

<u>Expected Effects</u>	<u>Country Total (%)</u>	<u>States with Higher Incidence (%)</u>
a. Income increase	3,076 (65)	Kelantan (89), Perlis (84)
b. Stable revenue	823 (17)	Melaka (35), Perak (34), N. Sembilan (32)
c. Creation of employment opportunity	404 (9)	Melaka (42), Perak (25)
d. Leveling up of living standard	876 (19)	Perak (41), Melaka (35), N. Sembilan (27)
e. Nothing special	1,180 (25)	Selangor (75), Johor (59)
f. Others	37 (0)	-
Total No. of Responses	6,396 (135)	-
No. of Respondents	4,728	-

When asked for their major concerns to introduce other crops in paddy field, 55% of the respondents point out "finance", followed by marketing by 33%, labor by 30%, technique by 24% and others by 22% as shown in Table B-4 (10/11). Those who give an answer "labor" and "technique" are particularly anxious about the shortage of manpower and introduction of inexperienced new technology. As for marketing problem, they indicate the undeveloped market system and its instability.

To the final question what are your suggestions/opinions on the rationalization and crop diversification project, most of the respondents insist on the necessity of Government assistance. Those who answered in the negative say that paddy field is not suitable for other crops than paddy. However, this should not be construed to mean that they are not really against the crop diversification. The inference to be made is that some farmers in the areas still retain their emotional ties with paddy farming.

B.6 Examination of Farmers' Intention from Multiple Viewpoints

In view of the farmers' real intention towards rationalization and crop diversification and to ascertain the relation of cause and effect of their attitudes, cross analysis are carried out based on the results of sample survey.

To the question whether or not farmers consider the continuation of their farm operations by age, no particular difference in pattern can be found between those who answer in the affirmative and negative. However, most of young farmers seem to prefer less laborious works or to be still undecided about the continuation of farm operations as shown in Table B-5.

About the relationship between farmers' hope for succession of farm operations by household members and their age/income from major crops, the similar results are also obtained as shown in Tables B-6 and B-7.

For the another question of what type of problems or difficulties farmers encountered in their farming practices, cross analysis are executed on their utilization of paddy field and intentions of continuing farm operation and paddy field conversion as shown in Tables B-8 to B-10. From these analysis, it becomes clear that a good number of farmers encounter problems and difficulties due to ravages of frequent pests and diseases, natural disasters and poor or inefficient facilities. Among those who do not fully utilize paddy fields and answer in favour of continuing farm operation, higher incidence of labor shortage problem can be observed. As one of the solutions to this problem, some farmers are considering conversion of their paddy fields to permanent crop fields. However, nearly half of farmers do not have a clear idea on their future life.

The results of cross analysis of major concerns to introduce other crops in paddy fields by incidence of their full utilization are shown in Table B-11. Those who fully utilize there paddy fields concern about finance and marketing as important items for changing their minds on crop diversification. On the other hand, farmers partly or not using their paddy fields consider financing and labor force as key factors for participating in crop diversification.

*Feasibility Study on Rationalization and Crop Diversification
in Non-granary Irrigated Areas in Malaysia*

*Vol. 2
Crop Diversification Evaluation Methodology*

Appendix B

Tables

Table B-1 General Profile of Paddy Farmers (1/4)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
1. CIVIL STATUS (Q.103)														
a. Single	12 (5)	23 (4)	1 (1)	18 (5)	1 (2)	9 (2)	8 (3)	11 (7)	27 (4)	6 (2)	6 (1)	19 (4)	11 (3)	152 (3)
b. Married	223 (92)	606 (93)	95 (95)	350 (94)	39 (98)	412 (82)	259 (95)	135 (89)	549 (87)	298 (98)	579 (97)	465 (93)	296 (93)	4,342 (92)
c. Widow	3 (1)	16 (2)	4 (4)	4 (1)	0 (0)	83 (16)	7 (2)	6 (4)	43 (7)	0 (0)	8 (1)	14 (3)	12 (4)	200 (4)
d. Separated	4 (2)	9 (1)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	12 (2)	1 (0)	4 (1)	1 (0)	1 (0)	34 (1)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
2. AGE DISTRIBUTION OF RESPONDENT FARMERS (Q.101)														
a. 18-25 years	2 (1)	9 (1)	0 (0)	3 (1)	0 (0)	0 (0)	1 (0)	2 (1)	7 (1)	0 (0)	3 (1)	11 (2)	1 (0)	39 (1)
b. 26-35 years	16 (7)	62 (10)	2 (2)	34 (9)	1 (3)	29 (6)	24 (8)	18 (12)	29 (5)	20 (7)	37 (6)	121 (24)	39 (12)	432 (9)
c. 36-45 years	55 (23)	115 (18)	13 (13)	54 (14)	2 (5)	26 (5)	41 (13)	22 (14)	56 (9)	61 (20)	127 (21)	79 (16)	71 (22)	722 (15)
d. 46-55 years	87 (35)	236 (36)	43 (43)	159 (43)	9 (23)	182 (36)	96 (31)	52 (34)	215 (34)	110 (36)	258 (43)	150 (30)	118 (38)	1,715 (36)
e. Above 55	82 (34)	232 (35)	42 (42)	123 (33)	28 (69)	267 (53)	149 (48)	58 (39)	324 (51)	114 (37)	172 (29)	138 (28)	91 (28)	1,820 (39)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-1 General Profile of Paddy Farmers (2/4)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
3. NUMBER OF HOUSEHOLD MEMBERS INCLUDING HEAD OF HOUSEHOLD (Q.104a)														
a. 1~2	22 (9)	43 (6)	6 (6)	28 (8)	6 (15)	103 (20)	34 (11)	15 (10)	109 (17)	13 (4)	24 (4)	24 (5)	15 (5)	442 (9)
b. 3~4	82 (34)	177 (27)	36 (36)	113 (30)	8 (20)	185 (37)	84 (27)	44 (29)	198 (32)	60 (20)	157 (27)	113 (22)	77 (23)	1,334 (29)
c. 5~6	92 (38)	227 (36)	26 (26)	109 (28)	13 (33)	136 (28)	84 (27)	56 (37)	151 (24)	97 (32)	178 (30)	159 (32)	82 (26)	1,410 (30)
d. 7~8	36 (15)	146 (22)	22 (22)	84 (23)	10 (25)	58 (11)	73 (24)	20 (13)	93 (15)	73 (24)	149 (24)	120 (24)	78 (24)	962 (20)
e. 9~10	8 (3)	39 (6)	7 (7)	28 (8)	1 (2)	16 (3)	28 (9)	13 (8)	54 (8)	38 (13)	71 (12)	59 (12)	33 (11)	395 (8)
f. >10	2 (1)	22 (3)	3 (3)	11 (3)	2 (5)	6 (1)	8 (2)	4 (3)	26 (4)	24 (7)	18 (3)	24 (5)	35 (11)	185 (4)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
4. EDUCATIONAL LEVEL (Q.105)														
a. No schooling	54 (22)	120 (18)	16 (16)	20 (6)	7 (18)	103 (20)	26 (8)	35 (23)	143 (23)	152 (50)	267 (45)	208 (42)	131 (41)	1,282 (27)
b. Primary	158 (66)	458 (70)	77 (77)	310 (83)	32 (80)	357 (72)	247 (80)	97 (64)	437 (70)	139 (46)	303 (51)	192 (39)	163 (51)	2,970 (64)
c. Form 1~3	12 (5)	32 (5)	6 (6)	25 (7)	1 (2)	31 (6)	22 (7)	10 (7)	23 (4)	9 (3)	17 (3)	76 (15)	23 (7)	287 (6)
d. Form 4~5	11 (5)	15 (3)	1 (1)	14 (4)	0 (0)	9 (2)	12 (4)	7 (5)	14 (2)	3 (1)	6 (1)	20 (4)	3 (1)	115 (2)
e. Form 6	3 (1)	5 (1)	0 (0)	1 (0)	0 (0)	2 (0)	3 (1)	1 (0)	3 (0)	1 (0)	2 (0)	2 (0)	0 (0)	23 (0)
f. College	1 (0)	1 (0)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	1 (0)	0 (0)	1 (0)	1 (0)	0 (0)	7 (0)
g. Vocational level	0 (0)	1 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (0)
h. Religious school	3 (1)	22 (3)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	9 (1)	1 (0)	0 (0)	0 (0)	0 (0)	36 (1)
i. University	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)
j. No answer	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	3 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-1 General Profile of Paddy Farmers (3/4)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
5. RELIGION (Q.108)														
a. Islam	239 (99)	647 (99)	98 (98)	344 (92)	40 (100)	502 (100)	292 (94)	140 (92)	630 (100)	305 (100)	588 (98)	182 (36)	193 (60)	4,200 (89)
b. Christian	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	247 (50)	84 (27)	331 (7)
c. Buddhist	3 (1)	7 (1)	2 (2)	29 (8)	0 (0)	0 (0)	18 (6)	12 (8)	0 (0)	0 (0)	3 (1)	1 (0)	4 (1)	79 (2)
d. Hindu	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	0 (0)	0 (0)	4 (1)	0 (0)	0 (0)	6 (0)
e. Others	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	2 (0)	69 (14)	39 (12)	112 (2)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
6. ETHNIC ORIGIN (Q.109)														
a. Malay	239 (99)	647 (99)	98 (98)	343 (92)	39 (98)	503 (100)	295 (95)	142 (93)	631 (100)	305 (100)	591 (99)	31 (6)	118 (37)	3,982 (84)
b. Chinese	2 (1)	2 (0)	0 (0)	27 (7)	0 (0)	0 (0)	16 (5)	9 (6)	0 (0)	0 (0)	1 (0)	1 (0)	7 (2)	65 (1)
c. Indian	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (0)
d. Kadazan	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	74 (15)	0 (0)	74 (2)
e. Bajau	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	74 (15)	0 (0)	74 (2)
f. Dusun	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	235 (47)	0 (0)	235 (5)
g. Iban	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	115 (36)	116 (3)
h. Melanau	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	66 (21)	66 (1)
i. Others	0 (0)	5 (1)	2 (2)	2 (1)	1 (2)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5 (1)	83 (17)	14 (4)	113 (2)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-1 General Profile of Paddy Farmers (4/4)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
7. LANGUAGE IN DAILY LIFE (Q.106)														
a. Malay	239 (100)	653 (100)	97 (97)	343 (92)	40 (100)	504 (100)	294 (95)	134 (88)	629 (100)	305 (100)	597 (100)	125 (25)	157 (49)	4,117 (87)
b. English	2 (1)	2 (0)	1 (1)	4 (1)	0 (0)	6 (1)	7 (2)	3 (2)	3 (0)	0 (0)	0 (0)	5 (1)	9 (3)	42 (1)
c. Chinese	3 (1)	3 (0)	0 (0)	30 (8)	0 (0)	0 (0)	18 (6)	11 (7)	0 (0)	0 (0)	0 (0)	1 (0)	5 (2)	71 (2)
d. Kadazan	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	69 (14)	2 (1)	71 (2)
e. Bajau	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	72 (15)	0 (0)	72 (2)
f. Dusun	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	227 (45)	0 (0)	227 (5)
g. Iban	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	107 (33)	108 (2)
h. Melanau	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	68 (21)	68 (1)
i. Tai	6 (2)	17 (3)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	4 (3)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	29 (0)
j. Others	1 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	4 (3)	1 (0)	0 (0)	1 (0)	71 (14)	27 (8)	106 (2)
Total No. of Responses*	251 (104)	675 (103)	100 (100)	377 (101)	40 (100)	510 (101)	319 (103)	156 (103)	633 (100)	305 (100)	599 (100)	571 (114)	375 (117)	4,911 (104)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-2 Living Circumstances of Paddy Farmers (1/9)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
1. MAJOR FARM INCOME SOURCES (Q.112)														
a. Paddy	239 (100)	631 (97)	72 (72)	274 (73)	25 (63)	127 (25)	140 (44)	119 (77)	143 (23)	302 (99)	551 (93)	435 (88)	263 (81)	3,321 (70)
b. Soybean & groundnut	2 (1)	0 (0)	0 (0)	2 (1)	0 (0)	2 (0)	1 (0)	1 (1)	2 (0)	1 (0)	2 (0)	2 (0)	1 (0)	16 (0)
c. Vegetable	4 (2)	2 (0)	2 (2)	9 (2)	0 (0)	9 (2)	15 (5)	3 (2)	13 (2)	11 (4)	1 (0)	22 (4)	24 (8)	115 (3)
d. Maize	0 (0)	0 (0)	4 (4)	9 (2)	3 (8)	5 (1)	9 (3)	0 (0)	6 (1)	3 (1)	2 (0)	9 (2)	29 (9)	79 (2)
e. Banana	0 (0)	0 (0)	2 (2)	32 (9)	1 (2)	15 (3)	11 (4)	1 (1)	8 (1)	4 (1)	0 (0)	20 (4)	12 (4)	106 (2)
f. Fruits	1 (0)	1 (0)	6 (6)	57 (15)	0 (0)	41 (8)	15 (4)	3 (2)	49 (8)	13 (3)	1 (0)	28 (5)	45 (14)	260 (6)
g. Coffee	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	3 (1)	2 (1)	4 (3)	0 (0)	0 (0)	0 (0)	4 (1)	3 (1)	18 (0)
h. Cocoa	0 (0)	2 (0)	0 (0)	7 (2)	0 (0)	30 (6)	22 (7)	3 (2)	59 (9)	8 (3)	0 (0)	20 (4)	32 (10)	183 (4)
i. Rubber	9 (4)	94 (15)	2 (2)	134 (36)	14 (35)	351 (70)	64 (21)	36 (24)	421 (68)	20 (7)	50 (9)	75 (15)	30 (9)	1,300 (27)
j. Oil palm	0 (0)	1 (0)	2 (2)	19 (5)	1 (2)	12 (3)	2 (1)	0 (0)	1 (0)	2 (1)	2 (0)	0 (0)	0 (0)	42 (1)
k. Pepper	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5 (2)	5 (0)
l. Coconut	0 (0)	1 (0)	0 (0)	1 (0)	0 (0)	4 (1)	5 (2)	3 (2)	8 (1)	2 (1)	0 (0)	46 (10)	15 (5)	85 (2)
m. Sugarcane	0 (0)	1 (0)	2 (2)	0 (0)	0 (0)	2 (0)	4 (1)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10 (0)
n. Tobacco	24 (10)	6 (1)	0 (0)	0 (0)	0 (0)	0 (0)	3 (1)	0 (0)	0 (0)	2 (0)	0 (0)	1 (0)	0 (0)	36 (1)
o. Tubercles	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	6 (2)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	10 (0)
p. Others	1 (0)	0 (0)	1 (1)	1 (0)	0 (0)	1 (0)	5 (2)	0 (0)	1 (0)	0 (0)	3 (1)	0 (0)	0 (0)	13 (0)
q. None	1 (0)	1 (0)	14 (14)	30 (9)	6 (15)	52 (10)	76 (24)	2 (1)	40 (6)	0 (0)	2 (0)	39 (8)	9 (3)	272 (6)
Total No. of Responses*	282 (117)	740 (113)	107 (107)	578 (155)	50 (125)	654 (130)	380 (122)	175 (115)	752 (119)	368 (121)	615 (103)	702 (141)	468 (146)	5,871 (124)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-2 Living Circumstances of Paddy Farmers (2/9)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
2. ANNUAL INCOME FROM MAJOR CROPS (Q.113)														
a. No income	1 (0)	2 (0)	19 (19)	72 (19)	4 (10)	131 (26)	169 (53)	7 (5)	94 (15)	0 (0)	8 (1)	92 (18)	18 (6)	617 (13)
b. M\$1~1,000	47 (20)	188 (28)	22 (22)	91 (24)	6 (15)	21 (4)	46 (15)	57 (39)	92 (14)	216 (71)	277 (46)	129 (26)	79 (25)	1,271 (27)
c. M\$1,001~2,000	74 (31)	179 (27)	26 (26)	78 (21)	16 (40)	99 (20)	16 (5)	35 (23)	184 (29)	50 (16)	198 (33)	106 (21)	82 (26)	1,143 (24)
d. M\$2,001~3,000	66 (28)	111 (17)	12 (12)	60 (16)	9 (22)	153 (30)	38 (12)	21 (14)	143 (23)	16 (5)	57 (10)	78 (16)	56 (18)	820 (17)
e. M\$3,001~4,000	13 (5)	78 (12)	12 (12)	28 (8)	3 (8)	67 (14)	15 (5)	14 (9)	76 (12)	8 (3)	31 (5)	41 (8)	52 (16)	438 (9)
f. M\$4,001~5,000	22 (9)	36 (6)	1 (1)	9 (2)	2 (5)	23 (5)	8 (3)	9 (6)	29 (5)	5 (2)	11 (2)	23 (5)	17 (5)	195 (4)
g. M\$5,001~6,000	5 (2)	28 (4)	1 (1)	6 (2)	0 (0)	7 (1)	3 (1)	4 (3)	10 (2)	2 (1)	5 (1)	18 (4)	11 (3)	100 (2)
h. M\$6,001~7,000	3 (1)	7 (1)	1 (1)	0 (0)	0 (0)	2 (0)	0 (0)	0 (0)	1 (0)	4 (1)	2 (0)	3 (1)	1 (0)	24 (1)
i. M\$7,001~8,000	7 (3)	4 (1)	2 (2)	7 (2)	0 (0)	1 (0)	6 (2)	1 (0)	0 (0)	2 (1)	3 (1)	5 (1)	1 (0)	39 (1)
j. M\$8,001~9,000	1 (0)	5 (1)	1 (1)	6 (2)	0 (0)	0 (0)	2 (1)	1 (0)	0 (0)	1 (0)	0 (0)	1 (0)	2 (1)	20 (1)
k. M\$9,001~10,000	2 (1)	4 (1)	2 (2)	8 (2)	0 (0)	0 (0)	2 (1)	1 (0)	0 (0)	0 (0)	2 (0)	1 (0)	0 (0)	22 (1)
l. Above M\$10,000	1 (0)	12 (2)	1 (1)	8 (2)	0 (0)	0 (0)	6 (2)	2 (1)	2 (0)	1 (0)	3 (1)	2 (0)	1 (0)	1 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-2 Living Circumstances of Paddy Farmers (3/9)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
3. SIDE INCOMES FROM OTHER SOURCES THAN MAJOR CROPS (Q.114)														
a. Laborer/factory	11 (5)	47 (7)	12 (12)	12 (3)	2 (5)	2 (0)	14 (4)	5 (3)	24 (4)	19 (6)	19 (3)	35 (7)	20 (6)	222 (5)
b. Fisherman	8 (3)	32 (5)	0 (0)	1 (0)	0 (0)	1 (0)	5 (2)	5 (3)	11 (2)	6 (2)	0 (0)	22 (5)	44 (14)	135 (3)
c. Rubber tapper	23 (10)	152 (23)	17 (17)	59 (16)	14 (35)	86 (17)	52 (17)	33 (22)	31 (5)	40 (13)	268 (44)	5 (1)	1 (0)	781 (17)
d. Children give money	0 (0)	12 (2)	7 (7)	11 (3)	3 (8)	151 (30)	55 (18)	5 (3)	87 (14)	9 (3)	28 (5)	29 (6)	7 (2)	404 (9)
e. Pension money	0 (0)	5 (1)	8 (8)	9 (2)	6 (15)	103 (20)	47 (15)	3 (2)	29 (5)	6 (2)	3 (1)	12 (3)	6 (2)	237 (5)
f. Plant tobacco, vegetable, etc.	12 (5)	27 (4)	3 (3)	10 (3)	1 (2)	26 (5)	5 (2)	18 (12)	17 (3)	17 (6)	81 (14)	4 (1)	3 (1)	224 (5)
g. Small business/ own business	20 (8)	27 (4)	3 (3)	17 (5)	0 (0)	8 (2)	17 (5)	1 (1)	29 (5)	24 (8)	11 (2)	27 (5)	6 (2)	190 (4)
h. Government servant	5 (2)	13 (2)	3 (3)	8 (2)	3 (7)	24 (5)	14 (4)	2 (1)	37 (6)	5 (2)	6 (1)	31 (6)	6 (2)	157 (3)
i. Wood cutter, carpenter, make boats	8 (3)	19 (3)	0 (0)	8 (2)	0 (0)	0 (0)	3 (1)	1 (1)	6 (1)	7 (2)	30 (5)	7 (1)	6 (2)	95 (2)
j. Part time job	8 (3)	18 (3)	1 (1)	16 (4)	0 (0)	9 (2)	6 (2)	6 (4)	26 (4)	3 (1)	9 (2)	11 (2)	2 (1)	115 (2)
k. Work in the village	8 (3)	17 (3)	0 (0)	23 (6)	0 (0)	20 (4)	42 (14)	4 (3)	21 (3)	20 (7)	78 (13)	20 (4)	2 (1)	255 (5)
l. Rear animals	3 (1)	10 (2)	4 (4)	8 (2)	0 (0)	5 (1)	4 (1)	2 (1)	17 (3)	4 (1)	5 (1)	16 (3)	4 (1)	82 (2)
m. Sell cookies, vegetable, fish, fruits, etc.	7 (3)	22 (3)	1 (1)	5 (1)	2 (5)	36 (7)	2 (1)	1 (1)	13 (2)	16 (5)	7 (1)	26 (5)	1 (0)	139 (3)
n. None	121 (50)	239 (37)	39 (39)	173 (47)	11 (28)	119 (24)	63 (20)	66 (42)	268 (42)	108 (35)	86 (14)	231 (46)	206 (63)	1,730 (36)
o. No answer	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	9 (2)	0 (0)	0 (0)	12 (0)
p. Others	20 (8)	44 (6)	5 (5)	30 (8)	0 (0)	20 (4)	29 (10)	9 (7)	53 (6)	36 (12)	20 (3)	41 (8)	14 (4)	321 (7)
Total No. of Responses*	254 (104)	684 (105)	103 (103)	391 (104)	42 (105)	612 (121)	358 (116)	161 (106)	669 (105)	320 (105)	660 (111)	517 (103)	328 (103)	5,099 (108)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*: Multiple answers are given.

