

1 **Strategy for improving food security through social behaviour and decision-making**

2 **patterns at the level of paddy farmer households**

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17 **Abstract**

18  
19 The objectives of this study were: 1) describe the level of production, level of income, and  
20 consumption patterns; 2) Reveal the socio-cultural aspects of households in achieving food  
21 security; 3) ~~analyze~~analyze the role of household members in decision making in achieving  
22 household food security. The study uses qualitative and quantitative approaches (mix  
23 method), data collection techniques through observation, interviews, and documentation on  
24 rice farmer's households. Data analysis uses descriptive qualitative analysis and quantitative  
25 analysis. The results found: 1) The average production of rice farming in paddy  
26 agroecosystem during the two growing seasons, namely in the planting season I was  
27 8,593.33 kg ha<sup>-1</sup>; and in the second growing season ~~the production was~~ 7,553 kg ha<sup>-1</sup>ha.  
28 The level of household income is included in the low-income category, which is less than IDR  
29 3,132,500 / month, and the consumption pattern of farm household food consumption is less  
30 varied. 2) In the life of a farmer's household in the paddy agroecosystem, food is one of the  
31 media to express a sense of solidarity, solidarity and fertilization of social ties. 3) Household  
32 food security status in paddy agroecosystem is mostly in the category of "food  
33 ~~insecurity~~insecure" 4) The pattern of household decision making tends to show the  
34 dominance of women or wives in decision making, especially in kitchen regulation activities

**Commented [W1]:** Title is unclear:  
Strategy development to improve food security at household level of paddy farmers through the analysis (?) of social behavior and decision making patterns??

**Commented [W2]:** This abstract needs major revisions: it is not clear where this study was executed, when it was executed, what was the number of respondents, etc... The text doesn't have a flow. A final conclusion / recommendation / policy implication is missing...

**Commented [W3]:** Needs to be reformulated. An opening sentence would be good to let the reader know the research question or "situation"

**Commented [W4]:** Not quite clear

35 and the selection of consumption menus, family financial management and regulating  
36 various family needs.

37  
38 *Keywords: Food Security, consumption quality, paddy agro-ecosystem*  
39

## 40 1 Introduction

41 Recently, concern on food security and poverty alleviation has increased globally. This is in  
42 response to several cases of insecurity and famine in several countries. This effort is stated in ~~one~~  
43 ~~of~~ the objectives ~~of~~ one and two of the 17 SDGs, namely eradicate poverty in all forms everywhere  
44 and to stop hunger, achieving better food and nutrition security as well as supporting sustainable  
45 agriculture. The majority of the poor people in developing countries are engaged in subsistence  
46 farming. They also depend on agriculture both for their incomes and food entitlements. So,  
47 agriculture production is the main determinant of food security of the household and that the role of  
48 agriculture is crucial to the eradication of poverty and food insecurity in the rural households  
49 (Asogwa *et al.*, 2012).

50 In Indonesia, the definition of food security has been stipulated in Law Number 18 of 2012  
51 concerning food. Furthermore, to achieve the goals in the SDGs, Indonesia has formulated 3  
52 strategies and 7 indicators to cope with the goals and 4 strategies and 4 indicators to overcome the  
53 second goal.

54 Food security at the household level essentially shows the ability of households to meet food  
55 sufficiency. This ability is influenced by many very complex factors, but in general it is related to  
56 changes in aspects of food production ~~behavior~~behaviour, consumption and resource allocation in  
57 the household. The regional level the status of regional food security is classified as food security,  
58 but it is not sufficient to guarantee food security at the household level (Purwantini *et al.*, 2005).

59 In Indonesia, increasing food security is directed at the independence of the community /  
60 farmers based on local resources carried out through programs to increase food production;  
61 maintain adequate, safe and halal food availability in each region at all times; and anticipation so  
62 that food insecurity does not occur. Efforts to improve the welfare of farmers can be carried out  
63 operationally through empowerment of counseling, assistance, business guarantees, protection of

Commented [W5]: Why not presenting this definition instead of this law number?

