the average calorie consumption per capita of the household of the husband solely pattern is slightly higher than that of the wife solely pattern; it is 1,538 Kcal/capita/day and 1,501 Kcal/capita/day respectively. However, it is important to note that generally the average energy consumption per capita in the WH is remarkably higher than that in the WL, whoever decides the distribution of food.

It is common practice in the Sundanese community that the wife tends to act as the keeper of the household's income. This awards her considerable power in undertaking household decisions. Nevertheless, the decision-making in terms of food expenditure in Kemang village is not exclusively under the authority of female. Although the majority of the decision making on food expenditure in the two households categories is done by the wife (respectively 77% and 82% in the WL and WH), there are a number of households in each household category where it is done by the husbands. It is 20% and 18.5% in the WL and WH respectively; while the jointly taken decisions are only found in the WL.

It is admitted that women's participation in the decision-making process concerning food expenditure can affect the quality of food consumed by the household members. This study tries to analyze this association, especially the relationship between the decision-making in food expenditure with the average energy consumption per capita of the surveyed household. It is found

that the average energy consumption per capita in the WH is higher than that of the WL. In the WL, the average energy consumption per capita of the household where the wife is making decisions alone is 1,262 Kcal/capita/day, or 97 Kcal/capita/day which is higher than that of the household where the husband is making decisions alone. While in the WH, the average energy consumption per capita of the household with wife's decision alone pattern is 1,538 Kcal/capita/day, or 187 Kcal/capita/day which is higher than that of the household with the husband solely pattern. Interestingly, this study finds that in both household categories, the average energy consumption per capita in the household with the wife solely pattern is always higher than that of the household with husband solely pattern. It seems that this study shows that the degree of women's control over food expenditure can also have an important bearing on the per capita energy consumption.

6.3.6 Correlation Between Women's Land Holdings and Household Food Security

Below is the recapitulation of household food security with each aspect of it (Table 6.18).

Table 6.18 Distribution of Surveyed Households by Aspect and Aggregate of Household Food Security and Category of households, 2000 (in percent)

Category of Household	Insecure	Lightly Secure	Secure	Total
Food Availability				
WL (n=35)	80.0	17.1	2.9	100
WH (n=27)	70.4	22.2	7.4	100
Total (n=62)	**75.8**	**19.4**	**4.8**	**100**
Food Access				
WL (n=35)	20.0	77.1	2.9	100
WH (n=27)	25.9	66.7	7.4	100
Total (n=62)	**22.6**	**72.6**	**4.8**	**100**
Food Utilization				
WL (n=35)	48.6	34.3	17.1	100
WH (n=27)	44.4	22.2	33.3	100
Total (n=62)	**46.8**	**29.0**	**24.2**	**100**
Household Food Security				
WL (n=35)	62.9	34.3	2.9	100
WH (n=27)	44.4	48.1	7.4	100
Total (n=62)	**54.8**	**40.3**	**4.8**	**100**

Note: WL = Households with women's low landholdings; WH = Household with women's high landholdings.
Source: Fieldwork, 2000.

The table indicates that generally most of the surveyed households are in the category of food insecurity. Only about 5% of the total surveyed households are in the category of food security, while those who are in lightly insecure category are 29%. Interestingly, the comparison of the two household categories shows that there is a tendency that in general the greater the women's landholdings, the slightly higher the household food security as well as almost every aspect of household food security. On the contrary, the greater the women's landholdings, the slightly lower the percentage of household food insecurity.

However, if each aspect of household food security is analyzed, a different condition will appear. In terms of food availability, almost 60% of households are in the category of household food insecurity for both the total households and the two household categories (WH and WL). Only 10% of the total households are in the secure category. As pointed out earlier, this was due to the low average of land size and the rice production they harvested, because they did not apply agricultural input for production appropriately in relation to El Nino impact that reduced food production at that time. The average rice production is only 1,399 kg per year, this is largely because the land owned by the households is *pasir*, and not all of the *pasir* is cultivated by *huma* paddy every year, as there is a land succession that should be followed by the households to keep it sustainable.

Regarding access to food, the condition is a little better since only 16% of the households are in the category of food insecurity. In this matter, it seems that the income they generate from non-agricultural activities supports the expenditure of the food necessary for the household. The average non-agricultural income is about 481,862 rupiah per month. Besides, some of the surveyed households received tickets for buying cheap rice introduced by the GOI through a special program of rice for the poor.

With respect to the utilization of food, the condition is much better; almost 36% of the households are in food security. This is because the average Energy Sufficiency Level among the households is in the sufficient category; especially those from the WH. The average ESL in WH is 76.4% (in the sufficient category), while in the WL it is only 66.6% in the deficient category. Besides, the average PSL of the total surveyed households is about 70.9%. It means that in general

the households are in the sufficient category for PSL. Furthermore, it is also found that the average nutrition status of adult, children and children under five years is also normal.

6.4 Conclusions

In this chapter an attempt has been made to explain and analyze the relationship between women's landholdings to the three aspects of the household food security: food availability, access to food, and food utilization as well as the aggregate food security, by using the data of peasant households of Kemang village, West Java.