Table B-2 Living Circumstances of Paddy Farmers (4/9)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
4. REASONS FOR ENGAGING IN SIDE JOB (Q.115a)														
a. Upgrading of living standard	109 (90)	328 (80)	38 (63)	175 (88)	15 (53)	310 (80)	216 (87)	62 (73)	265 (73)	177 (89)	398 (78)	254 (96)	102 (89)	2,449 (82)
b. Children's education	41 (34)	143 (34)	19 (31)	81 (40)	6 (21)	87 (23)	103 (42)	18 (21)	101 (28)	24 (12)	255 (50)	113 (42)	43 (38)	1,034 (34)
c. Improvement of farming practices	30 (25)	22 (5)	2 (3)	45 (22)	0 (0)	12 (3)	89 (36)	8 (9)	21 (6)	6 (3)	5 (1)	22 (8)	15 (13)	277 (9)
d. To survive	5 (4)	9 (2)	5 (8)	4 (2)	1 (3)	34 (9)	22 (9)	1 (1)	44 (12)	3 (2)	3 (1)	4 (1)	2 (2)	137 (5)
e. Others	7 (6)	4 (1)	3 (5)	9 (5)	7 (23)	14 (4)	18 (7)	13 (15)	8 (2)	2 (2)	12 (2)	2 (0)	1 (1)	100 (3)
Total No. of Responses*	192 (159)	506 (122)	67 (110)	314 (157)	29 (100)	457 (119)	448 (181)	102 (119)	439 (121)	212 (108)	673 (132)	395 (147)	163 (143)	3,997 (133)
No. of Respondents	121	415	61	200	29	385	248	86	363	197	511	268	114	2,998
5. ANNUAL SIDE INCOME FROM OTHER SOURCES (Q.115)														
a. No income	1 (1)	0 (0)	8 (13)	6 (3)	2 (7)	17 (4)	11 (4)	3 (3)	17 (5)	5 (3)	1 (0)	8 (3)	4 (4)	83 (3)
b. M\$1~1,000	24 (20)	76 (18)	3 (5)	39 (19)	3 (10)	26 (7)	16 (6)	21 (25)	100 (27)	70 (35)	107 (21)	79 (28)	33 (28)	597 (20)
c. M\$1,001~2,000	38 (31)	129 (32)	13 (21)	47 (23)	7 (25)	102 (27)	15 (6)	23 (28)	84 (22)	42 (21)	231 (46)	56 (21)	22 (19)	809 (27)
d. M\$2,001~3,000	27 (22)	105 (26)	20 (32)	38 (19)	4 (14)	87 (23)	55 (22)	17 (20)	48 (13)	50 (25)	113 (22)	22 (8)	14 (12)	600 (20)
e. M\$3,001~4,000	14 (12)	54 (13)	6 (10)	35 (17)	6 (21)	54 (14)	66 (28)	13 (15)	39 (11)	14 (7)	30 (6)	21 (8)	15 (13)	367 (12)
f. M\$4,001~5,000	8 (7)	26 (6)	6 (10)	20 (10)	3 (10)	45 (12)	51 (21)	3 (3)	37 (10)	10 (5)	11 (2)	27 (10)	10 (9)	257 (9)
g. M\$5,001~6,000	3 (2)	15 (4)	3 (5)	6 (3)	1 (3)	28 (7)	14 (6)	2 (2)	25 (7)	2 (1)	12 (2)	15 (6)	12 (11)	138 (4)
h. M\$6,001~7,000	1 (1)	2 (0)	0 (0)	1 (1)	1 (3)	7 (2)	1 (0)	0 (0)	3 (1)	0 (0)	3 (1)	8 (3)	0 (0)	27 (1)
i. M\$7,001~8,000	4 (3)	4 (1)	0 (0)	2 (1)	2 (7)	9 (2)	8 (3)	0 (0)	4 (1)	3 (2)	2 (0)	9 (3)	0 (0)	47 (2)
j. M\$8,001~9,000	1 (1)	2 (0)	0 (0)	3 (2)	0 (0)	5 (1)	2 (1)	2 (2)	2 (1)	0 (0)	0 (0)	3 (1)	1 (1)	21 (1)
k. M\$9,001~10,000	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	2 (1)	0 (0)	1 (0)	5 (2)	0 (0)	10 (0)
l. Above M\$10,000	0 (0)	2 (0)	1 (2)	3 (2)	0 (0)	5 (1)	8 (3)	2 (2)	2 (1)	1 (1)	0 (0)	15 (6)	3 (3)	42 (1)
No. of Respondents	121 (100)	415 (100)	61 (100)	200 (100)	29 (100)	385 (100)	248 (100)	86 (100)	363 (100)	197 (100)	511 (100)	268 (100)	114 (100)	2,998 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-2 Living Circumstances of Paddy Farmers (5/9)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
6. TOTAL ANNUAL REVENUE OF THE FARM HOUSEHOLDS (Q.113+Q.115+Q.203a)														
a. No income/ No answer	0 (0)	0 (0)	8 (8)	6 (2)	0 (0)	8 (2)	8 (3)	2 (1)	8 (1)	0 (0)	1 (0)	21 (4)	2 (1)	64 (1)
b. M\$1~1,000	13 (5)	22 (3)	5 (5)	33 (9)	1 (2)	6 (1)	10 (3)	9 (6)	23 (4)	59 (19)	13 (2)	90 (18)	35 (11)	319 (7)
c. M\$1,001~2,000	21 (9)	54 (8)	4 (4)	57 (15)	2 (5)	35 (7)	7 (2)	23 (15)	95 (15)	56 (18)	89 (15)	75 (15)	56 (17)	574 (12)
d. M\$2,001~3,000	34 (14)	94 (15)	21 (21)	71 (18)	4 (10)	90 (18)	24 (8)	22 (14)	113 (18)	38 (12)	151 (25)	65 (13)	42 (13)	769 (15)
e. M\$3,001~4,000	22 (9)	88 (14)	9 (9)	45 (12)	0 (0)	47 (9)	33 (11)	22 (14)	86 (14)	42 (14)	131 (22)	59 (12)	43 (13)	627 (13)
f. M\$4,001~5,000	25 (11)	74 (11)	6 (6)	32 (9)	5 (13)	51 (10)	28 (9)	23 (15)	63 (10)	28 (9)	74 (12)	37 (7)	33 (10)	479 (10)
g. M\$5,001~6,000	17 (7)	57 (9)	9 (9)	28 (8)	3 (8)	44 (9)	30 (10)	10 (7)	41 (7)	17 (8)	40 (7)	35 (7)	30 (9)	361 (8)
h. M\$6,001~7,000	22 (9)	49 (7)	4 (4)	20 (5)	1 (2)	47 (9)	25 (8)	6 (4)	49 (8)	22 (7)	30 (5)	23 (5)	16 (5)	314 (7)
i. M\$7,001~8,000	24 (10)	38 (6)	6 (6)	14 (4)	4 (10)	44 (9)	32 (10)	10 (7)	30 (5)	4 (1)	23 (4)	21 (4)	14 (4)	264 (6)
j. M\$8,001~9,000	11 (5)	38 (6)	4 (4)	13 (3)	4 (10)	36 (7)	21 (7)	3 (2)	29 (5)	10 (3)	16 (3)	13 (3)	6 (2)	204 (4)
k. M\$9,001~10,000	10 (4)	34 (5)	3 (3)	14 (4)	3 (8)	17 (3)	15 (5)	4 (3)	14 (2)	7 (2)	7 (1)	13 (3)	8 (3)	149 (3)
l. M\$10,001~11,000	12 (5)	25 (4)	6 (6)	5 (1)	1 (2)	14 (3)	15 (5)	4 (3)	16 (2)	3 (1)	4 (1)	10 (2)	7 (2)	122 (3)
m. M\$11,001~12,000	6 (3)	20 (3)	1 (1)	7 (2)	2 (5)	16 (3)	4 (1)	4 (3)	13 (2)	3 (1)	5 (1)	2 (0)	9 (3)	92 (2)
n. M\$12,001~13,000	5 (2)	12 (2)	1 (1)	2 (1)	2 (5)	9 (1)	10 (3)	1 (1)	13 (2)	6 (2)	2 (0)	9 (2)	3 (1)	75 (2)
o. M\$13,001~14,000	5 (2)	7 (1)	1 (1)	5 (1)	1 (2)	7 (2)	5 (1)	2 (1)	6 (1)	0 (0)	4 (1)	3 (0)	5 (2)	51 (1)
p. M\$14,001~15,000	0 (0)	9 (1)	3 (3)	0 (0)	1 (2)	7 (2)	6 (2)	2 (1)	8 (1)	2 (1)	2 (0)	3 (1)	3 (1)	46 (1)
q. Above M\$15,000	15 (5)	33 (5)	9 (9)	21 (6)	6 (16)	26 (5)	38 (12)	5 (3)	24 (3)	8 (2)	5 (1)	20 (4)	8 (3)	218 (5)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-2 Living Circumstances of Paddy Farmers (6/9)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
7. LIGHTING CONDITION (Q.110b)														
a. Electricity	233 (96)	612 (94)	100 (100)	340 (91)	39 (98)	497 (99)	305 (98)	135 (89)	580 (92)	291 (95)	573 (96)	289 (58)	205 (64)	4,199 (89)
b. Lamp	21 (9)	100 (15)	2 (2)	32 (9)	1 (2)	12 (2)	17 (6)	7 (5)	50 (8)	14 (5)	60 (10)	208 (42)	100 (31)	624 (13)
c. Generator	1 (0)	7 (1)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	11 (7)	1 (0)	0 (0)	1 (0)	3 (1)	16 (5)	41 (1)
d. Others	0 (0)	0 (0)	0 (0)	3 (1)	0 (0)	1 (0)	0 (0)	2 (1)	0 (0)	1 (0)	0 (0)	2 (0)	0 (0)	9 (0)
e. None	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	6 (1)	0 (0)	4 (1)	0 (0)	0 (0)	10 (0)
Total No. of Responses*	255 (105)	719 (110)	102 (102)	376 (101)	40 (100)	510 (101)	322 (104)	155 (102)	637 (101)	306 (100)	638 (107)	502 (101)	321 (100)	4,883 (103)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728
8. CONDITION OF DOMESTIC WATER (Q.110c)														
a. Piped water	126 (52)	438 (67)	69 (69)	327 (88)	39 (98)	482 (96)	302 (97)	102 (67)	418 (66)	155 (51)	250 (42)	321 (64)	90 (28)	3,119 (66)
b. Well water	125 (52)	245 (37)	53 (53)	70 (19)	10 (25)	61 (12)	16 (5)	26 (17)	164 (26)	177 (59)	366 (61)	72 (15)	9 (3)	1,394 (29)
c. Rain water	9 (4)	1 (0)	8 (8)	8 (2)	0 (0)	1 (0)	0 (0)	4 (3)	36 (6)	1 (0)	0 (0)	44 (9)	217 (68)	329 (7)
d. River water	1 (0)	12 (2)	1 (1)	41 (11)	0 (0)	1 (0)	0 (0)	1 (1)	75 (12)	7 (2)	0 (0)	81 (16)	58 (18)	278 (6)
e. Pond/Lake	0 (0)	2 (1)	1 (1)	1 (0)	0 (0)	0 (0)	0 (0)	3 (2)	7 (1)	1 (0)	0 (0)	45 (9)	6 (2)	66 (1)
f. Canal water	2 (1)	1 (0)	0 (0)	4 (1)	0 (0)	0 (0)	0 (0)	22 (14)	2 (0)	0 (0)	1 (0)	1 (0)	0 (0)	33 (1)
Total No. of Responses*	263 (109)	699 (107)	132 (132)	451 (121)	49 (123)	545 (108)	318 (102)	158 (104)	702 (111)	341 (112)	617 (103)	564 (113)	380 (119)	5,219 (110)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-2 Living Circumstances of Paddy Farmers (7/9)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
9. HOUSEHOLD ITEMS (Q.110e)														
a. TV set	200 (84)	518 (80)	90 (90)	316 (85)	38 (95)	460 (91)	289 (93)	137 (90)	492 (78)	199 (65)	378 (64)	311 (62)	192 (61)	3,620 (77)
b. Radio/cassette	172 (71)	436 (67)	81 (81)	261 (70)	38 (95)	455 (90)	286 (92)	93 (61)	474 (75)	178 (58)	295 (49)	312 (63)	177 (55)	3,258 (69)
c. Sewing machine	81 (33)	239 (37)	42 (42)	192 (51)	32 (80)	181 (36)	126 (41)	59 (39)	240 (38)	71 (23)	75 (13)	95 (19)	94 (29)	1,527 (32)
d. Refrigerator	87 (36)	179 (27)	28 (28)	122 (33)	27 (68)	275 (55)	199 (64)	59 (39)	219 (35)	52 (17)	12 (2)	63 (13)	39 (12)	1,361 (29)
e. Air condition	2 (1)	3 (0)	0 (0)	2 (0)	1 (2)	2 (0)	1 (0)	1 (1)	6 (1)	1 (0)	2 (0)	1 (0)	1 (0)	23 (0)
f. Electric fan	116 (48)	271 (41)	39 (39)	164 (44)	32 (80)	391 (77)	182 (58)	54 (36)	278 (44)	67 (22)	77 (13)	63 (13)	53 (17)	1,787 (38)
g. Video set	4 (2)	13 (2)	1 (1)	25 (7)	2 (5)	3 (1)	24 (8)	2 (1)	10 (2)	4 (1)	2 (0)	18 (4)	11 (3)	119 (3)
h. Telephone	16 (7)	18 (3)	3 (3)	23 (6)	21 (53)	4 (1)	31 (10)	2 (1)	22 (3)	8 (3)	1 (0)	32 (6)	6 (2)	187 (4)
i. None	12 (5)	54 (8)	3 (3)	21 (6)	0 (0)	10 (2)	7 (2)	9 (6)	53 (8)	57 (20)	129 (22)	102 (20)	72 (23)	529 (11)
Total No. of Responses*	690 (285)	1,731 (265)	287 (287)	1,126 (302)	191 (478)	1,781 (353)	1,145 (368)	416 (274)	1,794 (284)	637 (209)	971 (163)	997 (200)	645 (202)	12,411 (263)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728
10. PARTICIPATION IN FARMERS' ORGANIZATION (Q.701(2))														
a. Participated	214 (88)	490 (75)	58 (58)	282 (76)	31 (78)	386 (77)	190 (61)	74 (49)	380 (60)	230 (75)	494 (83)	171 (34)	165 (52)	3,165 (67)
b. Available but not participated	23 (10)	90 (14)	26 (26)	69 (18)	7 (17)	100 (20)	96 (31)	10 (6)	165 (26)	49 (16)	41 (7)	86 (17)	27 (8)	781 (17)
c. No farmers' association	5 (2)	74 (11)	16 (16)	22 (6)	2 (5)	18 (3)	25 (8)	68 (45)	86 (14)	26 (9)	62 (10)	242 (49)	128 (40)	774 (16)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-2 Living Circumstances of Paddy Farmers (8/9)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
11. PARTICIPATION IN RURAL COMMUNITY (Q.702(2))														
a. Participated	68 (28)	145 (22)	33 (33)	106 (28)	0 (0)	96 (19)	135 (44)	24 (16)	237 (38)	104 (34)	273 (46)	51 (10)	88 (28)	1,360 (29)
b. Available but not participated	42 (17)	73 (11)	9 (9)	102 (27)	20 (50)	55 (11)	82 (26)	8 (5)	255 (40)	109 (36)	63 (11)	38 (8)	34 (11)	890 (19)
c. No rural community	132 (55)	436 (67)	58 (58)	165 (45)	20 (50)	353 (70)	94 (30)	120 (79)	139 (22)	92 (30)	261 (43)	410 (82)	198 (61)	2,478 (52)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
12. NAMES OF THE MUTUAL AID SYSTEM (Q.703a)														
a. Gotong Royong	135 (74)	430 (95)	33 (53)	309 (96)	29 (73)	424 (89)	106 (37)	38 (63)	480 (90)	185 (91)	499 (92)	378 (94)	178 (79)	3,224 (86)
b. JKK	5 (3)	0 (0)	3 (5)	4 (1)	1 (2)	45 (10)	143 (50)	0 (0)	1 (0)	2 (1)	3 (1)	0 (0)	1 (0)	208 (5)
c. No name	9 (5)	13 (3)	26 (42)	3 (1)	10 (25)	2 (0)	14 (5)	17 (29)	10 (2)	8 (4)	34 (6)	6 (2)	8 (4)	160 (4)
d. Others	36 (19)	13 (3)	0 (0)	6 (2)	0 (0)	4 (1)	25 (9)	5 (8)	40 (8)	8 (4)	7 (1)	15 (4)	47 (20)	206 (5)
Total No. of Responses*	185 (101)	456 (101)	62 (100)	322 (100)	40 (100)	475 (100)	288 (101)	60 (100)	531 (100)	203 (100)	543 (100)	399 (100)	234 (103)	3,798 (100)
No. of Respondents	184	453	62	322	40	475	286	60	530	202	542	399	227	3,782

