

Unit: person (%)

Education Level	Scheme				State of Kelantan*
	Hilir Sat I	Repek	Rawa B. Laut	Total	
a. No schooling	24 (36)	8 (28)	2 (18)	34 (32)	267 (45)
b. Primary	35 (53)	16 (57)	7 (64)	58 (55)	303 (51)
c. Form 1 - 3	5 (7)	2 (7)	0 (0)	7 (7)	17 (3)
d. Form 4 - 5	1 (2)	0 (0)	1 (9)	2 (2)	6 (1)
e. Form 6	0 (0)	1 (4)	1 (9)	2 (2)	2 (0)
f. College level	1 (2)	0 (0)	0 (0)	1 (1)	1 (1)
g. Vocational level	0 (0)	1 (4)	0 (0)	1 (1)	0 (0)
Total Respondents	66 (100)	28 (100)	11 (100)	105 (100)	597 (100)

*Remarks: *; Results of JICA Sample Survey in 1989*

2.2 Economic and Living Conditions

(1) Annual revenue

The annual average gross income of the sample farm households was estimated to be M\$4,550 as shown below. The annual average farm income amounted to M\$3,800, accounting for 84% of the annual average gross income.

Unit: household (%)

Annual Revenue (M\$)	Scheme			Total	State of Kelantan*
	Hilir Sat I	Repek	Rawa B. Laut		
a. 1 - 1,000	2 (3)	1 (4)	0 (0)	3 (3)	13 (2)
b. 1,001 - 2,000	12 (18)	4 (14)	1 (9)	17 (16)	89 (15)
c. 2,001 - 3,000	17 (26)	5 (17)	5 (46)	27 (26)	151 (25)
d. 3,001 - 4,000	10 (15)	4 (14)	1 (9)	15 (14)	131 (22)
e. 4,001 - 5,000	5 (7)	3 (11)	1 (9)	9 (8)	74 (12)
f. 5,001 - 6,000	6 (9)	2 (7)	1 (9)	9 (8)	40 (7)
g. 6,001 - 7,000	1 (2)	5 (17)	0 (0)	6 (6)	30 (5)
h. 7,001 - 8,000	2 (3)	1 (4)	0 (0)	3 (3)	23 (4)
i. 8,001 - 9,000	2 (3)	1 (4)	1 (9)	4 (4)	16 (3)
j. 9,001 - 10,000	2 (3)	0 (0)	0 (0)	2 (2)	7 (1)
k. 10,001 - 11,000	2 (3)	0 (0)	0 (0)	2 (2)	4 (0)
l. 11,001 - 12,000	0 (0)	1 (4)	0 (0)	1 (1)	5 (1)
m. 12,001 - 13,000	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)
n. 13,001 - 14,000	0 (0)	0 (0)	0 (0)	0 (0)	4 (1)
o. 14,001 - 15,000	1 (2)	0 (0)	1 (9)	2 (2)	2 (0)
p. Above 15,000	3 (4)	1 (4)	0 (0)	4 (4)	5 (1)
q. No income/no answer	1 (2)	0 (0)	0 (0)	1 (1)	1 (0)
Total Respondents	66 (100)	28 (100)	11 (100)	105 (100)	597 (100)

Remarks: *; Results of JICA Sample Survey in 1989

Taking M\$4,200 a year per family as the poverty line income defined in the Mid-Term Review of 5MP, the Survey results revealed that about 60% of the households are below the poverty line income as shown above. The situation in the three representative scheme looks slightly better than the State level, where about 65% are below the poverty line income.

(2) Important or remunerative activity

On the question "what is the most important or remunerative activity", all the respondents indicated "paddy cultivation" as shown below. Further, 44% of the respondents pointed out that part-time job was also another most important/remunerative activity and also 26% considered tree crop cultivation at the same level of importance.