64 grain prices, protection and promotion policies. This is understandable considering that most  
65 farmers in Indonesia for the commodity of rice are still classified as subsistence farmers in the  
66 sense of acting as producers and consumers of rice. Thus, the amount of rice sold to the market  
67 will depend on the household consumption surplus and the price of rice and the price of other  
68 goods needed by farmers from other industries (Darwanto, 2005). Studies on food security and its  
69 handling efforts have been carried out. Research conducted at Kwara State, North-Central Nigeria  
70 shows that 64% of farmers experience food insecurity (Babatunde *et al.*, 2007).

71 Recent research shows that about half of the rural households (49.4%) in Nigeria were food  
72 insecure during the post-planting season (Adepoju *et al.*, 2013). Unfortunately, the incidence of  
73 farmer household food insecurity is even higher in urban areas (87.56%). The same thing  
74 happened to Ghana, about 60% of farming households in the Forest Belt of the Central Region of  
75 Ghana were found to be food insecure (Kuwornu *et al.*, 2013) and in Ethiopia almost three quarters  
76 of the household (70.7%) had food insecurity (Endale *et al.*, 2014).

77 The structure of the territory of Indonesia is an archipelago with various ecological systems  
78 and diverse socio-cultural environments. With different ecological, social, economic and cultural  
79 conditions in each region, food policies and interventions must be adapted to regional conditions.  
80 This is in line with the opinion that food policy must be based on ecological areas and utilize  
81 regional resource diversity, so that it will be more efficient in preparing food programs (Sumarwoto,  
82 1994).

83 Agroecosystem can be seen as an ecosystem that is typically human. Humans as one type of  
84 living creature is not only a part of a particular ecosystem, but also acts consciously to change and  
85 shape the ecosystem in accordance with their wants and needs. This happens when humans enter  
86 the "farming phase" (Suryana & Budiarto, 1995). Agroecosystem basically has four components,  
87 namely: (1) ecosystem; (2) social; (3) economy; and (4) technology. – needs further explication

88 Pinrang Regency, located in South Sulawesi Province is the centre of rice production in  
89 this region. However, food insecurity is still experienced by farm households. Agroecosystem in  
90 Pinrang Regency is dominated by irrigated paddy fields and rain-fed rice fields, that is, agricultural  
91 areas or areas whose farming is based on paddy rice commodities. Food availability, especially  
92 staple food (rice) is supplied from within the Pinrang Regency area. The research objectives are: 1)

**Commented [W6]:** I'm sure that similar references can be found for Indonesia as well. Would be more interesting I guess...

**Commented [W7]:** ??

**Commented [W8]:** Strangely formulated...

**Commented [W9]:** But the final objective should be to come up with some kind of strategy – otherwise the title should be change from the beginning...

93 describe the level of production, level of income, and consumption patterns; 2) Reveal the socio-  
94 cultural aspects of households in achieving food security; 3) ~~analyze~~analyse the role of household  
95 members in decision making in achieving household food security.

## 96 **2 Materials and Methods**

### 97 *2.1 Study Area*

98 This research was conducted in the region of Samaulue Village, Larrisang District, Pinrang  
99 Regency, South Sulawesi. Pinrang Regency has historically been one of the ~~centers~~centres of rice  
100 production in South Sulawesi. The research ~~will-was~~be conducted from March 2018 to December  
101 2018.

### 102 *2.2 Data collection*

103 The population is all farm households in Samaulue Village, Larrisang District, Pinrang  
104 Regency, South Sulawesi. With the following criteria: (1) have a family member consisting of wife,  
105 children, and / or other family members, and (2) household members are willing to provide  
106 information. The population of farmers in Samaulue Village is 502 households.

107 The method of determining the sample using a simple random method (simple random  
108 sampling). If the population is > 100, then a sample of 10-15% can be taken. The population of  
109 farmers in the village of Samaulue amounted to 502 households, so by taking 10%, the number of  
110 research samples was 50 households, which were determined as respondents. With the number of  
111 respondents expected to be able to describe the general population situation (Arikunto, 2013).

112 Data sources were obtained from in-depth interviews using a questionnaire, making  
113 observations and participating in the respondent's household activities.

### 114 *2.3 Data Analysis*

115 Data analysis method used in this study is a combination of qualitative and quantitative  
116 methods (Mix Method)

#### 117 1. Descriptive Analysis

118 Descriptive analysis is used to describe the socio-cultural aspects of respondents in achieving  
119 household food security, the role of household members in decision making in achieving  
120 household food security.