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-2 Living Circumstances of Paddy Farmers (9/9)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
13. WORKS OR ACTIVITIES IN WHICH THE MUTUAL AID SYSTEM STILL REMAINS (Q.704)														
a. Land preparation	5 (3)	9 (2)	1 (2)	62 (19)	1 (3)	18 (4)	217 (76)	10 (17)	32 (6)	5 (2)	16 (3)	127 (32)	106 (47)	609 (16)
b. Planting	7 (4)	69 (15)	3 (5)	78 (24)	1 (3)	22 (5)	90 (31)	9 (15)	51 (10)	22 (11)	7 (1)	283 (71)	115 (51)	757 (20)
c. Cultivation	15 (8)	11 (3)	1 (2)	46 (14)	0 (0)	2 (0)	39 (14)	9 (15)	12 (2)	6 (3)	5 (1)	193 (48)	72 (31)	411 (11)
d. Harvest	6 (3)	19 (4)	1 (2)	31 (10)	0 (0)	13 (3)	41 (14)	3 (5)	40 (8)	12 (6)	7 (1)	169 (42)	84 (37)	426 (11)
e. Weeding	11 (6)	31 (7)	1 (2)	32 (10)	1 (3)	8 (2)	70 (24)	12 (20)	46 (9)	14 (7)	1 (0)	75 (19)	66 (29)	368 (10)
f. Clearing	44 (24)	178 (39)	45 (72)	82 (25)	1 (3)	120 (25)	240 (85)	14 (22)	249 (47)	91 (45)	36 (7)	107 (27)	93 (41)	1,300 (34)
g. Construction, rehabilitation or maintenance of community facilities	140 (76)	292 (65)	24 (38)	263 (83)	39 (96)	377 (78)	181 (63)	31 (52)	341 (63)	115 (58)	512 (95)	73 (18)	68 (30)	2,456 (65)
h. Help out during function	8 (4)	76 (17)	4 (6)	78 (24)	0 (0)	12 (3)	20 (7)	10 (17)	21 (4)	5 (2)	4 (1)	0 (0)	11 (5)	249 (7)
i. Others	1 (1)	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (1)	1 (0)	2 (0)	0 (0)	0 (0)	9 (0)
Total No. of Responses*	237 (129)	687 (152)	80 (129)	672 (209)	43 (108)	572 (120)	898 (314)	98 (163)	795 (150)	271 (134)	590 (109)	1,027 (257)	615 (271)	6,585 (174)
No. of Respondents	184	453	62	322	40	475	286	60	530	202	542	399	227	3,782