In order to understand the position of the first aspect of food security in the Kemang Village i.e., food availability, this study illustrates and compares the food availability on the national level and West Java province level where the village is located. As reported by the Ministry of Agriculture (2001), during the period of 1996-2000 the average energy and protein supply per capita in Indonesia was found to exceed the RDA of 2,500 Kcal and 55 grams. However, the data of 2000 show the lowest food availability in terms of Dietary Energy Supply (DES), which was only 2,992 or 117.7% of the adequate level, while for the protein the situation was better about 80 grams/capita/day or 145.5 % of its RDA. It is also reported that West Java is one of the 24 provinces where the DES was considered inadequate (lower than the RDA of 2,500 Kcal/capita/day). Due to the unavailability of data for 2000 for West Java, the data in 1998 is used. It shows that the DES of West Java was 2,224 Kcal/capita/day, meaning that 664 Kcal/capita/day lower than the national DES from the same year. Nevertheless, most of the energy available either at national or regional (West Java) level is from the plant sources bearing the same percentage (97%).

With regard to Kemang village, there are several reasons to support the fact that food availability in this village could not meet the RDA. First, Kemang village has limited natural resources, having only 3.5% *sawah* of the total land in the village and most of the *pasir* is occupied by perennial plants. Rice productivity in this village has decreased due to the absence of irrigation system, drought, and the limitation of the use of fertilizer and insecticides by the farmers because of the soaring prices of these agricultural inputs. On the other hand, people in Kemang are economically low or poor and this is largely manifested by the presence of high percentage of land less households in the village as well as agricultural labor. The above analysis is buttressed by the

fact that the village received 250 tickets from the Special Operation Program, namely food for the poor, but these tickets were not enough to cover all poor households of the village.

Access to food, the second aspect of food security, has been studied on the basis of the data of 1999. Accordingly, our main finding is that the average energy consumption of West Java population was 1,852 Kcal/capita/day or 92.6% of its RDA. This was a slightly lower than the national figure (1,889 Kcal/capita/day or 94.3% of its RDA). In contrast, the score of the Desirable Dietary Pattern (DDP) of West Java was 4.1% higher than that of the national DDP. Well known as the rice producing province in Indonesia, West Java province gained most of the energy consumption from plant sources as indicated by its RDA which was 5.7% higher than that of national RDA. Interestingly, the energy share from animal-based food in this province was similar to the national level, i.e. almost 90 Kcal/capita/day or only about 9% of its RDA. Further, although West Java is also renowned as the major producer of vegetables and fruits, surprisingly the energy share and the score of DDP for the two commodities are remarkably lower than that of national level (almost 50%). This was due to the sharp decrease of arable land as a result of the conversion of arable land for building industries, housing complex, roads, and other infrastructures. Further, this situation is related to the fact that in 1999, the Human Poverty Index (HPI) of West Java was 26.9% about 2% higher than that of national HPI. It is also reported that the poor population of this province was 8.393 million or almost a quarter of the entire West Java population.

The results of the study of Kemang village indicate that, as expected, there is a positive relationship between women's landholdings and each aspect of household food security as well as the aggregate. In the first aspect, the household food availability, the percentage of the secure and lightly insecure categories of food availability among WH is about 5% higher than that of the WL. On the contrary, the percentage of insecure household food availability in the WL is about 10% higher than that of the WH. This is also reflected in each variable of food availability. The average total land size of WH is 1.18 ha, or 0.25 ha which is higher than that of the WL. On the other hand, although the average rice production in the WL is 1,515 kg or 247 kg which is higher than that in WH, the data indicate that the average rice calorie availability for the two household categories is of the high category, that is, the value is more than 2,500 Kcal/capita/day.

However, the number of household in the high category of rice calorie availability in the WH is 6% higher than that in WL, while the number of household with the low category of rice calorie availability is 6.4% lower than that in WL.

With regard to the second aspect, household access to food, the percentage of the WH in the secure category of food access is also 5.5% higher than that of WL, though the insecure food access in WH is also 5.9% higher than that of WL. It is probably occured as about 17 households of the WL households receive the ticket for buying cheap rice introduced by the GOI throug a special program of Special Operation Program (*Opsus*), and none of WH accepted this program. The higher percentage of WH in the secure category of household food access is influenced by the fact that the average household income and food expenditure as well as the score of DDP among them are higher than that in WL. The data indicate that the average total income per month in the WH is 950,156 rupiah or 217,746 rupiah which is higher than that in WL, and the average income per capita among WH is also higher, i.e. 245,825 rupiah or 74,547 rupiah higher than that in WL. In terms of expenditure for food, the WH spends 383,950 rupiah per month that is 33,783 rupiah higher than that in WL. The score of DDP in terms of energy in the WH is 1,504 Kcal/capita/day and meets 75% of its RDA, while in the WL it is only 1,236 Kcal/capita/day and meets only 62% its RDA. Further, the scores of RDA and DDP in the WH are 83 and 73.5 respectively, that is respectively 5% and about 1% higher than that of the WL. In addition, based on the food group, the WH has met Indonesia's national DDP for 3 kinds of food i.e., cereals, tubers and vegetables & fruits, while WL has met only the last two food groups.

As for the third aspect, food utilization, it is found that the percentage of WH in the secure category of food utilization is significantly higher than that of WL, about 33.3% or 16.2% higher than that of WL. Meanwhile the percentage of WH in the lightly insecure and insecure category of food utilization are about 22.2% and 44.4% respectively, meaning lower about 12% and 4% than the WL. This higher percentage of WH in the secure food utilization is related to the fact that the average Dietary Energy Intake (DEI) and its adequacy are also higher than those of WL. It is found that the average EDI of WH is 1,510 Kcal/capita/day or 273 Kcal/capita/day higher than that of the WL. Therefore its adequacy level in WH is also higher than that of the WL, i.e. 75.52% in the WH

and only 61.83% in the WL. Accordingly, the number of household which reach its RDA (2,000 Kcal/capita/day) in the WH is 14.7% higher than that of the WL. The number of households in the sufficient category of Energy Sufficiency Level (ESL) in the WH is also 10% higher than that of the WL, while those in the deficient category of ESL has the opposite status, about 9% below those of the WL.