Unit: no. of responses (%)

Important or Remunerative Activities	Scheme			Total
	Hilir Sat I	Repek	Rawa B. Laut	
a. Paddy cultivation	66 (100)	28 (100)	11 (100)	105 (100)
b. Upland cash crop	4 (6)	4 (14)	0 (0)	8 (8)
c. Tree crop cultivation	16 (24)	6 (22)	6 (55)	28 (26)
d. Fruit crop cultivation	3 (5)	0 (0)	1 (8)	4 (4)
e. Animal breeding	4 (6)	2 (7)	0 (0)	6 (6)
f. Business	3 (5)	3 (11)	0 (0)	6 (6)
g. Part-time job	30 (45)	11 (39)	6 (55)	47 (44)
h. Government service	2 (3)	2 (7)	0 (0)	4 (4)
i. Skilled work	2 (3)	4 (14)	0 (0)	6 (6)
j. Blue collar work	2 (3)	0 (0)	0 (0)	2 (2)
k. Others	4 (6)	1 (4)	0 (0)	5 (5)
No. of Respondents	66	28	11	105
<u>Total Responses*</u>	<u>136 (206)</u>	<u>61 (218)</u>	<u>24 (218)</u>	<u>221 (211)</u>

Remarks: *; Selecting multiple answers.

To another question "near your residential area, whether there are big towns/cities or industrial zones which are providing many job opportunities", 71% of the respondents answered "yes" in the three schemes. But big variations can be seen among these schemes: 91% in Rawa Bechah Laut, 73% in Hilir Sat I and 57% in Repek.

The electrification rate of the three schemes is 99% and higher than that of the State level of 96%. Despite of its high rate, the electric appliances are not comparatively well diffused: TV set of 73%, radio/cassette of 58% and electric fan of 38%. In the three schemes, 57% of farm households are equipped with piped water, while 45% still depend on well water.

(3) Farmers' organization and rural community

The existence and participation of farmers' organizations are summarized below.

Unit: person (%)

Farmers' Organization	Scheme				State of Kelantan*
	Hilir Sat I	Repek	Rawa B. Laut	Total	
a. Participated	46 (70)	27 (96)	9 (82)	82 (78)	494 (83)
b. Available, but not participated	17 (26)	1 (4)	2 (18)	20 (19)	41 (7)
c. No farmers' association	3 (4)	0 (0)	0 (0)	3 (3)	62 (10)
Total Respondents	66 (100)	28 (100)	11 (100)	105 (100)	527 (100)

Remarks: *; Results of JICA Sample Survey in 1989

The participation rate of farmers to farmers' organization in the three scheme areas is 78% and low compared to the State level of 83%. Variations in participation rate can be seen among the three schemes: 96% in Repek, 82% in Rawa Bechah Laut and 70% in Hilir Sat I.

Unit: person (%)

Rural Communities	Scheme				State of Kelantan*
	Hilir Sat I	Repek	Rawa B. Laut	Total	
a. Participated	23 (35)	15 (53)	5 (45)	43 (41)	273 (46)
b. Available, but not participated	41 (62)	12 (43)	6 (55)	59 (56)	63 (11)
c. No farmers' association	2 (3)	1 (4)	0 (0)	3 (3)	261 (44)
Total Respondents	66 (100)	28 (100)	11 (100)	105 (100)	527 (100)

Remarks: *; Results of JICA Sample Survey in 1989

As regards the participation of farmers to rural communities, it is still active, accounting for 41% in the three scheme areas.

2.3 Farming Conditions

(1) Land tenure

In the three scheme areas, 62% of the respondent farmers were "owner-operators", while 19% were "pure tenants" and another 19% apart from their own land rent land from the others as shown below.

In comparison with the State averages, the percentages of pure-tenants and owner-tenants are relatively high in the representative scheme areas. Of the tenants, 88% paid their rent on a fixed cash basis.

Unit: person (%)

Land Tenure Status	Scheme				State of Kelantan*
	Hilir Sat I	Repek	Rawa B. Laut	Total	
a. Owner-operator	36 (54)	19 (68)	10 (91)	65 (62)	480 (80)
b. Pure-tenant	13 (20)	6 (21)	1 (9)	20 (19)	43 (7)
c. Owner-tenant	17 (26)	3 (11)	0 (0)	20 (19)	66 (11)
d. No answer	0 (0)	0 (0)	0 (0)	0 (0)	8 (1)
Total Respondents	66 (100)	28 (100)	11 (100)	105 (100)	597 (100)

Remarks: *; Results of JICA Sample Survey in 1989

(2) Farm size

The holding size of total farm land in each scheme is shown below.