#### 121 2. Farm Analysis

**Commented [W10]:** Wording!

**Commented [W11]:** ?? does this mean that only households with a married couple were regarded?

**Commented [W12]:** Which information was seeked for?

122 To calculate the level of farm production, production analysis is used, which is the amount of  
 123 production produced by each respondent in one year.

124 To calculate farm household income (PRT) and expenditure using the following formula:

125 Household Income (Rahim & Hastuti, 2007).

$$126 \quad \text{PRT} = \text{PUT} + \text{PLUT} + \text{PART} \quad (1)$$

127 Where:

128 Domestic worker = total household income (Rp / month)

Commented [W13]: ??

129 PUT = income from farming activities

130 PLUT = income from non-farming activities (alternative income)

131 PART = income of household members (domestic worker?)

133 Analysis of Household Food Consumption Patterns

134 Analysis of farm household food consumption patterns is determined based on food  
 135 consumption quality using the Food Diversification Score (SDP) (Bulkis, 2012; Hardinsyah, 2012).

136 Scoring the household's actual consumption score of the amount of food needed per consumer  
 137 unit for adult men (UK) in each food group (main food, side dishes, vegetables, fruits, and milk).

138 Next presented in the following table:

139 Table 1. Measurement of Household Food Security Based on Food Consumption Quality

Commented [W14]: I don't understand this table...

Food group	Number of food consumption by male (UK) <sup>2)</sup>	Score <sup>1)</sup>
Nasi, sereal, ubi-ubian, rice, cereal,	500 g <u>per day?</u>	0 1 2
Lauk Hewani & Nabati animal dan plant	200 g	0 1 2
Vegetables	150 g	0 1 2
Fruits	200 g	0 1 2
Milks	25 g	0 1 2
Total maximum score		10

Commented [W15]: Is what?

140 Information:

141

142 1) 0 = if the portion of factual consumption: <0.5 UK

143 1 = if portion of factual consumption: 0.5 <UK <1

144 2 = if the portion of factual consumption :> 1

145 2) Moderate activity

146 3) 500 g = if the portion of sweet potato <20%, corn <10%

147 600 g = if the portion of sweet potato is 20 - 50%

148 700 = if the portion of sweet potato is > 50%

149

### 150 3 Results

#### 151 3.1 Characteristics of Respondents

152 The socio-economic characteristics of respondents in Samaulue Village include age,  
153 education, knowledge about nutrition and food, farming experience and the number of household  
154 members, can be seen in table 2 below.

155 Table 2. Socio-Economic Characteristics of Respondents in Samaulue Village, Larisang  
156 District Pinrang Regency South Sulawesi Province, 2018.

No.	Description	Number of Respondent (orang)	Percentage (%)
1.	Age (year)		
	• 27 – 46	28	56
	• 47 – 66	22	44
2.	Education		
	• ES – YHS	30	60
	• SHS – Bachelor	20	40
3.	Knowledge of nutrition and food		
	• Low	36	72
	• High	14	28
4.	Experience of cultivation		
	• < 17 tahun	29	58
	• ≥ 17 tahun	21	42
5.	Number of household member		
	• < 3 orang	24	48
	• ≥ 3 orang	26	52

157 Source: Analysis of primary data, 2018

158 Based on the data, the age of most respondents in the range of age 27-46 years (56%); 60%  
159 of respondents have an elementary-junior high school education level; 72% have knowledge about  
160 nutrition and low food; 58% have <17 years of venture experience; and 52% have a household  
161 member ≥ 3 years.

#### 162 3.2 Total Food Production

163 Food availability is one indicator of food security in an area. The amount of production  
164 produced by farm households can show the ability of households to provide food. The average

Commented [W16]: Don't see the "3" in the table?

Commented [W17]: I prefer to see only the percentage – skip the frequency – do mention n=50

Commented [W18]: Is what?

Commented [W19]: All tables / figures should always be self-explaining...

Commented [W20]: Year?