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-3 Farming Conditions in Non-granary Irrigated Areas (1/11)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
1. LAND TENURE' STATUS (Q.301)														
a. Owner operator	184 (76)	329 (50)	76 (76)	277 (74)	19 (48)	270 (54)	255 (82)	116 (76)	515 (81)	185 (61)	480 (80)	454 (91)	276 (86)	3,436 (73)
b. Tenant	25 (10)	191 (29)	24 (24)	86 (23)	17 (42)	197 (38)	53 (17)	30 (20)	63 (10)	117 (38)	43 (7)	35 (7)	29 (9)	910 (19)
c. Owner-tenant	33 (14)	121 (19)	0 (0)	10 (3)	4 (10)	9 (2)	3 (1)	6 (4)	23 (4)	3 (1)	66 (12)	9 (2)	15 (5)	302 (6)
d. No answer	0 (0)	13 (2)	0 (0)	0 (0)	0 (0)	28 (6)	0 (0)	0 (0)	30 (5)	0 (0)	8 (1)	1 (0)	0 (0)	80 (2)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
2. SIZE OF TOTAL FARM LAND (Q.302)														
a. Less than 0.4 ha	11 (5)	17 (3)	17 (17)	16 (4)	0 (0)	10 (2)	59 (19)	11 (7)	10 (2)	17 (6)	12 (2)	9 (2)	5 (2)	194 (4)
b. 0.4 ~ 0.7 ha	27 (11)	101 (15)	32 (32)	69 (19)	13 (33)	51 (10)	110 (36)	57 (38)	54 (8)	100 (32)	91 (15)	45 (9)	26 (8)	776 (16)
c. 0.8 ~ 1.1 ha	39 (16)	83 (13)	15 (15)	69 (19)	12 (30)	81 (16)	52 (17)	32 (21)	56 (9)	75 (25)	133 (23)	54 (11)	47 (15)	748 (16)
d. 1.2 ~ 1.5 ha	30 (12)	88 (13)	15 (15)	50 (13)	6 (15)	79 (15)	35 (11)	29 (19)	79 (13)	38 (12)	110 (18)	79 (16)	45 (14)	683 (14)
e. 1.6 ~ 2.0 ha	47 (19)	127 (19)	9 (9)	45 (12)	3 (8)	94 (19)	19 (6)	6 (4)	98 (16)	23 (8)	96 (16)	51 (10)	38 (12)	656 (14)
f. 2.1 ~ 4.0 ha	70 (29)	170 (27)	11 (11)	83 (22)	2 (5)	161 (32)	28 (9)	10 (6)	236 (37)	40 (13)	123 (21)	129 (26)	75 (23)	1,138 (24)
g. 4.1 ~ 6.0 ha	16 (7)	49 (7)	1 (1)	23 (6)	2 (5)	24 (5)	7 (2)	6 (4)	56 (9)	10 (3)	26 (4)	55 (11)	42 (13)	317 (7)
h. More than 6.0 ha	2 (1)	19 (3)	0 (0)	18 (5)	1 (2)	4 (1)	1 (0)	1 (0)	42 (6)	2 (1)	6 (1)	76 (15)	42 (13)	214 (5)
i. Don't know	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	2 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-3 Farming Conditions in Non-granary Irrigated Areas (2/11)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
3. TOTAL CULTIVATED AREA (Q.501)														
a. None	3	1	11	25	9	52	75	8	86	0	14	7	4	295
	(1)	(0)	(11)	(7)	(23)	(10)	(24)	(5)	(14)	(0)	(2)	(1)	(1)	(6)
b. Less than 0.4 ha	8	33	9	18	0	26	41	9	28	24	11	6	6	219
	(3)	(5)	(9)	(5)	(0)	(5)	(13)	(6)	(4)	(8)	(2)	(1)	(2)	(5)
c. 0.4 ~ 0.7 ha	30	104	28	82	16	84	85	71	80	100	111	56	35	882
	(12)	(16)	(28)	(21)	(40)	(17)	(27)	(47)	(13)	(33)	(20)	(11)	(11)	(19)
d. 0.8 ~ 1.1 ha	42	98	18	61	8	80	42	27	73	81	145	67	53	795
	(17)	(15)	(18)	(16)	(20)	(16)	(14)	(18)	(12)	(27)	(24)	(13)	(17)	(17)
e. 1.2 ~ 1.5 ha	52	126	11	53	3	100	28	21	88	34	98	96	51	761
	(22)	(19)	(11)	(14)	(8)	(20)	(9)	(14)	(14)	(11)	(16)	(19)	(16)	(16)
f. 1.6 ~ 2.0 ha	39	105	10	47	1	78	14	6	100	22	99	86	43	646
	(16)	(16)	(10)	(13)	(2)	(15)	(5)	(4)	(15)	(7)	(17)	(16)	(14)	(14)
g. 2.1 ~ 4.0 ha	51	145	11	55	2	74	20	2	136	37	98	118	71	820
	(22)	(22)	(11)	(15)	(5)	(15)	(6)	(1)	(22)	(12)	(16)	(24)	(22)	(17)
h. 4.1 ~ 6.0 ha	16	35	2	15	1	9	6	6	26	6	19	38	30	209
	(7)	(6)	(2)	(4)	(2)	(2)	(2)	(4)	(4)	(2)	(3)	(8)	(9)	(4)
i. More than 6.0 ha	1	7	0	17	0	1	0	2	14	1	2	29	27	101
	(0)	(1)	(0)	(5)	(0)	(0)	(0)	(1)	(2)	(0)	(0)	(7)	(8)	(2)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
4. TOTAL PLANTED PADDY AREA (Q.502)														
a. None	1	8	25	80	12	325	166	22	444	0	28	7	21	1,139
	(0)	(1)	(25)	(21)	(30)	(64)	(53)	(14)	(70)	(0)	(5)	(1)	(7)	(24)
b. Less than 0.4 ha	9	58	7	30	0	31	36	11	24	25	16	13	10	270
	(4)	(9)	(7)	(8)	(0)	(6)	(12)	(7)	(4)	(8)	(3)	(3)	(3)	(6)
c. 0.4 ~ 0.7 ha	44	177	24	104	20	73	67	64	62	113	158	73	65	1,044
	(18)	(27)	(24)	(28)	(50)	(14)	(22)	(43)	(10)	(37)	(26)	(15)	(20)	(22)
d. 0.8 ~ 1.1 ha	44	119	18	64	7	51	25	24	42	94	200	111	106	905
	(18)	(18)	(18)	(17)	(18)	(10)	(8)	(16)	(7)	(31)	(33)	(22)	(33)	(19)
e. 1.2 ~ 1.5 ha	54	116	11	24	1	12	10	17	19	31	98	133	52	578
	(22)	(18)	(11)	(7)	(2)	(3)	(3)	(11)	(3)	(10)	(16)	(27)	(16)	(12)
f. 1.6 ~ 2.0 ha	37	87	7	30	0	9	3	6	24	15	65	95	31	409
	(16)	(13)	(7)	(8)	(0)	(2)	(1)	(4)	(4)	(5)	(11)	(19)	(10)	(9)
g. 2.1 ~ 4.0 ha	44	76	7	24	0	3	4	2	16	24	28	56	30	314
	(18)	(12)	(7)	(7)	(0)	(1)	(1)	(1)	(2)	(8)	(5)	(11)	(9)	(7)
h. 4.1 ~ 6.0 ha	9	9	1	12	0	0	0	5	0	3	4	9	3	55
	(4)	(1)	(1)	(3)	(0)	(0)	(0)	(3)	(0)	(1)	(1)	(2)	(1)	(1)
i. More than 6.0 ha	0	4	0	5	0	0	0	1	0	0	0	2	2	14
	(0)	(1)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(1)	(0)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-3 Farming Conditions in Non-granary Irrigated Areas (3/11)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
5. TOTAL CULTIVATED AREA FOR DOUBLE CROPPING OF PADDY (Q.503)														
a. None	142 (59)	119 (18)	25 (25)	136 (36)	12 (30)	445 (88)	249 (80)	52 (34)	608 (96)	252 (83)	543 (91)	410 (81)	288 (90)	3,281 (68)
b. Less than 0.4 ha	14 (6)	44 (7)	7 (7)	29 (9)	0 (0)	8 (1)	12 (3)	8 (4)	5 (1)	1 (0)	2 (0)	1 (0)	2 (1)	133 (3)
c. 0.4 ~ 0.7 ha	27 (11)	151 (23)	24 (24)	83 (22)	20 (50)	14 (3)	28 (9)	56 (37)	5 (1)	18 (6)	18 (3)	15 (3)	9 (3)	468 (10)
d. 0.8 ~ 1.1 ha	20 (8)	101 (15)	18 (18)	45 (12)	7 (18)	20 (4)	14 (5)	19 (13)	5 (1)	13 (4)	18 (3)	18 (4)	14 (4)	312 (7)
e. 1.2 ~ 1.5 ha	14 (6)	94 (14)	12 (12)	18 (5)	1 (2)	6 (1)	5 (2)	11 (7)	6 (1)	7 (2)	10 (2)	33 (7)	3 (1)	220 (5)
f. 1.6 ~ 2.0 ha	8 (3)	70 (11)	6 (6)	23 (6)	0 (0)	8 (2)	0 (0)	4 (3)	2 (0)	5 (2)	4 (1)	13 (3)	2 (1)	145 (3)
g. 2.1 ~ 4.0 ha	15 (6)	63 (10)	7 (7)	23 (6)	0 (0)	3 (1)	3 (1)	1 (1)	0 (0)	8 (3)	1 (0)	8 (2)	1 (0)	133 (3)
h. 4.1 ~ 6.0 ha	2 (1)	8 (1)	1 (1)	11 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	0 (0)	24 (1)
i. More than 6.0 ha	0 (0)	4 (1)	0 (0)	5 (1)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	12 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
6. TOTAL CULTIVATED AREA FOR TWO CROPPING (Q.504)														
a. None	155 (64)	391 (60)	64 (64)	311 (82)	12 (30)	375 (74)	270 (87)	85 (56)	602 (96)	276 (90)	556 (93)	493 (99)	309 (97)	3,899 (82)
b. Less than 0.4 ha	34 (14)	35 (5)	3 (3)	6 (2)	0 (0)	13 (3)	6 (2)	7 (4)	3 (0)	5 (2)	8 (1)	0 (0)	2 (1)	122 (3)
c. 0.4 ~ 0.7 ha	13 (5)	83 (13)	11 (11)	28 (8)	20 (50)	27 (5)	13 (4)	35 (23)	3 (0)	8 (3)	19 (3)	1 (0)	6 (2)	267 (6)
d. 0.8 ~ 1.1 ha	11 (5)	51 (8)	9 (9)	14 (4)	7 (18)	26 (5)	9 (3)	12 (8)	6 (1)	4 (1)	7 (1)	2 (0)	1 (0)	159 (3)
e. 1.2 ~ 1.5 ha	10 (4)	39 (6)	9 (9)	7 (2)	1 (1)	26 (5)	8 (3)	7 (4)	7 (2)	6 (2)	3 (1)	0 (0)	1 (0)	124 (3)
f. 1.6 ~ 2.0 ha	6 (2)	25 (4)	2 (2)	3 (1)	0 (0)	15 (3)	3 (1)	4 (3)	5 (1)	2 (1)	3 (1)	0 (0)	0 (0)	68 (1)
g. 2.1 ~ 4.0 ha	11 (5)	24 (4)	1 (1)	1 (0)	0 (0)	17 (3)	2 (1)	1 (1)	3 (0)	3 (1)	1 (0)	3 (1)	1 (0)	68 (1)
h. 4.1 ~ 6.0 ha	2 (1)	4 (0)	1 (1)	1 (0)	0 (0)	4 (2)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	0 (0)	0 (0)	14 (0)
i. More than 6.0 ha	0 (0)	2 (0)	0 (0)	2 (1)	0 (0)	1 (0)	0 (0)	1 (1)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	7 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-3 Farming Conditions in Non-granary Irrigated Areas (4/11)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
7. NUMBER OF FARM LOT(S) (Q.303)														
a. One	80 (33)	219 (33)	51 (51)	136 (36)	31 (78)	119 (24)	218 (71)	105 (68)	150 (24)	80 (26)	231 (39)	233 (47)	117 (37)	1,770 (38)
b. Two	73 (30)	208 (32)	18 (18)	163 (44)	6 (15)	292 (58)	76 (24)	27 (18)	302 (48)	82 (27)	215 (36)	202 (40)	124 (39)	1,788 (38)
c. Three	44 (18)	158 (24)	16 (16)	51 (14)	3 (7)	70 (14)	10 (3)	7 (5)	125 (19)	51 (17)	86 (14)	44 (9)	52 (16)	717 (15)
d. More than three	45 (19)	69 (11)	13 (13)	23 (6)	0 (0)	23 (4)	3 (1)	13 (9)	54 (9)	89 (29)	65 (11)	20 (4)	27 (8)	444 (9)
e. None	0 (0)	0 (0)	2 (2)	0 (0)	0 (0)	0 (0)	4 (1)	0 (0)	0 (0)	3 (1)	0 (0)	0 (0)	0 (0)	9 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
8. NUMBER OF PADDY CULTIVATION PER YEAR (Q.401)														
a. One	167 (69)	119 (18)	0 (0)	60 (16)	0 (0)	113 (22)	89 (29)	29 (19)	164 (26)	238 (79)	533 (89)	407 (81)	279 (87)	2,198 (46)
b. Twice	74 (31)	528 (81)	75 (75)	230 (62)	28 (70)	54 (11)	60 (19)	97 (64)	29 (5)	65 (21)	50 (9)	88 (18)	21 (7)	1,399 (30)
c. None	1 (0)	7 (1)	25 (25)	83 (22)	12 (30)	337 (67)	162 (52)	26 (17)	438 (69)	1 (0)	14 (2)	4 (1)	20 (6)	1,130 (24)
d. No answer	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	1 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
9. EXISTENCE OF IRRIGATION FACILITY FOR PADDY FIELDS (Q.402)														
a. Yes-Whole field	93 (39)	383 (59)	54 (72)	226 (78)	26 (93)	129 (77)	107 (72)	82 (65)	141 (73)	156 (51)	306 (52)	314 (63)	154 (51)	2,171 (60)
b. Yes-Partly	133 (55)	217 (34)	21 (28)	57 (20)	2 (7)	36 (22)	30 (20)	38 (30)	37 (19)	74 (25)	276 (48)	123 (25)	93 (31)	1,137 (32)
c. No	15 (6)	47 (7)	0 (0)	7 (2)	0 (0)	2 (1)	12 (8)	6 (5)	15 (8)	73 (24)	1 (0)	58 (12)	53 (18)	289 (8)
Total No. of Respondents	241 (100)	647 (100)	75 (100)	290 (100)	28 (100)	167 (100)	149 (100)	126 (100)	193 (100)	303 (100)	583 (100)	495 (100)	300 (100)	3,597 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Mlaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-3 Farming Conditions in Non-granary Irrigated Areas (5/11)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
10. IRRIGATION WATER SUPPLY QUANTITY (Q.405)														
<u>Main Season</u>														
a. Sufficient	210 (93)	554 (92)	61 (81)	249 (88)	27 (96)	157 (95)	130 (95)	92 (77)	140 (79)	161 (70)	400 (69)	350 (80)	163 (66)	2,694 (81)
b. Not sufficient	16 (7)	46 (8)	14 (19)	34 (12)	1 (4)	8 (5)	7 (5)	28 (23)	38 (21)	70 (30)	182 (31)	87 (20)	84 (34)	615 (19)
No. of Respondents	226 (100)	600 (100)	75 (100)	283 (100)	28 (100)	165 (100)	137 (100)	120 (100)	178 (100)	231 (100)	582 (100)	437 (100)	247 (100)	3,309 (100)
<u>Off Season</u>														
a. Sufficient	12 (16)	269 (52)	39 (52)	157 (70)	24 (86)	27 (50)	31 (53)	50 (53)	20 (71)	33 (52)	15 (30)	42 (52)	4 (19)	723 (53)
b. Not sufficient	61 (84)	248 (48)	36 (48)	68 (30)	4 (14)	27 (50)	28 (47)	44 (47)	8 (29)	30 (48)	35 (70)	39 (48)	17 (81)	645 (47)
No. of Respondents	73 (100)	517 (100)	75 (100)	225 (100)	28 (100)	54 (100)	59 (100)	94 (100)	28 (100)	63 (100)	50 (100)	81 (100)	21 (100)	1,368 (100)
11. INUNDATION PERIOD AFTER NORMAL FLOODING (Q.414(1))														
a. Within 1 day	14 (7)	126 (24)	11 (15)	100 (36)	7 (26)	133 (84)	28 (27)	38 (36)	63 (38)	60 (26)	425 (82)	127 (34)	49 (23)	1,181 (40)
b. Up to 2 days	38 (20)	77 (15)	9 (12)	24 (9)	1 (4)	12 (7)	11 (10)	13 (13)	23 (14)	25 (11)	72 (14)	66 (18)	36 (17)	407 (14)
c. Up to 3 days	40 (21)	70 (14)	9 (12)	13 (5)	1 (4)	4 (2)	6 (6)	5 (5)	8 (5)	35 (15)	12 (2)	48 (13)	37 (18)	288 (10)
d. More than 3 days	87 (44)	189 (36)	24 (32)	37 (14)	1 (4)	12 (7)	54 (50)	16 (15)	62 (38)	109 (48)	10 (2)	133 (35)	78 (37)	812 (27)
e. None	15 (8)	58 (11)	21 (29)	95 (35)	17 (62)	0 (0)	8 (7)	32 (31)	9 (5)	0 (0)	1 (0)	0 (0)	10 (5)	266 (9)
No. of Respondents	194 (100)	520 (100)	74 (100)	269 (100)	27 (100)	161 (100)	107 (100)	104 (100)	165 (100)	229 (100)	520 (100)	374 (100)	210 (100)	2,954 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-3 Farming Conditions in Non-granary Irrigated Areas (6/11)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
12. INUNDATION PERIOD AFTER HEAVY RAINFALL (Q.413(1))														
a. Within 1 day	14	126	11	100	7	133	28	38	63	60	425	127	49	1,181
	(7)	(24)	(15)	(37)	(26)	(84)	(26)	(37)	(38)	(26)	(82)	(34)	(23)	(40)
b. Up to 2 days	38	77	9	24	1	12	11	13	23	25	72	66	36	407
	(20)	(15)	(12)	(9)	(4)	(7)	(10)	(12)	(14)	(11)	(14)	(18)	(17)	(14)
c. Up to 3 days	40	70	9	13	1	4	6	5	8	35	12	48	37	288
	(21)	(14)	(12)	(5)	(4)	(2)	(6)	(5)	(5)	(15)	(2)	(13)	(18)	(10)
d. More than 3 days	87	189	24	37	1	12	54	16	62	109	10	133	78	812
	(45)	(36)	(32)	(14)	(4)	(7)	(51)	(15)	(38)	(48)	(2)	(35)	(37)	(27)
e. None	15	58	21	95	17	0	8	32	9	0	1	0	10	266
	(7)	(11)	(29)	(35)	(62)	(0)	(7)	(31)	(5)	(0)	(0)	(0)	(5)	(9)
No. of Respondents	194	520	74	269	27	161	107	104	165	229	520	374	210	2,954
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
13. IRRIGATION FACILITY CONDITION (Q.409)														
a. Well maintained	133	358	55	210	24	132	111	104	131	145	416	353	128	2,300
	(60)	(60)	(73)	(74)	(86)	(80)	(80)	(87)	(74)	(63)	(71)	(82)	(52)	(70)
b. Structures broken	62	66	3	35	0	17	9	5	24	48	89	35	54	447
	(27)	(11)	(4)	(12)	(0)	(10)	(7)	(4)	(13)	(21)	(15)	(8)	(22)	(14)
c. Canal broken	53	87	10	26	1	7	4	6	11	28	54	36	25	348
	(23)	(15)	(13)	(9)	(3)	(4)	(3)	(5)	(6)	(12)	(10)	(8)	(10)	(11)
d. Canal deposited	43	64	9	10	3	11	8	6	22	7	2	15	47	247
	(19)	(11)	(12)	(4)	(11)	(7)	(6)	(5)	(12)	(3)	(0)	(3)	(19)	(7)
e. Others	24	48	2	6	0	8	5	1	3	18	31	9	8	163
	(10)	(7)	(3)	(2)	(0)	(5)	(4)	(1)	(2)	(7)	(6)	(2)	(3)	(4)
Total No. of Responses*	315	623	79	287	28	175	137	122	191	246	592	448	262	3,505
	(139)	(104)	(105)	(101)	(100)	(106)	(100)	(102)	(107)	(106)	(102)	(103)	(106)	(106)
No. of Respondents	226	600	75	283	28	165	137	120	178	230	582	437	247	3,308