Unit: person (%)

Size of Total Farm Land (ha)	Scheme			
	Hilir Sat I	Repek	Rawa B. Laut	Total
a. Less than 0.4	0 (0)	0 (0)	0 (0)	0 (0)
b. 0.4 - 0.7	6 (9)	4 (14)	0 (0)	10 (9)
c. 0.8 - 1.1	5 (23)	7 (25)	2 (18)	24 (23)
d. 1.2 - 1.5	1 (2)	0 (0)	0 (0)	1 (1)
e. 1.6 - 2.0	19 (29)	7 (25)	5 (46)	31 (30)
f. 2.1 - 3.0	12 (18)	3 (11)	1 (9)	16 (15)
g. 3.1 - 4.0	6 (9)	6 (21)	1 (9)	13 (12)
h. 4.1 - 5.0	4 (5)	0 (0)	0 (0)	4 (4)
i. 5.1 - 6.0	2 (3)	1 (4)	0 (0)	3 (3)
j. 6.1 - 7.0	0 (0)	0 (0)	1 (9)	1 (1)
k. Above 7.0	1 (2)	0 (0)	1 (9)	2 (2)
Total No. of Respondents	66 (100)	28 (100)	11 (100)	105 (100)

In the three schemes, 71% of the respondents holds paddy field of less than 1.2 ha showing the preponderance of small uneconomic holding size of paddy cultivation as below.

Unit: person (%)

Size of Paddy Fields (ha)	Scheme			Total
	Hilir Sat I	Repek	Rawa B. Laut	
a. Less than 0.4	0 (0)	0 (0)	0 (0)	0 (0)
b. 0.4 - 0.7	15 (22)	4 (14)	1 (9)	20 (19)
c. 0.8 - 1.1	31 (47)	17 (61)	7 (64)	55 (52)
d. 1.2 - 1.5	2 (3)	0 (0)	0 (0)	2 (2)
e. 1.6 - 2.0	12 (18)	7 (25)	2 (18)	21 (20)
f. 2.1 - 3.0	4 (6)	0 (0)	0 (0)	4 (4)
g. 3.1 - 4.0	1 (2)	0 (0)	1 (9)	2 (2)
h. 4.1 - 5.0	0 (0)	0 (0)	0 (0)	0 (0)
i. 5.1 - 6.0	0 (0)	0 (0)	0 (0)	0 (0)
j. 6.1 - 7.0	0 (0)	0 (0)	0 (0)	0 (0)
k. Above 7.0	1 (2)	0 (0)	0 (0)	1 (1)
Total No. of Respondents	66 (100)	28 (100)	11 (100)	105 (100)

In many other parts of the paddy growing areas in the State of Kelantan, farms are fragmented and away from their houses. Of the respondents, 39% own only one paddy field lot, while 64% have two or more parcels. The fragmentation of lands will be more advanced, since the lands in these scheme areas are bequeathed in even smaller parcel according to Islamic law of inheritance. Regarding the progressive fragmentation of lands, it is noted that 40% of the respondents answered "trying not to divide it further by due arbitration", whereas 56% replied "no effective/good measure".

(3) Farming practices

With regard to the frequency of paddy cultivation per year, 90% of the respondents answered "once" for the main season. The result seems to indicate that the physical constraints in the three scheme areas do not allow the double cropping of paddy. The farmers who planted paddy once for the off season due to flooding problems accounted for 10% of the total respondents.

Farm machinery in these areas is mainly used for land preparation. For harvesting, the farm machinery does not yet come into wide use, accounting for only 2 to 3%.

To the question "whether farmers fully utilize their paddy fields currently", 88% of the respondents answered "yes". The percentage in the Rawa Bechah Laut scheme is 55% and fairly low compared with 91% in the Hilir Sat I scheme and 93% in the Repek scheme. The reason is that the Rawa Bechah Laut scheme is formed of gravity irrigation portion and control drainage part both of which are physically unable to provide insufficient irrigation water in the whole command area.

To another question "how is the present condition (problems/constraints) of the converted paddy fields" made in tobacco growing area of 7 ha in the Repek scheme, two farmers gave their answers: one for "pest problem" and the other for "no problem".