165 production of rice farming produced by respondents during the two growing seasons, namely in the  
 166 first planting season was 7,033.32 kg with a productivity of 5,410.25 kg / ha. In the second growing  
 167 season the production was 7,553.33 and the productivity was 5.964.1 kg / ha. The average  
 168 production for the two growing seasons is 5,687 kg / ha. The level of production produced by  
 169 respondents is still in the low category when compared to the average level of district production  
 170 (50. 325 tons) with a harvest area of 8. 547 Ha or an average of 5,888 kg / ha (Table 3).

171

172 Table 3. Average Production and Productivity of Farming Respondents of Rice Crops in the  
 173 Samaulue Village, Lanrisang District, Pinrang Regency, 2018

No	Planting season	Mean Land width area (Ha)	Paddy production (KG)	Productivity (Kg/Ha)
1.	MT. I (Desember s/d Maret)	1,3	7.033,32	6.610,25
2.	MT.II (April s/d Juli)	1,3	7.553,33	5.964,1

174 Source: Primary Data Analysis, 2018.

175 **3.3 Household Income Level**

176 Household income is the overall income derived from the income of the head of the family as  
 177 a farmer, income from activities other than as a farmer (alternative work), and income from family  
 178 members who work. Household income is categorized into high and low categories. High category  
 179 if household income ≥ IDR 3,132,500 / month and low category if < IDR 3,132,500 / month. The  
 180 data in Table 4 shows that the dominant income of the respondents included in the low-income  
 181 category as many as 26 people (52.0%). Low incomes indicate limitations in consuming a variety  
 182 of highly nutritious foods.

183 Table 4. Respondent Household Income by Category in Samaulue Village, Lanrisang District,  
 184 Pinrang Regency, 2018

No	Household Income (Rp)	Criteria	Σ Respondent	Percentage (%)
1.	< 3.132.500	Low	26	52,00
2.	≥ 3.132.500	High	24	48,00
	Total		50	100,00

185 Source: Primary Data Analysis, 2018

186 **3.4 Household Food Consumption Pattern**

187 The purpose of food consumption is to obtain the nutrients the body needs. In general, the  
 188 types of food consumed by farm households are less varied, namely only 2 types of staple foods

Commented [W21]: What do these numbers say?

Commented [W22]: Paddy is the only culture?

Commented [W23]: English should have been used

Commented [W24]: Why isn't income separated into on-farm and off-farm income?

189 (rice / rice and corn), the other main food consumption such as cassava and sweet potato are  
 190 generally respondents only consume it as a snack. The types of side dishes consumed by  
 191 respondents and their families are animal side dishes (fish and eggs) and vegetable side dishes  
 192 (tofu and tempeh). Furthermore, the types of vegetables consumed by the respondent's household  
 193 are spinach, kale, long beans and eggplants. There were only two types of fruits consumed by  
 194 respondents, namely bananas and papaya, and none of the respondents consumed milk as a  
 195 complement to the four healthy five perfect dishes (Table 5).

196 Table 5. Average Food Consumption in Respondent Households in Samaulue Village,  
 197 Lanrisang District, Pinrang Regency, 2018

No	Type of food	Average of consumption (gram/day)	Average of consumption per person Rata-rata Konsumsi Pangan per orang (gram/person/day)*	Standard (gram/person/day)
1.	Main food			500
2.	rice?	766.10	255.37	200
3.	Fish/meat	684.25	229.74	150
4.	Vegetables	387.09	129.03	200
5.	Fruits	166.59	55.54	
	Milks	0	0	25

198 Source: Primary Data Analysis, 2018

199 Notes: \* Average number of household members: 3 people

### 200 3.5 Food Security Status

201 Household food security status was analyzed using the Food Diversification Score (SDP)  
 202 (Hardinsyah, 2012). The SDP is calculated based on Food Consumption Quality (MKP) using the  
 203 household's actual consumption score for the amount of food needed per consumption unit (UK) in  
 204 each food group. Household food security assessment criteria are assessed based on the value of  
 205 the Food Diversification Score.

206 Based on Table 6, it appears that the food security status of households in Samaulue Village  
 207 is mostly in the category of "food insecurity" as many as 34 households with a percentage (68.0%),  
 208 and households belonging to the "food security" category that is 16 households with a percentage  
 209 (32.0%).