With respect to the average Dietary Protein Intake (DPI), it is found that the average DPI of WH is 1.6 gram/capita/day or reaches almost 61% of its RDA. It means that its DPI and adequacy level (1% and 2% respectively) are higher than those in WL. Similarly, the percentage of WH in the sufficient category of Protein Sufficiency Level (PSL) is. 49.5% or slightly higher than that of WL at about 1.2%. In terms of its adequacy level, however, the number of WH who reaches the Indonesia's RDA is only 12.9% or about 1.3% below that of WH (14.2%). Interestingly, the number of household members in the normal nutrition status in the WH is also higher than that of the WL. There are 77% adult and 66.7% children in the WH who are in the normal category, which are respectively 10% and 14% higher than those in the WL.

We found gender-biased food allocation among surveyed households where food utilization for women and men in both household categories is significantly different. The data indicate that in terms of Dietary Energy Intake (DEI) in WH, male members of the household are able to achieve 81% of energy adequacy level compared to 68.4% for female members, while in terms of Dietary Protein Intake (DPI) male members of WH have 64.5% of energy adequacy level, where 56.1% is for the female members. In the WL, female members can achieve 52.9% of energy adequacy level, while male members can achieve higher, about 71.8% of energy adequacy level. It means that female members in both household categories (WH and WL) consume less energy and protein than the male members. However, female members of the HLWLC have the lowest level of consumption. It is also similar with respect to Energy and Protein Sufficiency Level. For the ESL, the number of women in both households in the sufficient category of ESL is only 61% and 55.4% respectively, while men constitute 74.7% and 63.6% for WH and WL respectively. With respect to the nutrition status, more than 80% of adult men in both households are in the

normal category, while the percentage for women in WH and WL is 70% and 53.8% respectively. Meanwhile among children, only 52.4% girls of WL are in the normal category.

Finally, with regard to the aggregate household food security it is found that the percentage of households in the WH of the secure and lightly insecure categories is 5.5% that is again 14% higher than those in WL. On the contrary, the percentage of households with food insecurity in WL is 22.5% higher than that of the WH. It is found that the correlation between women's landholdings and household food security is significant at the 10% level.

The evidence presented above clearly indicates that the greater the women's landholdings, higher the percentage of household with food security. However, the percentage of women and girls in the households who are in the sufficient category of ESL and PSL are lower than that of the men, demonstrating that there are gender-biased values in food allocation among the peasant households.

CHAPTER 7
CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

The main purpose of this study is to emphasize the link between gender relation to land ownership among peasant households and its relationship to household food security, by shedding light on economic activities and food security of peasant households in a Sundanese community with bilateral kinship who live in Kemang, an upland village in West Java. An upland village inhabited by the Sundanese was chosen because according to Sundanese scholars, Sundanese women have relatively high status in the community where "women and men become equal through marriage". Besides, the peasant households in upland villages have been neglected by researchers whose studies have mostly been conducted in lowland villages where irrigated land is cultivated. This study is aimed at providing a better understanding of the relationship between women's landholdings in the household economy among peasant households, where two kinds of farming were performed: rice farming in *sawah* and *huma-talun* system in *pasir*; which influence the food security at the household and also individual levels. The case study of the peasant household of Kemang village has three objectives, which helped the researcher develop the working hypotheses. However, at the outset it is imperative to show the characteristics of the research village and the peasant households where the study has been conducted.

Kemang village is located in Cianjur District, West Java province, which constitutes the biggest populated province in Indonesia (around 37 million inhabitants). Despite the fact that this province is well known as being the central area of rice production of Indonesia, the human development achievement of this province as well as Cianjur district was not as successful as it is reflected in their Human Development Index (HDI). The trend of the disparity in human development and gender development over the years both at the provincial and district levels can be found in the National Human Development Report (NHDR) of 2004. This speaks of the

gender-bias and its strong influence among policy makers and practitioners in implementing various development programs.

Kemang is a typical West Javanese rural village with agricultural land of high potential. The population of this village in 1998 was 4,346, where male slightly outnumbered female, i.e. 50.9%. Of the total village area, which is around 2,529 ha, about 1,040 ha (43.5%) is the National Forest Land (NFL), followed by 879.6 ha (35.9%) of *pasir* or dry land, and 87.8 ha (3.5%) of *sawah* or rice field. As the quantity of land owned by villagers is relatively limited, the majority of the household in the village own small size of land, about 59% own land less than 0.5 ha. However, the existence of the NFL (*Perum* Perhutani) in this village provides the villagers access to the forest, legally or illegally.

Regarding the characteristics of enumerated households, this study found that most of the household members were born, brought up and married in the same or different hamlets within the village. As the typical Sundanese community, most women and men married in young age, about 15 years and 19 years respectively. The average marriage frequency among women and men is more than once. Most of the family is nuclear family with the average household size less than four.

Due to land scarcity in the village, only 67% of the total enumerated households (165 households) have access to land; and by type of land only about 78% and 82% of them have access to *sawah* and *pasir* respectively. The majority of *sawah*'s owners have small size of land (0.01-0.25 ha), while *pasir*'s owner is in the range of 0.26-0.50 ha. The poor and landless households could have access to other's land by way of sharecropping, mortgaging, and renting or by cultivating the National Forest Land (NFL), especially through Social Forestry or Community Based Forest Management (*Pengelolaan Hutan Bersama Masyarakat* or PHBM) programs. This situation causes the majority of household members, men and women, to have employment status as employee with family workers, or family workers. Besides, the peasant household members also work in trade and service sectors. In these sectors, men tend to work as *ojeg* driver and carrier wage labor, while women tend to work as migrant workers in the cities of West Java, and even abroad in the Middle East countries.