(4) Irrigation and drainage

For the question "do you have irrigation facilities in your paddy fields", 44% of the respondents answered "yes - whole field" 50% replied "yes - partly". The responses to the question on the quantity of irrigation water supply during main season and off-season are summarized below.

Unit: nos. of responses (%)

Quantity Irrigation Water Supplied	Scheme			Total
	Hilir Sat I	Repek	Rawa B. Laut	
<u>Main Season</u>				
a. Sufficient	55 (85)	15 (65)	9 (82)	79 (80)
b. Not sufficient	10 (15)	8 (35)	2 (18)	20 (20)
<u>Off-Season</u>				
a. Sufficient	4 (6)	1 (4)	0 (0)	5 (5)
b. Not sufficient	61 (94)	22 (96)	11 (100)	94 (95)
<u>Total No. of Respondents</u>	<u>65 (100)</u>	<u>23 (100)</u>	<u>11 (100)</u>	<u>99 (100)</u>

Of the farmers concerned, 80% considered that in the main season, water was "sufficient", while 20% replied "not sufficient". The situation is more severe in the off-season: only 5% for "sufficient" and 95% for "not sufficient". In case of the Repek scheme, farmers who grow paddy under the control drainage system are always suffered from

fluctuation of available water stored in their paddy field by the effect of unstable rainfall pattern.

Irrigation and drainage facility conditions in the representative areas were rated by the respondent farmers. As indicated below, 38% of the respondents stated "not good" on an average. The reason why the rate of those who answered "not good" is very high in the Repek scheme is less supply capacity of the existing pumphouse.

Unit: nos. of responses (%)

Condition of Facilities	Scheme			Total
	Hilir Sat I	Repek	Rawa B. Laut	
a. Very good	0 (0)	0 (0)	0 (0)	0 (0)
b. Good	28 (43)	3 (11)	3 (27)	34 (32)
c. Fairly good	20 (30)	6 (21)	5 (46)	31 (30)
d. Not good	18 (27)	19 (68)	3 (27)	40 (38)
Total No. of Respondents	66 (100)	28 (100)	11 (100)	105 (100)

3. FARMERS' INTENTIONS ON CROP DIVERSIFICATION

3.1 Intentions towards Continuation of Paddy Cultivation

To the question "do you have the intention to convert presently paddy planted area into other crop fields, 66% of the respondents replied "no" in the negative as shown below.

Unit: nos. of responses (%)

Intention towards Conversion to Other Crops	Scheme			
	Hilir Sat I	Repek	Rawa B. Laut	Total
a. Yes - actively	10 (15)	4 (14)	2 (18)	16 (15)
b. Yes - to some extent	10 (15)	5 (18)	3 (27)	18 (17)
c. No	44 (67)	19 (68)	6 (55)	69 (66)
d. Don't know/no plan	2 (3)	0 (0)	0 (0)	2 (2)
Total Respondents	66 (100)	28 (100)	11 (100)	105 (100)

Those who answered in the affirmative, 32% of the respondent farmers expressed the hope to "increase their income" by converting paddy planted areas into other crop fields, while those who said "no" indicated such reasons as unsuitability of land for other crops than paddy, attachment to paddy cultivation and tenancy of land.

When asked to state their intentions and/or expectations on the future farming operations in a multiple answering manner, 93% of the respondents said "expecting to continue paddy cultivation", followed by 27% for "expecting to introduce crop diversification" and 2% for both "expecting to convert to tree planting and fish culture pond".

3.2 Problems and Difficulties towards Crop Diversification

The farmers were also asked "what type of problems and/or difficulties they encountered in their farming operation towards crops diversification?" The survey results indicate that almost all the farmers in the three scheme areas encountered various problems and/or difficulties in their farming practices towards crop diversification. In order of frequency, major problems and/or constraints are: marketing difficulty chosen by 92% of the respondents, inefficient irrigation/insufficient water supply pointed out by 83% of the respondent farmers, lack of fund/machinery selected by 76% of the interviewed farmers and labor shortage encountered by 30% of the sample farmers.