210

211

Commented [W27]: This is the proposed consumption?

Commented [W25]: This is for the complete household?

Commented [W26]: ??

212 **Table 6. Distribution of Farmer Households by Food Security Status in Samaulue Village,**  
 213 **Lanrisang District, Pinrang Regency, 2018**

No	Status of food security	Number of households	Percentage (%)
1	Food secure	16	32.00
2	Food insecure	34	68.00
<b>Total</b>		50	100.00

214 Source. Primary Data Analysis, 2018

215 *3.6 Socio-Cultural Aspects of Households in Realizing Food Security*

216 The pattern of people's ~~behavior~~ behaviour in meeting their needs is influenced by customs or  
 217 habits. There are times when customs or habits become a barrier to the development and change  
 218 of culture itself because it is difficult to change. Every social change always includes cultural  
 219 change, and cultural change include social change. This study showed that household access was  
 220 relatively low, average of the access was 50%. The highest was barter access (70%) while the  
 221 lowest access was rice aid from government (30%) (Table 7).

222 **Table 7. Household Access in Obtaining Food Ingredients in Samaulue Village, Lanrisang**  
 223 **District, Pinrang Regency. 2019**

No	Access Type	Number of Respondent	Percentage (%)
1.	Physical access		
	- Market distance (close)	30	60.0
	- Food availability (complete)	20	40.0
2.	Economic access		
	- Income (low)	26	52.0
	- Income (high)	24	48.0
3.	Social access		
	- Aid (rice aid)	15	30.0
	- Barter (kin, neighbour)	35	70.0

224

225 The level of economic access is measured by household income, physical access is  
 226 assessed from the distance of the market and food availability in the stall. Market distance and the  
 227 availability of food will support the fulfillment of family supplies and food needs. Social access to  
 228 food consists of food aid and food barter, where food assistance such as getting assistance from  
 229 the government in the form of rice assistance or other basic food items, while the intended food  
 230 barter is to provide food to others and receive food from others (neighbours, and relatives / family).

231 For some respondents, besides having a primary function, food should also fulfill a  
 232 secondary function, which is to have a good appearance and taste. Because, however high the  
 233 nutritional content of a food will be rejected by consumers if the appearance and flavor are not

**Commented [W28]:** I doubt the authors do need a table for these two figures – one third of all HHs are only food security, the rest insecure...

**Commented [W29]:** This table is also difficult to grap...

234 attractive and meet the tastes of consumers. That is why food quality must always be maintained  
235 because it is an important factor in determining whether a food ingredient will be accepted or not  
236 by consumers.

237 Food consumption habits are ways in which individuals / groups of people choose, consume  
238 and use available foodstuffs based on their socio-cultural background. Eating habits in a  
239 community were a culture that has always been maintained and developed from generation to  
240 generation. This pattern influences the way to choose materials and types of food that must be  
241 produced, processed, distributed, and prepared until served. Types of commodities produced by  
242 farmers in rice field agroecosystems was rice, corn, cassava, sweet potato, water spinach,  
243 spinach, cowpea, eggplant, banana dan papaya (Table 8).

244 **Table 8. Types of Commodities Produced by Farmers in Rice Field Agroecosystems in**  
245 **Samaulue Village, Lanrisang District, Pinrang Regency, 2018**

No	Commodity		
	Food plant	Vegetables	Fruits
1	Rice	Water spinach	Banana
2	Corn	Spinach	Papaya
3	Casava	Cowpea	
4	Sweet potato	Eggplant	

246 Source: Primary Data Analysis, 2018

247 The diversity of food consumption is also affected, by the environment, socio-culture, and  
248 hereditary eating habits causing diverse tastes. Food consumption patterns of a region's people  
249 are generally formed due to the availability of food derived from plants from outside the area that  
250 can easily adapt and grow well in the physical condition of the land of the area and is able to  
251 produce well.

252 "Food consumption is not only a food maintaining the health, but also have social values.  
253 This have implications for strengthening and expressing social solidarity and strengthening social  
254 ties in social life. (MF 1) interview May 26, 2018, 10:30 pm)."