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-3 Farming Conditions in Non-granary Irrigated Areas (7/11)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
14. DRAINAGE CONTROL FACILITY CONDITION (Q.411)														
a. Well maintained	101 (52)	325 (63)	55 (74)	196 (73)	23 (85)	138 (85)	78 (73)	82 (78)	102 (61)	177 (77)	376 (72)	302 (81)	100 (49)	2,055 (71)
b. Canal deposited	63 (32)	98 (19)	12 (16)	60 (22)	1 (4)	20 (12)	14 (13)	7 (7)	46 (28)	32 (14)	19 (4)	48 (13)	67 (32)	487 (16)
c. Stop log/ gate broken	23 (12)	69 (13)	5 (7)	12 (5)	0 (0)	1 (1)	15 (14)	12 (12)	19 (12)	10 (4)	29 (6)	27 (7)	44 (21)	266 (9)
d. Others	7 (4)	31 (6)	2 (3)	1 (0)	3 (11)	2 (2)	0 (0)	3 (3)	2 (1)	10 (5)	100 (19)	1 (0)	8 (4)	170 (5)
Total No. of Responses*	194 (100)	523 (101)	74 (100)	269 (100)	27 (100)	161 (100)	107 (100)	104 (100)	169 (102)	229 (100)	524 (101)	378 (101)	219 (104)	2,978 (101)
No. of Respondents	194	520	74	269	27	161	107	104	165	229	520	374	210	2,954
15. USE OF FARM MACHINERY (Q.601)														
a. Land preparation	218 (90)	550 (84)	71 (71)	232 (62)	1 (3)	137 (27)	105 (34)	40 (26)	108 (17)	303 (99)	581 (97)	329 (66)	15 (5)	2,690 (57)
b. Planting	4 (2)	1 (0)	6 (6)	21 (6)	0 (0)	6 (1)	4 (1)	12 (8)	8 (1)	1 (0)	1 (0)	4 (1)	7 (2)	75 (2)
c. Cultivating	21 (9)	14 (2)	0 (0)	13 (3)	0 (0)	63 (13)	4 (1)	24 (16)	3 (1)	1 (0)	0 (0)	2 (0)	3 (1)	148 (3)
d. Spraying	60 (25)	134 (20)	3 (3)	43 (12)	12 (30)	233 (46)	4 (1)	18 (12)	148 (23)	69 (23)	7 (1)	8 (2)	4 (1)	743 (16)
e. Harvesting	155 (64)	261 (40)	39 (39)	46 (12)	0 (0)	0 (0)	1 (0)	10 (7)	10 (2)	65 (22)	1 (0)	1 (0)	1 (0)	590 (12)
f. Transplanting	5 (2)	1 (0)	0 (0)	1 (0)	0 (0)	0 (0)	2 (1)	3 (2)	2 (0)	1 (0)	0 (0)	0 (0)	0 (0)	15 (0)
g. Weeding	8 (3)	33 (5)	1 (1)	12 (3)	0 (0)	8 (2)	7 (2)	0 (0)	3 (1)	0 (0)	0 (0)	2 (0)	5 (2)	79 (2)
h. Others	0 (0)	1 (0)	6 (6)	3 (1)	0 (0)	2 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	5 (1)	3 (1)	21 (0)
i. None	5 (2)	95 (15)	16 (16)	128 (34)	30 (75)	167 (33)	204 (66)	63 (41)	392 (62)	0 (0)	17 (3)	153 (31)	283 (88)	1,553 (33)
j. No answer	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)
Total No. of Responses*	477 (197)	1,090 (167)	142 (142)	499 (133)	43 (108)	616 (122)	331 (106)	171 (113)	675 (107)	440 (144)	607 (101)	504 (101)	321 (100)	5,916 (125)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-3 Farming Conditions in Non-granary Irrigated Areas (8/11)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
16. TYPES OF OWNED FARM MACHINERY (Q.602)														
a. Tractor	22 (9)	100 (16)	72 (72)	92 (25)	1 (2)	94 (19)	37 (12)	48 (32)	31 (4)	4 (1)	13 (2)	134 (27)	11 (3)	661 (14)
b. Hand sprayer	177 (74)	409 (64)	12 (12)	205 (55)	12 (30)	248 (49)	240 (77)	24 (16)	305 (47)	186 (61)	276 (46)	221 (44)	264 (83)	2,579 (54)
c. Hand cultivator	146 (61)	355 (54)	3 (3)	304 (82)	0 (0)	8 (2)	18 (6)	33 (22)	86 (14)	29 (10)	13 (2)	338 (68)	129 (40)	1,462 (30)
d. Harvester	0 (0)	1 (0)	37 (37)	26 (7)	0 (0)	0 (0)	5 (2)	3 (2)	4 (1)	0 (0)	0 (0)	8 (2)	2 (1)	86 (2)
e. Weeder	7 (3)	16 (2)	1 (1)	7 (2)	0 (0)	9 (2)	6 (2)	0 (0)	3 (2)	0 (0)	0 (0)	0 (0)	2 (1)	51 (1)
f. Planter	6 (2)	2 (0)	0 (0)	9 (2)	0 (0)	1 (0)	2 (0)	2 (1)	1 (0)	1 (0)	0 (0)	31 (6)	0 (0)	55 (1)
g. Sprayer	25 (10)	120 (18)	0 (0)	13 (3)	1 (2)	2 (0)	3 (1)	2 (1)	33 (5)	1 (0)	2 (0)	11 (2)	1 (0)	214 (5)
h. Others	3 (1)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	2 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	1 (0)	8 (0)
i. None	8 (3)	55 (8)	16 (16)	23 (6)	26 (66)	202 (40)	42 (14)	46 (30)	233 (37)	104 (34)	304 (51)	6 (1)	7 (2)	1,072 (23)
j. No answer	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)
Total No. of Responses*	394 (163)	1,058 (162)	141 (141)	682 (182)	40 (100)	564 (112)	355 (114)	158 (104)	697 (110)	325 (106)	608 (101)	749 (150)	418 (131)	6,189 (131)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-3 Farming Conditions in Non-granary Irrigated Areas (9/11)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
17. OWNERSHIP STATUS OF TRACTOR (Q.603)														
a. Own	8 (3)	90 (14)	3 (3)	29 (8)	2 (5)	3 (1)	7 (2)	8 (5)	3 (0)	3 (1)	20 (3)	5 (1)	1 (0)	182 (4)
b. Group own	6 (2)	28 (4)	3 (3)	4 (1)	0 (0)	1 (0)	3 (1)	23 (15)	2 (0)	2 (1)	0 (0)	1 (0)	4 (1)	77 (2)
c. Leased	159 (67)	227 (35)	69 (69)	191 (51)	11 (27)	159 (32)	41 (13)	54 (36)	132 (21)	270 (88)	557 (94)	337 (68)	12 (4)	2,219 (46)
d. Contract	66 (27)	283 (43)	5 (5)	17 (5)	0 (0)	1 (0)	53 (17)	3 (2)	20 (3)	1 (0)	0 (0)	7 (1)	2 (1)	458 (10)
e. Not used	3 (1)	26 (4)	20 (20)	132 (35)	27 (68)	340 (67)	207 (67)	64 (42)	474 (76)	29 (10)	20 (3)	149 (30)	301 (94)	1,792 (38)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
18. KIND OF DRAFT ANIMAL USED FOR FARMING (Q.605)														
a. Buffalo	3 (1)	35 (5)	0 (0)	49 (13)	0 (0)	0 (0)	0 (0)	6 (4)	4 (1)	3 (1)	4 (1)	238 (48)	2 (1)	344 (7)
b. Cow	0 (0)	1 (0)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	4 (0)
c. None	239 (99)	618 (95)	100 (100)	323 (87)	40 (100)	504 (100)	310 (100)	146 (96)	627 (99)	302 (99)	592 (99)	261 (52)	318 (99)	4,380 (93)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
19. FULL UTILIZATION OF PADDY FIELD (P.801(1))														
a. Yes	225 (93)	576 (88)	65 (65)	273 (73)	31 (78)	199 (39)	180 (58)	134 (88)	172 (27)	275 (90)	514 (86)	478 (96)	274 (85)	3,396 (72)
b. No	17 (7)	78 (12)	35 (35)	100 (27)	9 (22)	305 (61)	131 (42)	18 (12)	458 (73)	30 (10)	83 (14)	21 (4)	46 (15)	1,331 (28)
c. No answer	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-3 Farming Conditions in Non-granary Irrigated Areas (10/11)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
20. REASONS OF EXISTENCE OF THE IDLE PADDY FIELDS (Q.802)														
a. Shortage of manpower	4 (24)	14 (19)	15 (49)	37 (47)	3 (60)	207 (72)	78 (66)	2 (13)	325 (75)	11 (37)	15 (19)	3 (16)	9 (40)	723 (59)
b. Low profitability of paddy cultivation	9 (53)	11 (15)	2 (6)	12 (15)	0 (0)	10 (3)	19 (16)	3 (19)	54 (12)	0 (0)	5 (6)	1 (5)	3 (12)	129 (11)
c. Lack of drainage facilities	11 (65)	19 (26)	2 (6)	17 (22)	0 (0)	31 (11)	32 (27)	4 (25)	61 (14)	6 (20)	6 (7)	5 (26)	5 (21)	199 (16)
d. Insufficient water supply	12 (71)	42 (57)	5 (16)	46 (59)	2 (40)	141 (49)	93 (79)	11 (69)	107 (25)	14 (47)	56 (70)	14 (74)	4 (17)	547 (44)
e. Ravage of rats, birds and/or insects	0 (0)	1 (1)	19 (61)	15 (19)	0 (0)	9 (3)	8 (7)	0 (0)	94 (22)	5 (17)	5 (6)	0 (0)	1 (4)	157 (13)
f. Paddy disease	0 (0)	1 (1)	2 (6)	1 (1)	0 (0)	5 (2)	0 (0)	0 (0)	13 (3)	0 (0)	0 (0)	0 (0)	1 (4)	23 (2)
g. Land located very far from house	1 (6)	2 (3)	0 (0)	0 (0)	0 (0)	3 (1)	0 (0)	0 (0)	3 (1)	1 (3)	0 (0)	0 (0)	1 (4)	11 (1)
h. Shortage of capital	2 (12)	2 (3)	0 (0)	5 (6)	0 (0)	5 (2)	0 (0)	0 (0)	2 (0)	1 (3)	1 (1)	0 (0)	1 (4)	19 (2)
i. Lack of machines	0 (0)	1 (1)	0 (0)	5 (6)	0 (0)	2 (1)	0 (0)	2 (13)	10 (2)	0 (0)	8 (10)	0 (0)	0 (0)	28 (2)
j. Floods	0 (0)	2 (3)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	18 (4)	0 (0)	0 (0)	0 (0)	2 (8)	23 (2)
k. Salty water	2 (12)	3 (4)	0 (0)	0 (0)	0 (0)	3 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (8)	10 (1)
l. Land not suitable for growing paddy	0 (0)	11 (15)	0 (0)	6 (8)	1 (20)	6 (2)	1 (1)	3 (19)	9 (2)	7 (23)	10 (13)	2 (11)	3 (12)	59 (5)
m. Water pollution	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	7 (2)	0 (0)	0 (0)	2 (0)	0 (0)	2 (3)	0 (0)	0 (0)	11 (1)
n. Others	5 (28)	13 (19)	3 (10)	24 (30)	0 (0)	13 (5)	10 (8)	5 (30)	83 (19)	4 (13)	16 (20)	3 (15)	1 (4)	180 (15)
Total No. of Responses*	46 (271)	122 (167)	48 (155)	168 (213)	6 (120)	443 (154)	241 (204)	30 (188)	781 (179)	49 (163)	124 (155)	28 (147)	33 (138)	2,119 (174)
No. of Respondents	17	73	31	79	5	288	118	16	437	30	80	19	24	1,217