Regarding the low standard of life of the Kemang villagers, the government under the Suharto Era introduced several rural development programs e.g., Social Forestry, Family Welfare Program (PKK), Family Planning and Integrated Forest Village Community Development Program or PMDHT programs. However, this study found the gender differentiation in terms of people's participation in these programs, where women were marginalized in the projects of productive activities, as almost all the projects were dominated by men. Conversely, women participated dominantly in social and economic groups, which are enacted from the bottom up. Interestingly, after the regional autonomy was established (Law No 22 of 1999) alongside the gender mainstreaming in national development program (Presidential Instructions No. 9 of 2000), women started to enter into the village political/public domain and a few women became members of School Council, Village Representative Body (BPD) and Community Empowerment Institution (LPM), which is elected by democratization process.

In the following paragraphs the explanation will be provided in order to form a general hypothesis regarding the three objectives of this study mentioned below.

The first objective of this study is to examine land allocation among the household members and to see how it is differentiated by gender. In addition to this, attempt will be made in this study to elaborate the recognition of land rights, especially in the households, community, and the local administration on the village level. This study tries to examine the first hypothesis,"Among Sundanese peasant household community in West Java, where the kinship system is bilateral, and where customary law rather than the Islamic law is followed in matters of inheritance, there is a gender equity values with regard to children status before the parents, and one might find that inheritance of land is equal between sons and daughters, so that women's landholdings may be equal to men's, which also recognized by the local administration. I will examine this through a careful examination of data on sex-disaggregated land-holdings"

To examine the first hypothesis, this study has been conducted by applying several social science research methodologies, which includes full enumeration survey in two hamlets of Kemang, focused group discussions, and in-depth interviews. In addition to these empirical

sources, the official document entitled, Letter C, at the village office has also been utilized to provide information relating to the ownership of land in the village.

In contrast to what Ekadjati's pointed out (1995:202) that the Sundanese follow the Muslim law inheritance system i.e., '*lalaki nanggung, awewe nyuhun*', which means a son inherits twice as much as the daughter, the present study has found the existence of *sanak* values, which gives sons and daughters the same status as children (anak). This fact finding supports what Dube (1994) stated that in Southeast Asia where bilateral kinship is predominantly, a child is reckoned to be the child equally of both its parents. By the *sanak* values children have equal rights over their mother's, father's and/or parent's property, including the agricultural land. This is performed by exercising customary law rather than Islamic Law for allocating their land through inheritance and grant system. This demonstrates although there is no uniform of bilateraity in Southeast Asia, in Malaysia and Indonesia, *adat* or custom enjoins that property is divided equally among sons and daughters (Dube 1994). Consequently this leads to the emergence of three categories of land ownership among the household members: land owned by husband solely, land owned by wife solely, and land jointly owned called *gono-gini/tepung kaya*, which is applicable for *sawah* and *pasir* lands. Of the 98.29 ha total land of 165 enumerated households, about 50.1% is in *gono-gini* category, while the land owned by husband's and wife's is 28.1% and 20.8% respectively. It means that women have the right to dispose exclusively over 20.8% land and they have customary legal rights in 50.1% of the *gono-gini* land. By virtue of the nature of land control the average size of land of women and men varies for *sawah* and *pasir*.

Another interesting feature is that out of 111 households who own land, about 100 households owned land through inheritance, grant and/or *gono-gini* process, while the rest owned land only through *gono-gini*. In fact, women's access to land is more than men i.e., the wife's land is 43% while the husband's solely is only 38%. These findings highlight the domination of women in access to and control over the household's *sawah*, which is contrary to the case of *pasir*. In terms of *sawah*, the figure for wife's land is 3.59 ha (23.9%), while for husband's is 3.05 ha (20.3%). With regard to *pasir*, the wife's land is 17.02 ha (20.4%) and the husband's is 24.88 ha (29.9%). Interestingly, there is a tendency that the higher the stratum the higher the land owned by husband,

wife as well as *gono-gini*. Ultimately this means that the peasant households have an opportunity to expand their landholdings after their marriage, although the quantity of such land is small.

Gender equality in land ownership is also shown in the practice of the inheritance system, which is handed through the male and female lines. Based on in-depth interviews regarding the origin of the land, it was found that the total land obtained from the mother is 6.159 ha (37.2%), from the father is 7.496 ha (45.2%) and from *gono-gini* is and 2.898 ha (17.6%). This is clearly a manifestation of the practice of inheritance system maintained by the previous generations. Curiously enough, of the total land owned by 20 households, a considerable amount of land was owned by wives through inheritance and grant system both for *sawah* and *pasir* land. The total *sawah* under the possession of women is about 1.51 ha or almost 74% of the total household's *sawah*. In the case of *pasir*, the women's position is higher than the men too. It is 7.985 ha or 55% of the total household's *pasir*.

A woman's access to and control over her land is significantly felt in the study village where woman (wife), even of the polygamous households, can exercise her own right freely to sell and buy land, to accumulate her land and/or to support the daughter and son's higher education through her money and even to perform pilgrim Hajj and such rights are also recognized by the community and external authority at the village level. Moreover, women as well as men could also be engaged in production on other persons' land through sharecropping, renting and mortgaging; and they could also join for the use of National Forest Land through the Social Forestry Program. This was prevalent among widows/widowers, especially among the migrant workers, small shop owners and traders. The documents entitled Letter C, available in Kemang village, provide the data that 85 men and 68 women were owners of *sawah* and/or *pasir* land in 1976.