Unit: nos. of responses (%)

Problems and/or Difficulties towards Crops Diversification	Scheme			Total
	Hilir Sat I	Repek	Rawa B. Laut	
a. Inefficient irrigation/ insufficient water supply	56 (85)	23 (82)	8 (73)	87 (83)
b. Poor drainage	6 (9)	6 (21)	0 (0)	12 (11)
c. Lack of fund/machinery	53 (80)	20 (71)	7 (64)	80 (76)
d. Labor shortage	23 (35)	5 (18)	4 (36)	32 (30)
e. Marketing difficulty	59 (89)	28 (100)	10 (91)	97 (92)
f. Frequent pest and diseases	14 (21)	5 (18)	3 (27)	22 (21)
g. Natural disaster	13 (19)	3 (11)	0 (0)	16 (15)
h. Poor access road	9 (13)	0 (0)	0 (0)	9 (9)
i. Ravage by wild animals due to lack of fencing	4 (6)	0 (0)	0 (0)	4 (4)
j. No cooperation among farmers	1 (2)	0 (0)	1 (9)	2 (2)
k. Unsuitable land	2 (3)	0 (0)	0 (0)	2 (2)
l. No land to expand	1 (2)	0 (0)	1 (9)	2 (2)
m. Others	1 (2)	0 (0)	1 (9)	2 (2)
n. No problem/difficulty	1 (2)	0 (0)	0 (0)	1 (1)
Total Responses*	243 (368)	90 (321)	35 (318)	368 (350)
No. of Respondents ^a	66	28	11	105

Remarks: *; Multiple answers are given.

3.3 Main Concerns to Introduce Crop Diversification

To the another question "what are your concerns to introduce crop diversification in the paddy fields" in a multiple answering manner, 94% of the respondent farmers indicated "marketing", followed by "finance" of 84%, "technique" of 78%, "labour" of 37% and others of 15% as summarized below. In the representative scheme areas, farmers' concerns are firstly centered on the marketing.

Unit: nos. of responses (%)

Concerns about Introduction of Crop Diversification	Scheme				State of Kelantan*
	Hilir Sat I	Repek	Rawa B. Laut	Total	
a. Finance	55 (83)	24 (86)	9 (82)	88 (84)	335 (56)
b. Technique	55 (83)	20 (71)	7 (64)	82 (78)	98 (16)
c. Marketing	60 (91)	28 (100)	11 (100)	99 (94)	279 (47)
d. Labour	22 (33)	12 (43)	5 (45)	39 (37)	87 (15)
e. Others	13 (20)	1 (4)	2 (18)	16 (15)	203 (34)
f. None	0 (0)	0 (0)	0 (0)	0 (0)	18 (3)
Total Responses**	205 (310)	85 (304)	34 (309)	324 (308)	1,020 (171)
No. of Respondents	66	28	11	105	597

Remarks: *; Results of JICA Sample Survey in 1989

**; Multiple answers are given.

3.4 Preferred Organizations

For the smooth and effective implementation of crop diversification, all the respondent farmers expressed the hope to get principal assistance components such as finance, technology and marketing as a package. About the necessary funds for introduction or expansion of crop diversification, 99% of the respondents replied that they need to increase initial/capital funds. For financing, extension service and marketing, the organizations to which farmers prefer to have recourse are as below. The respondents gave their replies in a multiple answering manner. As shown in table below, farmers in the three scheme areas are well acquainted with the agencies concerned and have much experiences in applications for financing, extension service and marketing.

Unit: nos. of responses (%)

Preferred Organizations	Scheme			Total*
	Hilir Sat I	Repek	Rawa B. Laut	
<u>Financing</u>				
a. BPM	63 (95)	26 (93)	11 (100)	100 (95)
b. Farmers' organization	18 (27)	8 (29)	5 (45)	31 (30)
c. DOA	2 (3)	0 (0)	0 (0)	2 (2)
d. Own fund	1 (2)	0 (0)	0 (0)	1 (1)
e. RISDA	0 (0)	0 (0)	0 (0)	0 (0)
f. No idea	1 (2)	1 (4)	0 (0)	2 (2)
<u>Extension Service</u>				
a. Farmers' organization	41 (62)	17 (61)	8 (73)	66 (63)
b. MARDI	26 (39)	11 (39)	5 (45)	42 (40)
c. State ODA	15 (23)	6 (21)	3 (27)	24 (23)
d. No idea	2 (3)	0 (0)	0 (0)	2 (2)
<u>Marketing</u>				
a. FAMA	55 (83)	21 (75)	8 (73)	84 (80)
b. Farmers' organization	33 (50)	9 (32)	6 (55)	48 (46)
c. Own connection	1 (2)	1 (4)	0 (0)	2 (2)
d. No idea	1 (2)	0 (0)	0 (0)	1 (1)

Remarks; *: Multiple answers are given.