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-3 Farming Conditions in Non-granary Irrigated Areas (11/11)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
21. PRESENT CONDITION OF THE CONVERTED PADDY FIELD (Q.804)														
a. No problem	0 (0)	1 (14)	10 (100)	6 (60)	1 (100)	30 (73)	15 (58)	1 (100)	10 (91)	0 (0)	6 (100)	2 (50)	18 (72)	100 (70)
b. Ill drained condition	0 (0)	3 (43)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (25)	2 (8)	8 (6)
c. Poor access to farm lots	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	3 (12)	0 (0)	1 (9)	0 (0)	0 (0)	0 (0)	0 (0)	5 (3)
d. Insufficient irrigation water supply	0 (0)	5 (72)	0 (0)	0 (0)	0 (0)	0 (0)	4 (15)	0 (0)	0 (0)	0 (0)	0 (0)	1 (25)	5 (20)	15 (10)
e. Low standard of farming practices	0 (0)	4 (57)	0 (0)	2 (20)	0 (0)	7 (17)	3 (12)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	1 (4)	18 (13)
f. Pest problem	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)
g. Others	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	2 (5)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4 (3)
Total No. of Responses*	0 (-)	13 (186)	10 (100)	10 (100)	1 (100)	43 (105)	26 (100)	1 (100)	11 (100)	1 (100)	6 (100)	4 (100)	26 (104)	152 (106)
No. of Respondents	0	7	10	10	1	41	26	1	11	1	6	4	25	143
22. PROBLEMS AND/OR DIFFICULTIES ENCOUNTERED IN FARMING PRACTICES (Q.608(1))														
a. Inefficient irrigation facility	74 (31)	71 (11)	20 (20)	46 (12)	0 (0)	57 (11)	51 (16)	14 (9)	54 (9)	47 (15)	5 (1)	75 (15)	51 (16)	565 (12)
b. Insufficient water supply	172 (71)	264 (40)	27 (27)	108 (29)	4 (10)	167 (33)	197 (64)	55 (36)	126 (20)	166 (55)	417 (70)	267 (54)	90 (28)	2,060 (44)
c. Poor drainage	83 (34)	76 (12)	15 (15)	51 (14)	1 (2)	25 (5)	79 (25)	16 (11)	39 (6)	48 (16)	133 (22)	90 (18)	112 (35)	768 (16)
d. Lack of fund	59 (24)	216 (33)	28 (28)	147 (39)	3 (7)	91 (18)	46 (15)	11 (7)	116 (18)	96 (31)	131 (22)	88 (17)	150 (47)	1,182 (25)
e. Lack of labor force	46 (19)	145 (22)	24 (24)	96 (26)	4 (10)	314 (62)	125 (40)	14 (9)	244 (39)	31 (10)	31 (5)	40 (8)	67 (21)	1,181 (25)
f. Difficult marketing	24 (10)	27 (4)	9 (9)	42 (11)	0 (0)	15 (3)	20 (6)	11 (7)	11 (2)	8 (3)	8 (1)	34 (7)	96 (30)	305 (6)
g. Natural disaster	87 (36)	114 (17)	9 (9)	44 (12)	0 (0)	7 (1)	168 (54)	45 (30)	121 (19)	91 (30)	137 (23)	286 (57)	136 (43)	1,245 (26)
h. Frequent pest and diseases	123 (51)	580 (89)	84 (84)	345 (92)	23 (58)	212 (42)	258 (84)	101 (66)	377 (61)	274 (90)	469 (80)	443 (88)	241 (75)	3,530 (74)
i. Others	24 (10)	25 (4)	1 (1)	19 (6)	2 (6)	34 (7)	11 (3)	4 (3)	47 (6)	10 (3)	61 (9)	35 (8)	20 (6)	293 (7)
j. None	13 (5)	12 (2)	6 (6)	7 (2)	6 (15)	53 (11)	5 (2)	15 (10)	96 (15)	6 (2)	1 (0)	3 (1)	6 (2)	229 (5)
Total No. of Responses*	705 (291)	1,530 (234)	223 (223)	905 (243)	43 (108)	975 (193)	960 (309)	286 (188)	1,231 (195)	777 (255)	1,393 (233)	1,361 (273)	969 (303)	11,358 (240)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (1/11)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
1. HOPE FOR SUCCESSION OF FARM OPERATIONS (Q.206)														
a. Yes	173 (72)	335 (51)	54 (54)	170 (46)	22 (55)	300 (59)	164 (53)	87 (58)	367 (58)	168 (55)	435 (73)	453 (91)	265 (83)	2,993 (64)
b. No	68 (28)	316 (48)	41 (41)	183 (49)	18 (45)	201 (40)	145 (46)	63 (41)	254 (40)	137 (45)	157 (26)	40 (8)	47 (15)	1,670 (35)
c. Don't know	1 (0)	3 (1)	5 (5)	20 (5)	0 (0)	3 (1)	2 (1)	2 (1)	10 (2)	0 (0)	4 (1)	6 (1)	8 (2)	64 (1)
d. No answer	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)
Total No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)
2. NUMBER OF CANDIDATE SUCCESSORS (Q.207)														
a. 1 person	72 (41)	173 (53)	29 (54)	79 (47)	7 (32)	186 (62)	104 (64)	39 (45)	165 (46)	88 (52)	205 (47)	101 (22)	107 (40)	1,355 (46)
b. 2 persons	73 (42)	92 (29)	17 (31)	48 (28)	9 (43)	73 (25)	43 (26)	27 (31)	111 (30)	47 (28)	123 (28)	169 (38)	65 (25)	897 (30)
c. 3 persons	15 (9)	36 (11)	4 (7)	18 (11)	1 (5)	14 (5)	11 (7)	10 (11)	47 (13)	17 (10)	48 (11)	89 (20)	40 (15)	350 (12)
d. 4 persons	7 (4)	15 (5)	2 (4)	9 (5)	2 (10)	11 (4)	4 (2)	5 (6)	16 (4)	7 (4)	26 (6)	42 (9)	21 (8)	167 (6)
e. 5 persons	2 (1)	8 (2)	1 (2)	9 (5)	1 (5)	6 (2)	2 (1)	4 (5)	17 (5)	6 (4)	10 (3)	18 (4)	12 (5)	96 (3)
f. 6 persons	1 (1)	3 (1)	0 (0)	2 (1)	0 (0)	3 (1)	0 (0)	1 (1)	5 (1)	0 (0)	7 (2)	10 (2)	7 (3)	39 (1)
g. 7 persons	0 (0)	1 (0)	0 (0)	2 (1)	0 (0)	3 (1)	0 (0)	0 (0)	1 (0)	1 (1)	8 (2)	9 (2)	4 (2)	29 (1)
h. 8 persons	0 (0)	1 (0)	1 (2)	1 (1)	0 (0)	0 (0)	0 (0)	1 (1)	2 (1)	2 (1)	5 (1)	8 (2)	2 (1)	23 (1)
i. 9 persons	0 (0)	1 (0)	0 (0)	1 (1)	1 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (1)	3 (1)	9 (0)
j. 10 persons	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	2 (0)	1 (0)	5 (0)
k. Above 10 persons	3 (2)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	2 (0)	2 (0)	1 (0)	10 (0)
Total No. of Respondents	173 (100)	331 (100)	54 (100)	169 (100)	21 (100)	297 (100)	164 (100)	87 (100)	365 (100)	168 (100)	435 (100)	453 (100)	263 (100)	2,980 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-4 Farmers' Requirements and Intentions (2/11)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
3. CANDIDATE SUCCESSOR(S) (Q.207a)														
a. Son	153 (88)	293 (87)	50 (93)	156 (91)	15 (67)	178 (59)	148 (91)	76 (87)	308 (83)	149 (88)	369 (84)	398 (88)	218 (82)	2,511 (84)
b. Daughter	14 (8)	40 (12)	13 (24)	21 (12)	12 (55)	147 (49)	22 (13)	5 (6)	83 (23)	32 (19)	110 (25)	204 (45)	106 (40)	809 (27)
c. Brother/sister	4 (2)	15 (5)	1 (2)	5 (3)	0 (0)	3 (1)	5 (3)	6 (7)	14 (4)	1 (1)	7 (2)	5 (1)	10 (4)	76 (3)
d. Relatives	1 (1)	3 (1)	0 (0)	1 (1)	0 (0)	2 (1)	4 (2)	2 (2)	3 (1)	5 (3)	11 (3)	7 (2)	5 (2)	44 (1)
e. Wife	1 (1)	3 (1)	0 (0)	0 (0)	1 (5)	2 (1)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	1 (0)	10 (0)
f. Grandchildren	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	3 (1)	6 (0)
g. Others	8 (5)	2 (1)	0 (0)	1 (1)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	5 (1)	0 (0)	2 (1)	19 (1)
Total No. of Responses*	181 (105)	357 (107)	64 (119)	184 (108)	28 (127)	333 (111)	180 (110)	89 (102)	411 (112)	187 (111)	502 (115)	614 (136)	345 (130)	3,475 (116)
No. of Respondents	173	335	54	170	22	300	164	87	367	168	435	453	265	2,993
4. FUTURE MODE OF FARM OPERATIONS (Q.208)														
a. As full time farmer	61 (35)	117 (35)	5 (9)	95 (56)	1 (5)	86 (29)	32 (20)	45 (52)	157 (43)	39 (23)	173 (40)	325 (72)	160 (59)	1,296 (43)
b. As part time farmer	111 (64)	210 (63)	41 (76)	70 (41)	18 (81)	161 (53)	125 (76)	34 (39)	185 (50)	129 (77)	204 (46)	123 (27)	98 (36)	1,509 (50)
c. As land owner with full time job other than agriculture	1 (1)	8 (2)	7 (13)	2 (1)	3 (14)	44 (15)	7 (4)	5 (6)	22 (6)	0 (0)	12 (3)	2 (0)	4 (2)	117 (4)
d. No intention	0 (0)	0 (0)	1 (2)	3 (2)	0 (0)	9 (3)	0 (0)	3 (3)	4 (1)	0 (0)	46 (11)	4 (1)	7 (3)	77 (3)
No. of Respondents	173 (100)	335 (100)	54 (100)	170 (100)	22 (100)	300 (100)	164 (100)	87 (100)	368 (100)	168 (100)	435 (100)	454 (100)	269 (100)	2,999 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (3/11)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
5. INTENTION OF CONTINUING FARM OPERATION (Q.209)														
a. No more continuation	26 (38)	55 (17)	15 (37)	40 (22)	1 (6)	86 (43)	106 (73)	27 (42)	90 (35)	85 (62)	7 (4)	6 (15)	6 (13)	550 (33)
b. Transfer/sell to other persons	25 (37)	31 (10)	5 (12)	8 (4)	0 (0)	11 (5)	21 (14)	4 (6)	22 (9)	30 (22)	15 (9)	0 (0)	2 (4)	174 (10)
c. Convert to permanent crop cultivation	2 (3)	10 (3)	5 (12)	5 (3)	1 (6)	60 (30)	4 (3)	9 (14)	39 (15)	2 (1)	0 (0)	1 (3)	0 (0)	138 (8)
d. Others	15 (22)	220 (70)	16 (39)	130 (71)	16 (88)	44 (22)	16 (10)	24 (38)	103 (41)	20 (15)	136 (87)	33 (82)	39 (83)	812 (49)
No. of Respondents	68 (100)	316 (100)	41 (100)	183 (100)	18 (100)	201 (100)	147 (100)	64 (100)	254 (100)	137 (100)	158 (100)	40 (100)	47 (100)	1,674 (100)
6. UTILIZATION PLAN OF THE IDLE LANDS (Q.805)														
a. Conversion to tree crop	1 (6)	7 (9)	7 (20)	20 (20)	1 (17)	127 (42)	39 (30)	4 (24)	63 (14)	0 (0)	5 (6)	6 (29)	14 (30)	294 (22)
b. Conversion to non farm land	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	2 (1)	2 (2)	0 (0)	7 (2)	1 (3)	1 (1)	0 (0)	0 (0)	14 (1)
c. Conversion to upland crop	0 (0)	1 (1)	4 (11)	3 (3)	2 (33)	7 (2)	2 (2)	0 (0)	15 (3)	3 (10)	5 (6)	2 (10)	3 (7)	47 (4)
d. Conversion to fish culture pond	0 (0)	5 (6)	0 (0)	0 (0)	0 (0)	7 (2)	2 (2)	0 (0)	42 (9)	1 (3)	4 (5)	0 (0)	0 (0)	61 (5)
e. Rent	0 (0)	3 (4)	2 (6)	2 (2)	0 (0)	4 (1)	13 (10)	3 (18)	14 (3)	0 (0)	0 (0)	0 (0)	1 (2)	42 (3)
f. Sell	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)
g. Others	4 (24)	19 (24)	2 (6)	25 (25)	0 (0)	25 (8)	11 (8)	0 (0)	85 (19)	5 (17)	11 (13)	4 (19)	1 (2)	192 (14)
h. No plan	12 (70)	42 (55)	20 (57)	50 (50)	3 (50)	135 (45)	64 (48)	10 (58)	262 (56)	20 (67)	58 (70)	9 (42)	27 (59)	712 (54)
Total No. of Responses*	17 (100)	78 (100)	35 (100)	100 (100)	6 (100)	308 (101)	133 (102)	17 (100)	488 (106)	30 (100)	84 (101)	21 (100)	46 (100)	1,363 (103)
No. of Respondents	17	78	35	100	6	305	130	17	459	30	83	21	46	1,327