The second objective of this study is to analyze the relationship between women's access to land and their contribution to household economy, especially in the farming activities: rice farming and *huma-talun*, by explaining the gender relation to the peasant households i.e. role, responsibilities, decision making and practice in various activities related to farming management. It has been explained above that women and men have access to and control over land equally, so it will be expected that women as well as men contribute equally to the household economy. Here

the noticeable tendency is that the higher the women's landholdings the more significant their contribution towards the household economy, in terms of their role, responsibility, time allocation, and decision making in productive activities: rice farming in *sawah* and *pasir* (*huma* stage), along with other productive activities like the practice of the *huma-talun* in *pasir*. Through gender analysis this study provides evidence that supports the second hypothesis to be correct.

One of the important findings of this study is that there is no significant gendered division of labor in rice farming whether in *sawah* or in *pasir.* Moreover it is revealed that both women i.e., wife and men i.e., husband are involved in various activities in production as well as post-harvest activities, which is known to be men's domain -because of the heavy physical tasks that require the use of technology- such as land preparing, fertilizing, spraying, and harvesting. But there are differences so far as WH (household with women's high landholdings) and WL (household with women's low landholdings) are concerned in terms of family labor, hired labor and working hours and types of land.

Regarding the time use women as well as men allocated a lot of time for *huma* farming in *pasir*, even in harsh activities such as slashing, burning of trees, preparation of land and cleaning even in the steep sloping topography. Here also we can notice differentiation of the women between WH and WL in terms of average working hour and family labor. The interesting thing is that women in of the WH contribute about 38.6% to the total working hour of *huma* farming or higher about 8% than women in the WL.

The decision-making process also unveils an interesting feature of women's contribution towards the household economy. In Kemang village women are also involved in the decision-making in rice farming in *sawah* and *pasir,* both as sole decision makers as well as co-decision makers. For rice farming in *sawah*, the dominant decision maker is wife and husband pattern in both categories of household, WL and WH. However the percentage of household where wife alone is the decision maker is found more among the WH than among the WL, especially in planting, weeding, spraying, pest controlling, harvesting and milling. Similar is the case for *huma* farming in *pasir*. Generally, wife take part in the decision-making together with husband in 80% or more households for almost all activities of production and post harvesting work. But women took

part as the sole decision makers in the drying and milling activities. The high occurrence of women solely pattern among the WH is also evidence that the higher the women's landholdings the bigger opportunity for women to decide the farming activities by her own authority.

In Kemang, agricultural is not the only employment sector for members of the peasant household irrespective of gender. Women as well as men in this village are also engaged in work in the non-agricultural sectors that are directly and indirectly related to farming. There is similarity between both categories of households. Besides farming; women also participated significantly in trade, brown sugar industry and services. Here also we can locate differences between the WL and WH in terms of working hours.

Women's contribution toward the household economy is also reflected in their contribution to the income of the household. The average income of total surveyed household is 6.862 million rupiah, and women are directly involved in 73% income generation of the household, while men's contribution is slightly lower, at 70.5%. Women's high contribution to the household economy is consistent with their active participation in farming in *sawah* and *huma-talun*, as well as in non-agricultural activities. Women contribute to the average household income at about 35.1% of farming activity and about 37.8% of non-agricultural activity; meanwhile men's contribution is slightly lower than that of women at about 0.4% and 2.2%, in farming and non-agricultural activity respectively. Understandably there would be difference in the income generation level between the WH and WL. Nevertheless there is a tendency that the higher the women's landholdings the higher the income they derived from farming.

The significance of Sundanese women roles in peasant household economy affirmed what Dube's pointed out that most Thai, Malaysian, Indonesian, and Filipino women are known for their vital economic roles. The undertaken of a wide range of tasks has contributed to their economic independence and a large measure of autonomy and power.

The relationship between women's access to land and their contribution to household economy is also manifested in the role of women and men in managing the farming, especially the *huma-talun*, the major agricultural land owned by the peasant household in Kemang, especially by analyzing the practice of *huma-talun* which was developed by farmers in *pasir* according to the land

owner category: husband, wife and *gono-gini.* The farmer of Kemang village generally implemented seven stages of *huma-talun* cycle: *rarahan, huma*, *jami*, *reuma ngora*, r*euma kolot*, *kebun campuran* and *talun*. The *rarahan* can be derived from *jami*, *reuma ngora*, r*euma kolot*, *kebun campuran* and *talun.* However, activities on most of the *huma-talun* plots of wife and husband are started from *talun* stage i.e., the longest stage; though the percentage of wife's plot is lower than that of husband.

With regard to the preservation of seeds and seedlings, there is a sex-differentiated responsibility in preserving seeds and seedlings, excepting the tubers. Women were dominantly responsible for preserving the cereals and horticultural seeds; while men were dominantly responsible for collecting banana, wood and fruit trees. While the work of preserving the seedlings of tubers are conducted by either men solely or by and both women and men together. As most of the planted seeds and seedlings are derived from their own land, including women's land and *gono-gini's* land, it means women also contributed to the availability of all kinds of seeds and seedlings for cultivation of the *huma-talun*.

Women (i.e., wifes) dominantly took part in the decision-making process for the preservation and collection of seeds and seedlings for *huma-talun* in their owned land (70%) and *gono-gini's* land (42%), only 28% in husband's land. Although the decision for selecting the type of plant was dominantly taken by a couple (husband and wife jointly), each of them was dominant in the decision-making process about the type of plants in their own land.