3.5 Diversified Crops and Marketing

In respect to kinds of crops to be introduced as most promising and profitable diversified crops, the interviewed farmers cited five major crops in a multiple answering manner. These are in order of preference maize considered by 86% of the respondent, groundnuts by 60%, tobacco by 40%, chili by 38% and cabbage by 24%.

When asked for the marketing prospect of diversified crops, 47% of the respondent farmers said "a little bit worried". Those who answered "very promising" accounted for 37% of the total number of respondents. From this highly positive result, it can be inferred that there are a sizable number of farmers who have a clear perspective on the marketing of the diversified crops to be introduced. It is however noted that 15% said "no perspective".

To the question "where do you aim to deliver your diversified crops in the future", 77% of the respondents cited "local market", followed by "neighboring urban center" of 11%. Only 3% aimed at "overseas market", while 9% replied "no plan/no idea" about the destination of diversified crops.

Concerning the possibility of competition with rivals when entering the market, 77% answered "yes". This should not be construed to mean that those who had showed a hard prospect on marketing were reluctant to the introduction of crop diversification, but that they were foreseeing in such matter with some experiences.

As preferred farming system, 51% of the respondents favoured "group farming", while 45% are in favour of "individual operation". When asked about the existence of candidate leading farmer in the neighborhood, 96% of the sample farmers said "yes".

3.6 Requirements for Crop Diversification

Farmers' requirements for carrying out crop diversification are summarized below. The respondent farmers replied in a multiple answering manner. Physical requirements in general are very acute in the Repek scheme area because beneficial farmers have experienced insufficient irrigation water supply due to water intake problems through the existing pumphouse. While rehabilitation and upgrading of the structures are required in the Hilir Sat I and Rawa Bechah Laut scheme areas.

Unit: nos. of responses (%)

Requirements	Scheme			Total
	Hilir Sat I	Repek	Rawa B. Laut	
Irrigation Facilities				
a. Construction of irrigation facility	21 (32)	14 (50)	4 (36)	39 (37)
b. Rehabilitation/upgrading of the existing irrigation system	40 (61)	12 (43)	7 (64)	59 (56)
c. Introduction of sprinkler irrigation system	42 (64)	16 (57)	3 (27)	61 (58)
Drainage Facilities				
a. Construction of new drainage facilities	23 (35)	14 (50)	3 (27)	40 (38)
b. Rehabilitation/upgrading of the existing drainage facility	45 (68)	19 (68)	9 (82)	73 (70)
c. Construction or improvement of flood protection structure	7 (11)	9 (32)	2 (18)	18 (17)
Farm Roads				
a. Construction of new farm roads	29 (44)	10 (36)	4 (36)	43 (41)
b. Rehabilitation/upgrading of existing roads	34 (52)	15 (54)	7 (64)	56 (53)

3.7 Continuation of Paddy Cultivation

To the question "what is your opinion about the idea that your area is categorized as scheme to be maintained as paddy cultivation area during a definite period of time", 92% of the respondents answered "reasonable" idea, whereas only 4% replied "not reasonable". Those who said "don't know" accounted for 4%.

Unit: person (%)

Opinion to Maintain Schemes	Scheme			Total
	Hilir Sat I	Repek	Rawa B. Laut	
a. Reasonable	61 (92)	26 (92)	11 (100)	98 (93)
b. Not reasonable	3 (5)	1 (4)	0 (0)	4 (4)
d. Don't know	2 (3)	1 (4)	0 (0)	3 (3)
<u>Total Respondents</u>	<u>66 (100)</u>	<u>28 (100)</u>	<u>11 (100)</u>	<u>105 (100)</u>

When asked about the intended duration to maintain the present land use, 68% of the respondents do not have intention to change the present land use for more than 20 years. The results are subject to some variations according to the schemes as below.