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (4/11)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
7. INTENTIONS TO CONVERT OR FURTHER UTILIZE PADDY FIELDS (Q.806(1))														
a. No intention to convert paddy fields to other crop fields	180 (75)	154 (83)	34 (34)	228 (61)	27 (68)	71 (14)	48 (15)	9 (6)	424 (67)	195 (64)	123 (21)	239 (48)	11 (3)	2,130 (45)
b. Expecting to introduce crop diversification on irrigated paddy fields	3 (1)	13 (2)	2 (2)	11 (3)	2 (5)	15 (3)	9 (3)	0 (0)	15 (3)	0 (0)	46 (8)	1 (0)	3 (1)	120 (3)
c. Expecting to provide conversion of paddy fields to tree planting	4 (2)	16 (2)	4 (4)	26 (7)	4 (10)	61 (12)	54 (17)	3 (2)	72 (11)	4 (1)	7 (1)	8 (2)	4 (1)	267 (6)
d. Expecting to introduce crop diversification to some extent	45 (19)	64 (10)	1 (1)	22 (6)	0 (0)	4 (1)	2 (1)	1 (1)	15 (3)	51 (17)	85 (14)	0 (0)	2 (1)	292 (6)
e. Expecting others	1 (1)	1 (0)	4 (4)	7 (2)	1 (2)	16 (3)	25 (8)	1 (1)	40 (6)	2 (1)	6 (1)	0 (0)	3 (1)	107 (2)
f. No plan/idea	2 (0)	7 (1)	15 (15)	15 (4)	1 (2)	174 (35)	19 (6)	12 (8)	56 (9)	4 (1)	8 (1)	11 (2)	31 (10)	353 (7)
g. No answer	9 (4)	12 (2)	40 (40)	64 (17)	5 (13)	163 (32)	154 (50)	126 (82)	9 (1)	49 (16)	322 (54)	240 (48)	266 (83)	1,459 (31)
No. of Respondents	242 (100)	654 (100)	100 (100)	373 (100)	40 (100)	504 (100)	311 (100)	152 (100)	631 (100)	305 (100)	597 (100)	499 (100)	320 (100)	4,728 (100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-4 Farmers' Requirements and Intentions (5/11)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
8. ACTIVITIES EXPECTED TO PARTICIPATE OR EXPAND IN THE FUTURE (Q.609)														
a. Rice	164 (67)	412 (64)	44 (44)	224 (61)	1 (2)	90 (18)	130 (43)	85 (55)	241 (39)	226 (75)	0 (0)	78 (16)	29 (9)	1,724 (37)
b. Rubber trees	12 (5)	143 (22)	10 (10)	83 (22)	0 (0)	54 (11)	16 (5)	30 (20)	182 (29)	41 (13)	14 (2)	109 (22)	66 (21)	760 (16)
c. Oil palm	0 (0)	8 (1)	1 (1)	52 (14)	0 (0)	117 (23)	29 (9)	6 (4)	53 (8)	9 (3)	3 (1)	29 (6)	69 (22)	376 (8)
d. Field crops	53 (22)	42 (6)	7 (7)	69 (18)	1 (2)	111 (22)	63 (20)	6 (4)	51 (8)	31 (10)	103 (17)	98 (20)	125 (38)	760 (16)
e. Cattle	22 (9)	82 (13)	9 (9)	62 (17)	4 (10)	45 (9)	3 (1)	2 (1)	91 (14)	109 (37)	249 (42)	55 (11)	47 (15)	780 (17)
f. Pig	0 (0)	2 (0)	0 (0)	2 (1)	0 (0)	1 (0)	1 (0)	0 (0)	1 (0)	3 (1)	2 (0)	36 (7)	24 (8)	72 (2)
g. Chicken	55 (23)	150 (23)	18 (18)	71 (19)	15 (38)	54 (11)	14 (5)	18 (12)	103 (16)	96 (31)	132 (22)	279 (57)	181 (56)	1,186 (25)
h. Duck	23 (10)	31 (5)	10 (10)	45 (12)	5 (13)	10 (2)	3 (1)	2 (1)	31 (5)	53 (17)	81 (14)	92 (18)	109 (34)	495 (10)
i. Goose	0 (0)	2 (0)	0 (0)	7 (2)	0 (0)	7 (1)	1 (0)	0 (0)	1 (0)	0 (0)	0 (0)	10 (2)	15 (5)	43 (1)
j. Dairy	5 (2)	11 (2)	3 (3)	8 (2)	0 (0)	1 (0)	1 (0)	1 (1)	4 (1)	1 (0)	12 (2)	41 (8)	7 (2)	95 (2)
k. Fish	9 (4)	16 (2)	2 (2)	4 (1)	2 (5)	11 (2)	5 (2)	1 (1)	29 (5)	0 (0)	8 (1)	61 (12)	42 (13)	190 (4)
l. Others	4 (1)	4 (0)	0 (0)	1 (0)	0 (0)	1 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	7 (1)	0 (0)	18 (0)
m. None/No expectation	29 (12)	127 (19)	32 (32)	69 (18)	17 (43)	176 (36)	100 (32)	40 (26)	148 (23)	3 (1)	118 (20)	81 (16)	19 (6)	959 (20)
Total No. of Responses*	376 (155)	1,030 (157)	136 (136)	697 (187)	45 (113)	678 (135)	366 (118)	192 (126)	935 (148)	572 (188)	722 (121)	976 (196)	733 (229)	7,458 (158)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (6/11)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
9. REQUIREMENTS FOR IRRIGATION (Q.901)														
a. Rehabilitation of existing irrigation facilities	113 (47)	273 (42)	31 (31)	135 (36)	6 (15)	278 (55)	160 (51)	89 (58)	227 (36)	128 (41)	235 (39)	352 (72)	190 (60)	2,217 (47)
b. Introduction of sprinkler irrigation system	47 (19)	62 (9)	9 (9)	64 (17)	1 (2)	61 (12)	140 (45)	14 (9)	60 (11)	11 (4)	20 (3)	180 (36)	65 (20)	734 (16)
c. Upgrading of existing irrigation	121 (50)	281 (43)	47 (47)	139 (37)	18 (46)	222 (44)	207 (67)	46 (30)	211 (33)	109 (36)	415 (70)	291 (58)	138 (43)	2,245 (47)
d. Introduction of irrigation facility	13 (5)	15 (2)	0 (0)	10 (3)	1 (2)	2 (0)	0 (0)	1 (1)	27 (4)	18 (6)	2 (0)	6 (1)	3 (1)	98 (2)
e. Introduction of new drain system for irrigation facility	23 (10)	26 (4)	0 (0)	9 (2)	3 (8)	3 (1)	6 (2)	4 (3)	69 (11)	33 (11)	9 (2)	22 (4)	1 (0)	208 (4)
f. Not to charge for the water	2 (1)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)	1 (0)	1 (0)	0 (0)	7 (0)
g. None	8 (3)	76 (12)	21 (21)	74 (20)	9 (23)	44 (9)	21 (7)	12 (8)	83 (13)	33 (11)	12 (2)	12 (2)	9 (3)	414 (9)
h. Others	2 (1)	3 (1)	0 (0)	2 (1)	2 (5)	5 (1)	4 (1)	0 (0)	15 (2)	8 (3)	0 (0)	10 (2)	2 (1)	53 (1)
Total No. of Responses*	329 (136)	736 (113)	108 (108)	433 (116)	41 (103)	615 (122)	539 (173)	166 (109)	692 (110)	341 (112)	694 (116)	874 (175)	408 (128)	5,976 (126)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (7/11)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
10. REQUIREMENTS FOR DRAINAGE (Q.902)														
a. Construction of a farm level drainage facilities	79 (32)	76 (11)	7 (7)	98 (26)	1 (2)	139 (28)	150 (49)	57 (37)	198 (31)	72 (24)	28 (5)	274 (55)	139 (43)	1,318 (28)
b. Construction of new drainage network	116 (48)	135 (21)	12 (12)	96 (25)	3 (8)	172 (34)	149 (48)	32 (21)	164 (26)	96 (32)	120 (20)	213 (42)	211 (67)	1,519 (32)
c. Construction of flood protection works	73 (30)	43 (7)	7 (7)	64 (17)	8 (20)	35 (7)	173 (56)	17 (11)	91 (14)	55 (18)	108 (18)	215 (43)	174 (55)	1,063 (22)
d. Rehabilitation of existing drainage facilities	58 (24)	272 (42)	38 (38)	134 (36)	12 (30)	211 (42)	162 (52)	39 (26)	140 (22)	76 (25)	168 (28)	231 (46)	177 (55)	1,718 (37)
e. Upgrading of existing drainage facilities	81 (33)	219 (33)	40 (40)	185 (50)	5 (12)	53 (11)	121 (39)	23 (15)	136 (22)	80 (26)	276 (46)	290 (58)	176 (55)	1,685 (36)
f. None	11 (5)	77 (12)	27 (27)	58 (16)	11 (28)	41 (8)	17 (5)	16 (11)	89 (14)	53 (17)	28 (5)	11 (2)	4 (1)	443 (9)
g. Others	15 (7)	80 (12)	27 (27)	61 (17)	11 (28)	42 (8)	17 (5)	17 (11)	98 (16)	56 (18)	35 (6)	22 (4)	5 (1)	486 (10)
Total No. of Responses*	433 (179)	902 (138)	158 (158)	696 (187)	51 (128)	693 (138)	789 (254)	201 (132)	916 (145)	488 (160)	763 (128)	1,256 (252)	886 (277)	8,232 (174)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (8/11)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
11. REQUIREMENTS FOR FARM ROAD (Q.903)														
a. Construction of new farm road	39 (16)	84 (13)	14 (14)	137 (37)	3 (8)	233 (46)	153 (49)	68 (45)	267 (41)	128 (41)	103 (17)	293 (59)	195 (61)	1,717 (36)
b. Rehabilitation of existing farm road	78 (32)	250 (38)	13 (13)	78 (21)	4 (10)	139 (28)	149 (48)	43 (28)	114 (18)	57 (19)	109 (18)	244 (49)	208 (65)	1,486 (31)
c. Upgrading/pavement of existing farm road	53 (22)	209 (32)	23 (23)	163 (44)	0 (0)	183 (36)	121 (39)	9 (6)	165 (26)	49 (16)	236 (40)	219 (44)	187 (57)	1,617 (34)
d. Widening of existing farm road	19 (8)	121 (19)	23 (23)	95 (25)	1 (2)	106 (21)	94 (30)	29 (19)	55 (9)	20 (7)	113 (19)	226 (45)	188 (58)	1,090 (23)
e. Need a bridge to cross the river	9 (4)	2 (0)	0 (0)	0 (0)	0 (0)	3 (1)	1 (0)	0 (0)	7 (1)	8 (3)	2 (0)	6 (1)	2 (1)	40 (1)
f. None/satisfactory	86 (36)	134 (20)	37 (37)	93 (25)	32 (80)	32 (6)	52 (16)	15 (10)	120 (19)	84 (28)	98 (16)	39 (8)	6 (2)	828 (18)
g. Others	6 (2)	6 (1)	0 (0)	5 (1)	0 (0)	1 (0)	4 (1)	3 (2)	1 (0)	1 (0)	16 (3)	5 (1)	0 (0)	48 (1)
Total No. of Responses*	290 (120)	806 (123)	110 (110)	571 (153)	40 (100)	697 (138)	574 (185)	167 (110)	729 (116)	347 (114)	677 (113)	1,032 (207)	786 (246)	6,826 (144)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (9/11)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
12. REQUIREMENTS OF OTHER FACILITIES (Q.904)														
a. Processing facilities	23 (10)	94 (14)	17 (17)	167 (44)	1 (2)	264 (53)	175 (57)	39 (25)	184 (29)	166 (54)	516 (86)	457 (92)	276 (86)	2,379 (50)
b. Storage facilities	18 (7)	52 (8)	23 (23)	109 (29)	0 (0)	160 (32)	128 (41)	19 (13)	64 (10)	15 (5)	430 (72)	444 (89)	258 (81)	1,720 (37)
c. Drying	37 (15)	130 (20)	18 (18)	103 (28)	0 (0)	39 (8)	97 (31)	15 (10)	46 (7)	18 (6)	272 (46)	403 (81)	232 (73)	1,410 (30)
d. Machinery	8 (3)	19 (3)	2 (2)	80 (21)	17 (43)	57 (11)	28 (9)	10 (7)	154 (24)	47 (15)	11 (2)	61 (12)	39 (12)	533 (11)
e. LPN Facility	1 (0)	10 (2)	0 (0)	14 (4)	0 (0)	2 (0)	2 (1)	1 (1)	6 (1)	3 (1)	1 (0)	3 (1)	1 (0)	44 (1)
f. Satisfactory/ do not need any other facilities	153 (63)	401 (61)	65 (65)	138 (37)	21 (53)	169 (35)	59 (19)	65 (42)	275 (45)	84 (28)	14 (2)	16 (3)	15 (5)	1,475 (31)
g. Others	49 (21)	40 (6)	3 (3)	21 (6)	1 (2)	17 (1)	19 (5)	27 (18)	29 (4)	13 (4)	15 (3)	25 (5)	9 (2)	269 (6)
Total No. of Responses*	289 (119)	746 (114)	128 (128)	632 (169)	40 (100)	708 (140)	508 (163)	176 (116)	758 (120)	346 (113)	1,259 (211)	1,410 (283)	830 (259)	7,830 (166)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728
13. EXPECTED BENEFICIAL EFFECTS BY GROWING OTHER CROPS IN PADDY FIELD (Q.905)														
a. Income increase	203 (83)	228 (35)	37 (37)	267 (72)	7 (18)	376 (75)	212 (69)	31 (20)	391 (62)	214 (70)	532 (89)	346 (70)	232 (72)	3,076 (65)
b. Stable revenue	21 (9)	43 (7)	10 (10)	127 (34)	4 (10)	161 (32)	110 (35)	18 (12)	118 (19)	21 (7)	16 (3)	102 (20)	72 (23)	823 (17)
c. Creation of employment opportunity	5 (2)	6 (1)	12 (12)	95 (25)	0 (0)	7 (1)	132 (42)	2 (1)	45 (7)	19 (6)	16 (3)	37 (7)	28 (9)	404 (9)
d. Leveling up of living standard	36 (15)	95 (15)	14 (14)	154 (41)	2 (5)	134 (27)	108 (35)	12 (8)	140 (22)	22 (7)	58 (10)	38 (8)	63 (20)	876 (19)
e. Nothing special	24 (10)	323 (48)	53 (53)	81 (22)	30 (74)	69 (14)	51 (16)	90 (59)	177 (28)	64 (21)	44 (7)	130 (26)	44 (14)	1,180 (25)
f. Others	0 (0)	0 (0)	4 (4)	9 (3)	1 (3)	4 (0)	0 (0)	8 (6)	2 (0)	5 (2)	1 (0)	2 (0)	1 (0)	37 (0)
Total No. of Responses*	289 (119)	695 (106)	130 (130)	733 (197)	44 (110)	751 (149)	613 (197)	161 (106)	873 (138)	345 (113)	667 (112)	655 (131)	440 (138)	6,396 (135)
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (10/11)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
14. MAJOR CONCERNS ABOUT INTRODUCING OTHER CROPS IN PADDY FIELD (Q.906)														
a. Finance	108 (45)	369 (56)	25 (25)	197 (54)	0 (0)	258 (51)	212 (68)	28 (18)	311 (49)	213 (69)	335 (56)	325 (66)	210 (65)	2,591 (55)
b. Technique	47 (19)	151 (23)	18 (18)	90 (24)	0 (0)	55 (11)	158 (51)	14 (9)	84 (13)	81 (27)	98 (16)	197 (39)	149 (47)	1,142 (24)
c. Marketing	46 (19)	234 (36)	19 (19)	151 (40)	1 (2)	79 (16)	168 (54)	25 (16)	119 (19)	147 (48)	279 (47)	108 (22)	199 (62)	1,575 (33)
d. Labor	26 (11)	154 (24)	21 (21)	109 (29)	13 (33)	289 (57)	152 (49)	26 (17)	356 (57)	73 (24)	87 (15)	71 (14)	37 (12)	1,414 (30)
e. Others	108 (45)	112 (17)	26 (26)	83 (22)	12 (30)	92 (18)	20 (6)	24 (16)	183 (29)	110 (36)	203 (34)	37 (7)	44 (14)	1,054 (22)
f. None	20 (8)	77 (12)	39 (39)	82 (22)	14 (35)	105 (21)	49 (16)	84 (56)	66 (10)	17 (6)	18 (3)	84 (17)	45 (14)	700 (15)
Total No. of Responses*	355 (147)	1,097 (168)	148 (148)	712 (191)	40 (100)	878 (174)	759 (244)	201 (132)	1,119 (177)	641 (210)	1,020 (171)	822 (165)	684 (214)	8,476 (179)
Total No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-4 Farmers' Requirements and Intentions (11/11)