Another finding of the study is that although most of the surveyed households practice the cycle which consisted of *huma* stage for obtaining food, there is a different pattern of cycle that are chosen by land owner: the wife's plots allocated for the shorter cycle -from *jami* to *reuma ngora/reuma kolot*, from *reuma ngora* to *reuma ngora* or *reuma kolot*, or from *reuma kolot* to *reuma ngora*- which is 31% or almost double if compared to husband's plot. Meanwhile most of the husband's plots allocated dominantly for the longer cycle -from *talun* to *reuma ngora/reuma kolot*, or from *talun* to *kebun campuran*, or other cycle without *rarahan-huma-jami* stages-, which were almost 54% or 10% higher than that of wife's plot. The *gono-gini*'s plot dominantly allocated for the medium cycle (from *reuma kolot* to *reuma ngora*, from *kebun campuran* to *reuma ngora* or *reuma kolot*).

Further, as wifes are responsible for making food available in their household, they prefer to allocate the shorter cycle as a strategy for obtaining food relatively more frequently than the other landowner category. It is also supported by the fact that the percentage of plant population among wife's plot which related to the production of starchy food e.g., cereals and *palawija* is the highest (29%), or about 10% and 15% higher than that of husband's plot and *gono-gini*'s plot respectively. Besides, excepting the *talun* stage, the average duration of cycle among the women's plot was also lower than that of the men's plot. On the other hand, although the average index of plant diversity of the total plots is 1.21, the average index of plants diversity of the women's plot shows the highest (1.34).

The explanation above strengthen what Manderson in Dube (1994) pointed out that in Malaysia and Indonesia women are integral to peasant economy, as they are almost entirely responsible for paddy production, as well commercial production of vegetables and for silviculture. Further, as cited by Dube (1994), Manderson also pointed out that besides rules of inheritance and the approved practice of rules inheritance, the institutionalization of conjugal property in the Southeast Asian region also encourages women's control over resources.

The third objective in this study is to assess the women's landholdings among peasant households and its effect on household food security either individually which is based on each aspect of food security (food availability, access to food and food utilization) or aggregately. Besides, it is also intended to analyze whether the existence of gender-biased values on food distribution among the members of peasant household influence the household food security, especially in terms of food utilization. To achieve this objective, attempts have been made in this study to examine the third hypothesis that the higher the women's landholdings in ratio to the total land of the household, the higher the number of households in food security, i.e. in terms of food availability, access to food and food utilization. However, if there is gender-bias in the distribution of food among peasant households, the number of women in the households who are in sufficient category of food utilization wouldbe lower than that of men, regardless of women's landholdings to total household's land.

Based on the data collected in 2000, this study finds the tendency which supports the third hypothesis as explained below.

In terms of food availability, the Recommended Dietary Allowance (RDA) for the average energy and protein supply per capita in Indonesia should be about 2,500 Kcal and 55 grams respectively. Although the quantitative data required for analyzing food security in Kemang village are not available, there are several reasons to support the fact that food availability in this village could not meet the RDA. First, the Kemang village has limited natural resources: having only 87.8 ha or 3.5% rice field of the total land in the village and most of the dry land is occupied with perennial plants. There is no irrigation facility and most of the *sawah* is surrounded by hills, the rice productivity in this village is not as high as in the parts of irrigated *sawah*. The average paddy production is about 3.5 ton per hectare, while the *huma* paddy production was about one ton per hectare. Moreover, the production of paddy decreased in 2000 due to the absence of irrigation system, drought, and limitation in the use of fertilizer and insecticides by the farmers because of the soaring prices of agricultural inputs. On the other hand, human resources in Kemang are economically low or poor, as reflected by high percentage of landless households in the village, as well as agricultural labor. This is also supported by the fact that under the Suharto era, Kemang village was categorized as less-developed Village (*Inpres Desa Tertinggal* or IDT) and chosen as the village where various poverty alleviation programs were introduced, such as IDT, Social Forestry, Integrated Forest Village Community Development Program (PMDHT) programs; while under the reform era, especially during the period of 1998-2000, the village received 250 tickets from the Special Operation (*OPSUS*) Program, which were not enough to cover all the poor households of the village.

Undoubtedly there is low availability of food in Kemang village located in the province West Java, which was also found to be one of the 24 provinces where the Dietary Energy Supply (DES) is considered to be inadequate (lower than the RDA of 2,500 Kcal/capita/day). Based on the data collected in 1998, the DES of West Java was 2,224 Kcal/capita/day, meaning that 664 Kcal/capita/day lower than the national's DES in the same year.

Based on the data collected from 62 surveyed households of Kemang village, this study indicates that, as expected, there is a positive relationship between women's landholdings and household food security, individually (each aspect of food security) and aggregately.

Based on the three indicators for the availability of food of the household i.e., total land size, annual rice production and rice calorie per capita, this study found the tendency of the correlation between women's landholdings to the household food availability, excepting the rice production. This study finds differences between the WH and WL in terms of size of land, production of rice and average rice calorie.

There are some reasons for the difference. First, the WL consists of those who have rice field located in irrigated villages outside Kemang village. Besides, in 2000 most of the farmers did not apply optimal agricultural inputs in land because almost all of the agricultural inputs such as fertilizer, pesticide and wage hired labor soared rapidly. Alongside this situation, the low production of paddy in 2000 was also due to the impact of drought by El Nino. With respect to the availability of rice calorie, the finding of this study is that the availability of the average rice calorie in both types of households is found in the high category (exceed 2,500 kcal/capita per day) with some differences. However, this means that the data on the availability of household food support the hypothesis that the higher landholdings of women tend to secure the availability of food of the household.