255 The above statement was supported by another informant. He said that

256 "Food is one of the media to express a sense of solidarity, brotherhood and source of social  
257 cohesion. Food serves as a means to establish social relations. Offering food is offering affection,  
258 attention and friendship. (MF 2) interview May 26, 2018, 10:30 pm)."

259 Receiving the food offered is acknowledging and accepting the feelings expressed and at  
260 the same time as a symbol between those who give and those who are given food, that they have

**Commented [W30]:** Do bring this info on crops cultivated much earlier...

261 established a reciprocal relationship. Mutual reciprocity in giving and receiving food offered both in  
 262 neighbouring relationships and when holding activities or events is familiar, as the results of the  
 263 following interview

264 "In this village (Samaulue Village), the community members have a habit of doing activities  
 265 such as giving food to neighbours and relatives. If you have excess food or food items,  
 266 usually share with neighbours or family. In the month of fasting (Ramadhan) the habit of the  
 267 community to give each other food / snacks to break their fast to neighbours or family, also  
 268 to the mosque. This has become a tradition in this village." (MF 3) interview May 26, 2018,  
 269 10:30 pm).

270 Someone who on a certain day makes food, then the person concerned always offers to  
 271 neighbours, relatives or the closest people. Food is also a manifestation of human tolerance, from  
 272 the processing of raw materials to food, its manifestation, how it is presented and consumed is a  
 273 tradition. With the interrelated relationships with various aspects that exist in religious life and with  
 274 various elements that exist in society itself will realize that tolerance.

### 275 3.7 The Role of Household Members in Decision Making

276 The results of the study found that household decision making patterns tended to show the  
 277 dominance of women or wives in decision making, especially on kitchen management and menu  
 278 selection (100%), household financial management (90%), and household need management  
 279 (80%) (Table 9).

280 **Table 9. Role of Household Members in Decision Making, in Rice Field Agroecosystems in**  
 281 **Samaulue Village, 2018**

No	Activity form	Management pattern (decision making)									
		1	%	2	%	3	%	4	%	5	%
1.	Kitchen management and menu selection	50	100	-	-	-	-	-	-	-	-
2.	Household financial management	45	90	1	2	3	6	-	-	1	2
3.	Household need management	40	80	3	6	7	14	-	-	-	-
4.	Time and social activity management	16	32	4	8	23	46	2	4	5	10
5.	Income earn and job	8	16	1	2	17	34	21	42	3	6
6.	Interaction pattern management	9	18	10	20	29	58	2	4	-	-
7.	Management of child education	15	30	10	20	21	42	3	6	1	2

Commented [W31]: Unclear what the 1-2-3-4-5 do mean?

282

283 Data of questionnaire was supported by such as the results of the following interview  
284 respondents.

285 "All matters in the household and children are my responsibility and authority. I always  
286 make decisions ranging from work in the kitchen, shopping affairs, food affairs, financial  
287 affairs, education or school matters to children, home care and maintenance to other  
288 needs. In certain matters I also always try to discuss it with my husband first before making  
289 a decision (*sipakarajaki mallabineng*) such as children's education costs, buying household  
290 equipment or other matters (social interaction) such as family invitations, sick families and  
291 others" (FF2) interview 27 May 2018, 3:30 pm)

292 (Note: *Sipakarajaki mallabineng*: the language of the Bugis tribe in South Sulawesi whose  
293 meaning is "mutual respect between husband and wife")

294

#### 295 **4 Discussion**

296 Strategies to develop food production and availability can be done by increasing and maintaining  
297 production capacity, accelerating the production of unconventional food ingredients and developing  
298 technology to increase business productivity (Sunyoto, 2004). Optimal food production in addition  
299 to meeting household food availability, can also control the level of imports in the food sector. This  
300 provides an opportunity for farmers to improve family welfare and support the creation of national  
301 food security (Prihatin et al., 2012).

302 Our study illustrates that the status of household food security in Samaulue Village is mostly in the  
303 "food insecurity" category with a percentage (68.0%). This condition feels quite ironic considering  
304 that Pinrang Regency is one of the food storage areas, especially rice in South Sulawesi. This is in  
305 line with the opinion that although at the regional level food security is guaranteed, it is not enough  
306 to guarantee food security at the household level. Food security at the household level basically  
307 shows the ability of households to meet their food needs. This ability is influenced by many very  
308 complex factors, but in general it is related to changes in aspects of food production behaviour,  
309 consumption and resource allocation in the family (Purwatini et al., 2005).