In the Rawa Bechah Laut scheme area, 27% of the respondents intend to maintain the present land use during one to five years. This is mainly caused by the existence of control drainage system.

Unit: person (%)

Intend Duration to Maintain Schemes (Years)	Scheme			Total
	Hilir Sat I	Repek	Rawa B. Laut	
a. 1 - 5	9 (13)	3 (11)	3 (27)	15 (14)
b. 6 - 10	8 (12)	4 (14)	2 (18)	14 (13)
c. 11 - 15	1 (2)	1 (4)	0 (0)	2 (2)
d. 16 - 20	1 (2)	2 (7)	0 (0)	3 (3)
e. More than 20	47 (71)	18 (64)	6 (55)	71 (68)
<u>Total Respondents</u>	<u>66 (100)</u>	<u>28 (100)</u>	<u>11 (100)</u>	<u>105 (100)</u>

3.8 Possible Land Use Category

For the question of "possible category to be applied after retirement", 28% of the respondents indicated "Category 3: two cropping system", followed by 19% for "Category 4: animal feeding crop cultivation on cattle raising field". The respondent farmers replied in a multiple answering manner.

Unit: nos. of responses (%)

Possible Land Use Category	Scheme			
	Hilir Sat I	Repek	Rawa B. Laut	Total
a. Category 1: High value crop cultivation	9 (14)	4 (14)	0 (0)	13 (12)
b. Category 2: Tree crop cultivation	2 (3)	2 (7)	1 (9)	5 (5)
c. Category 3: Two cropping system	16 (24)	8 (29)	5 (46)	29 (28)
d. Category 4: Animal feeding crop cultivation	15 (23)	3 (11)	2 (18)	20 (19)
e. Category 5: Fresh water fish culture pond	0 (0)	0 (0)	0 (0)	0 (0)
f. Category 6: Maintained as paddy cultivation area	8 (12)	5 (18)	0 (0)	13 (12)
g. Category 8: Housing/industrial and other uses	9 (0)	3 (11)	0 (0)	3 (3)
h. Don't know	17 (26)	6 (21)	3 (27)	26 (25)
Total Responses*	67 (102)	31 (111)	11 (100)	109 (104)
No. of Respondents*	66	28	11	105

Remarks: *; Multiple answers are given.

Those who had chosen "Category 1: high value crop cultivation" accounted for 12%, while another 12% favoured "category 6: maintained as paddy cultivation area". Those who answered "don't know" accounted for one fourth (25%) of the total. It is very important for the authority to decide how to guide those who are not yet decided.

4. IMPLICATIONS OF ANALYSIS ON DETAILED SAMPLE SURVEY RESULTS

The Detailed Sample Survey was conducted with the following aims:

- to grasp the present conditions of the representative scheme areas,
- to ascertain the nature of the problems faced by farmers,
- to determine the farmers' preference or intention towards the crop diversification, and
- to present the future desirable direction for each area based on the survey results.

To promote crop diversification in the representative scheme areas, it is essential to take into account and incorporate the above survey results as much as possible in promotion of crop diversification in a rational manner so as to make the strategic promotion plan to be "of the people, by the people and for the people".

The general socio-economic characteristics and major problems awaiting solutions in each scheme area can be summarized as follows:

- Advanced aging of farmers and increase of non-farm job opportunities,
- Existence of many poor paddy farm households and relatively low level of living standard of other non-paddy farmers,
- Small share of paddy cultivation as source of agricultural revenue,
- Proceeding fragmentation of farm lands due to the equal bequeathment of properties according to Islamic law of inheritance,

- Inefficient irrigation and drainage facilities: especially serious limitation of water resources for the off-season in the three scheme areas and repeated floods in the Repek and Rawa Echah Laut scheme areas, and
- Much experiences in crop diversification and farmers' high concerns about new farming operations and institutions.

The majority of farmers in the representative scheme areas adhere to the continuation of paddy cultivation. To enhance farm income sources, however, it is prerequisite to perform scheduled paddy cropping for the main season and to practice the off season non-paddy cropping under limited water availability condition of the three schemes. In this connection, the most important thing is how to make an approach to the envisaged different paddy cropping schedules done by each of the beneficial farmers.

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