Another finding of this study is the tendency of the positive correlation between the women's landholdings and access to food of the household. This is revealed by the four indicators of household food access i.e., the average energy consumption, the score of Desirable Dietary Pattern (DDP), average household income, and average household expenditure. Based on the data of 1999, it may be inferred that the average energy consumption for West Java population was 1,852 Kcal/capita/day or 92.6% of its RDA. Similarly, the average energy consumption among the surveyed household of Kemang in 2000 is also below the RDA (1,353 Kcal/capita/day or 68% of its RDA).

With regard to the second aspect, household access to food, the percentage of the WH in the secure category of food access is also 5.5% higher than that of WL, though the insecure food

access in WH is also 5.9% higher than that of WL. It is probably occured as about 17 households of the WL households receive the ticket for buying cheap rice introduced by the GOI throug a special program of Special Operation Program (Opsus), and none of WH accepted this program. The higher percentage of WH in the secure category of household food access is influenced by the fact that the average household income and food expenditure as well as the score of DDP among them are higher than that in WL. The data indicate that the average total income per month in the WH is 950,156 rupiah or 217,746 rupiah which is higher than that in WL, and the average income per capita among WH is also higher, i.e. 245,825 rupiah or 74,547 rupiah higher than that in WL. In terms of expenditure for food, the WH spends 383,950 rupiah per month that is 33,783 rupiah higher than that in WL. The score of DDP in terms of energy in the WH is 1,504 Kcal/capita/day and meets 75% of its RDA, while in the WL it is only 1,236 Kcal/capita/day and meets only 62% its RDA. Further, the scores of RDA and DDP in the WH are 83 and 73.5 respectively, that is respectively 5% and about 1% higher than that of the WL. In addition, based on the food group, the WH has met Indonesia's national DDP for 3 kinds of food i.e., cereals, tubers and vegetables & fruits, while WL has met only the last two food groups.

Regarding the third aspect, food utilization, it is found that generally the percentage of WH in the secure category of food utilization is significantly higher than that of WL, i.e. 33.3% or 16.2% higher than that of WL; while those in the lightly secure and insecure category of food utilization are respectively 12% and 4% below in WL's percentage. This higher percentage of WH in the secure food utilization is related to the fact that the average Dietary Energy Intake (DEI) and its adequacy are also higher than those of WL. Accordingly, the number of households which reach its RDA (2,000 Kcal/capita/day) in the WH is 14.7% higher that in WL.

The number of households in the sufficient category of Energy Sufficiency Level (ESL) in the WH is also 10% higher than that in WL, while those in the deficient category of ESL are in the reverse situation i.e., about 9% below than those in WL. Similarly, the percentage of WH in the sufficient category of Protein Sufficiency Level (PSL) is slightly higher than that of WL, i.e. 49.5% and 48.3% respectively. In terms of its adequacy level, however, the number of WH who reaches the Indonesia's RDA is only 12.9%, or about 1.3% below than that of WH (14.2%).

Interestingly, the number of household members in the normal nutrition status in the WH is also higher than that in WL.

Gender-bias in food allocation among surveyed households existent, the food utilization for women and men in both the household categories is significantly different. The data indicate that in terms of Dietary Energy Intake (DEI), in WH, male members of household are able to achieve 81% of energy adequacy level compared to 68.4% for female members, while in terms of Dietary Protein Intake (DPI), male members of WH have 64.5% of energy adequacy level, but 56.1% for the female members. In the WL, female members can achieve 52.9% of energy adequacy level, while male members can achieve higher, about 71.8% of energy adequacy level. It means that female members in both households (WH and WL) consume less energy and protein than the male members. The data reveals that female members of the WL have the lowest level of consumption. It is also similar with respect to Energy and Protein Sufficiency Level. For the Energy Sufficiency Level (ESL), the number of women in both households in the sufficient category of ESL is only 61% and 55.4% respectively, while the number of men is 74.7% and 63.6% for WH and WL respectively. With respect to nutrition status, more than 80% of the adult men in both households are in the normal category, while the percentage of women in WH and WL is 70% and 53.8% respectively. Meanwhile among children, only 52.4% of girls of WL are in normal category.

Finally, with regard to the aggregate household food security it is found that the percentage of households in the WH of the secure and lightly insecure categories is 5.5% and 14% higher than those in WL. On the contrary, the percentage of households with food insecurity in WL is 22.5% higher than that in WH.

The evidence presented above clearly indicates that the greater the women's landholdings, the higher the percentage of household with food security. However, the percentage of women and girls in the households who are in the sufficient category of ESL and PSL are lower than that of men, indicating that as gender-biased values in food allocation is still present among the peasant households,. In this case, although this study to some extent supported what Hubeis (1985:429) said about the tendency of "women get less food and tend to be the last to eat". However, this study gave the differences among women according to their landholding, as the higher the women's

landholding the higher the percentage of peasant household members who are in the normal category.

7.2 Recommendations

Based on the livelihood of the peasant households of Sundanese community with bilateral kinship in an upland village in West Java, this study examines how local values called *sanak*, which was earlier ignored by the Sundanese scholars, are actually practiced. According to the findings of this study the *sanak* values consistently influence the implementation of the customary law on land allocation that caused women and men to have equal access to and control over the land. But the official assumption regarding land control is that only man or husband is the sole owner of land as being the chief of the household, and based on this postulation the agricultural census had been conducted in the past. Therefore, the National Bureau of Statistics should integrate the sex-disaggregated data collection regarding the land ownership in the forthcoming agricultural census (2013) in order to have better understanding of the real situation and to recognized women's contribution toward national economic development.