310 Human life is inseparable from the necessities of life. The culture which is a collection of  
311 knowledge systems or systems of ideas, shapes human attitudes and behaviours as members or

312 citizens of their social unity that grows, develops and changes according to the needs of human  
313 life. Simply stated Malinowski in (Rahim & Hastuti, 2007), said that the needs of human life can be  
314 divided into three broad categories, namely needs related to biological, social and psychological.

315 Household food security is linked to the ability of families to meet the demands of all its members  
316 (Usfar, 2012). This implies physical and economic access to food that is sufficient in quantity and  
317 quality of nutrition as well as safety, and acceptability to local culture to meet the needs of every  
318 family member. Household access to food is a strategy for getting food from various sources. Food  
319 for the household can come from several sources, including: by producing themselves, buying, or  
320 from gifts. Individual access to achieve food needs is strongly influenced by purchasing power,  
321 income levels, food prices, food distribution processes, institutions at the local level and other  
322 social factors. In meeting the family's food needs, farmers in the rice agroecosystem make use of  
323 their own production, but if they want to consume other types of food that are not produced  
324 themselves, they buy it from markets or stalls in the surrounding environment.

325 The patterns and habits of eating consumption are generally related to economic aspects, namely  
326 the level of income. Income is the main factor in determining the quality and quantity of food  
327 ingredients. Higher income level of households tends to choose better quality and quantity foods  
328 those of bellow standard. The latter were generally less able to meet their food needs (Ayiek,  
329 2008). This condition makes some farming households in rice farming agroecosystems have a low  
330 income to choose cheap and easily available for consumption food.

331 Through a theoretical approach to the distribution of power, patterns of decision making in several  
332 aspects of household life include; production, consumption, formation and formation of the family  
333 and social activities carried out by the husband, and wife in the family (Levy, 1991).

334 Power is defined as the ability to influence others who can be spread with the same value (the  
335 same) and not the same value (not the same). Based on these thoughts, five types of decision  
336 making are explained, namely (Pujiwati, 1987):

- 337 1. Decision making is done by the wife herself
- 338 2. Made together, but the wife is more influential or dominant
- 339 3. Joint and equal decision making
- 340 4. Made together, but the husband is more influential or dominant

341 5. Decision-making is done by the husband himself.

342 In the case of this study, husband and wife decision making refers to the thoughts of Pujiwati  
343 (Prihatin et al., 2012) as mentioned above, covering 7 (seven) main areas, namely: 1) Managing  
344 kitchen matters, 2) Managing family finances, 3) Manage various needs, 4) Manage time and  
345 activities outside the home, 5) Live, 6) Manage interaction patterns and 7) Manage children's  
346 education.

347 According to Bulqis (2012) (Endale et al., 2014), there is a tendency for appropriateness factors to  
348 influence decisions in the field of social activities. At ceremonial events such as weddings, wives or  
349 female household members help more, because the activities carried out relate to what is often  
350 done by women such as cooking, preparing dishes and arranging food menus. This study  
351 concluded that the average production of rice farming in paddy agroecosystem during the two  
352 growing seasons, namely in the first planting season was 8,593.33 kg, in the second growing  
353 season the production was 7,553.33 kg/ha. The level of household income is included in the low-  
354 income category, which is <IDR. 3,132,500/month, and the pattern of farm household food  
355 consumption is less varied. In the life of a farmer's household in the paddy agroecosystem, food is  
356 one of the media to express a sense of solidarity, solidarity and fertilization of social ties. Status of  
357 household food security in paddy agroecosystem is mostly in the category of "food insecurity". The  
358 pattern of household decision making tends to show the dominance of women or wives in decision  
359 making, especially in the activities of regulating the kitchen and choosing the consumption menu,  
360 managing family finances and managing various family needs.

361 This discussion should end with a clear statement of the main conclusions of the research, and a  
362 clear explanation of their importance and relevance for management or policy.

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**Commented [W32]:** Not listed as described in our guidelines - alphabetically

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