The availability of sex-disaggregated data on land is necessary to convince the mainstreams, working especially under the Ministry of Agriculture and Ministry of Forestry, to conduct gender mainstreaming agricultural/environmental development policies and programs consistently as mandated by the Presidential Instruction No. 9/2000. It is important, as until recently the two ministries have integrated gender perspective as far as the project is donated by international donor agency such as DAFEP (Decentralized Agricultural Forestry Extension Project) and Participatory Integrated Development in Rain fed Area (PIDRA).

The Regional Autonomy enacted by the Law No. 22 of 1999 empowered the provincial government with the authority to coordinate the implementation of women empowerment programs at the sub-national level. This, in fact, has offered the scope for collecting the sex-disaggregated data on land ownership through the regional bureau of statistics (province and district levels) together with regional agricultural office, Provincial Women Bureau and Centre for Women Studies - which is established in the many universities throughout Indonesia-, especially in the provinces and/or districts where farming is the major economic source for the people.

This study reveals the tendencies that women and men have equal access and control to land as farming or natural resource which in turn determine the food security in the household as well as for the individual. The present study supports findings from previous studies that the farmer household and the food producer, especially in upland areas, could no longer sustain their food security when only 10% of the peasant households in the study village are in secure category of household food security. In case of Kemang, some factors are responsible for the low food security of the household and among those the small size of land size controlled by the majority of households, the presence of significant number of landless households (about one-third), the low productivity of rice farming are noteworthy. On the other hand, many rural development programs such as IDT, Social Forestry and PMDHT, which were introduced to Kemang people, were insufficient for their sustainability.

Moreover, there are many problems faced by the household members irrespective of gender regarding their farming activities. Moreover, the agricultural extension agencies have not pay necessary heed to them. This suggests that the district agency of agriculture should conduct the agricultural extension programs based on gender perspective too. This is important as the study found that there is no rigid sex differentiation over all farming activities. Besides, the existence of gender-biased values in food allocation among peasant household implies that the food and nutrition extension program should be integrated with the agricultural extension programs. Further, the PKK cadres should be involved in the nutrition extension program, which is emphasized to implement equal treatment on food allocation between household members, men and women, according to their physical, health, and working activities condition. However, as the majority of the peasant households are poor and lack capital necessary for using appropriate technology for improving their farming and production. This situation demands that credit should be provided for them. Further, as the women's local organization seems to be sustained compared to the men's local organization, this advocates that the agricultural extension programs will be more effective and efficient if the women's local organization is used as media forum. All these will help to meet what Moser (1993) has attributed to the practical and strategic gender needs.

Finally, as this study shows that gender relation to land ownership exists among the peasant community, it is recommended that several studies should be urgently and essentially conducted with multi-disciplinary approaches in order to link the relation with agrarian transformation in proper perspective.

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APPENDIX

Formula For Calculating Household Food Availability, Household Food Access, Food Utilization and Household Food Security

1. Household Rice Stock (calorie) Formula (Adi,1998).

$$HRS = \frac{\sum Rice\ (kg) \div \sum NoHM \times Nutrition\ Contents\ (energy)\ of\ Rice/kg}{\sum waiting\ day\ to\ next\ rice\ harvest\ period}$$

Where:

∑ Rice = Number of available rice at the present (kg)

∑ NoHM = Number of Household Member

Nutrition Contents of Rice: 369 calorie/100 gram ≈ 3690calorie/kg

∑ Day to next harvest period: 364 days for once/year rice harvest, 82 and 91 days for 2-3 times/ year rice harvest

Household Rice Stock categorized into three categories i.e. low (FA<1400 calorie), medium (1785<FA<2550 calorie), and high (FA≥2550 calorie)

2. Household Food Availability Formula

$$WS - HHFoodAvailability = \sum_{j=1}^{n} b_j Variable_j$$

Where:

j=1, Variable-1 is the score value of land size variable (weighted factor is 0.5)

j=2, Variable-2 is the score value of paddy production (weighted factor is 0,25)

j=3, Variable-3 is the score value of Rice Calorie Availability (weighted factor is 0.25)

3. Household Food Access Formula

$$WS - HHFoodAccess = \sum_{k=1}^{m} c_k Variable_k$$

Where:

k=1, Variable-1 is the score value of income per capita (weighted factor of c-1 is 0.33)

k=2, Variable-2 is the score value of food expenditure (weighted factor c-2 is 0,33)

k=3, Variable-3 is the score value of DDP Score (weighted factor c-3 is 0.33)

4. Individual Food Utilization Formula

$$WS - IndivFoodUtilization = \sum_{l=1}^{0} d_l Variable_l$$

Where:

i=1, Variable-1 is the score value of Dietary Energy Intake (weighted factor d-1 is 0.25)

i=2, Variable-2 is the score value of Dietary Protein Intake (weighted factor d-3 is 0.15)

i=3, Variable-3 is the score value of Energy Sufficiency Level (weighted factor d-3 is 0.25)

i=4, Variable-4 is the score value of Protein Sufficiency Level (weighted factor d-4 is 0.15)

i=5, Variable-5 is the score value of Adult Nutrition Status (weighted factor d-5 is 0.10)

i=6, Variable-6 is the score value of Children Nutrition Status (weighted factor d-6 is 0.05)

i=7, Variable-7 is the score value of Children Under Five Nutrition Status (weighted factor d-6 is 0.05)

5. Weighted Score of Household Food Security Formula

$$WSFoodSecurity = \sum_{l=1}^{3} d_1 Variable_l$$

WS Food Security is Weighted Score Total of HH Food Availability, HH Food Access, and Individual Food Utility with weighted factor = 4:4:2 respectively (Baliwati 2001)