Item	Unit: Number (%)														Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK		
15. SUGGESTIONS AND OPINIONS ON THE RATIONALIZATION AND CROP DIVERSIFICATION (Q.907)															
a. Repair drains/better drainage system	58 (24)	42 (6)	0 (0)	5 (1)	0 (0)	1 (0)	13 (4)	9 (6)	18 (3)	59 (19)	25 (4)	20 (4)	44 (14)	294 (6)	
b. Improve or extend roads	11 (5)	4 (1)	0 (0)	2 (1)	2 (5)	1 (0)	1 (0)	4 (3)	8 (1)	7 (2)	36 (6)	14 (3)	15 (5)	105 (2)	
c. More mechanization and modernized farming	5 (2)	1 (0)	2 (2)	6 (2)	8 (20)	3 (1)	4 (1)	3 (2)	43 (7)	23 (8)	175 (29)	52 (10)	30 (9)	355 (8)	
d. More knowledge about farming and introduction of modern technique	18 (7)	43 (7)	1 (1)	18 (5)	0 (0)	6 (1)	10 (3)	5 (3)	20 (3)	21 (7)	195 (33)	36 (7)	21 (7)	394 (8)	
e. Increase Govt. help for more crops harvest	12 (5)	29 (5)	19 (19)	7 (2)	2 (5)	34 (7)	52 (17)	18 (12)	83 (13)	89 (29)	189 (31)	111 (22)	68 (22)	713 (15)	
f. Supply agricultural inputs	39 (17)	21 (3)	1 (1)	22 (6)	1 (2)	16 (3)	49 (16)	6 (4)	19 (3)	32 (11)	182 (30)	120 (24)	76 (23)	584 (12)	
g. Better market for their crops	5 (2)	2 (0)	5 (5)	5 (1)	0 (0)	2 (0)	17 (5)	3 (2)	5 (1)	20 (7)	26 (5)	4 (1)	7 (2)	101 (2)	
h. Promote crop diversification project	24 (10)	59 (9)	5 (5)	39 (10)	1 (2)	48 (10)	23 (7)	3 (2)	21 (3)	3 (1)	14 (2)	33 (7)	19 (6)	292 (6)	
i. Introduce other crops which require less manpower and care	29 (11)	17 (3)	13 (13)	35 (9)	0 (0)	29 (6)	26 (8)	7 (4)	29 (4)	6 (2)	9 (1)	22 (4)	15 (5)	237 (5)	
j. Introduce crops which are more profitable with better yield	12 (5)	25 (4)	4 (4)	39 (10)	1 (2)	30 (6)	21 (7)	7 (5)	20 (3)	7 (2)	10 (2)	15 (3)	17 (5)	208 (4)	
k. Conduct surveys and plant crops which are suitable for paddy field	13 (6)	67 (10)	6 (6)	62 (17)	6 (15)	90 (18)	37 (12)	14 (9)	117 (19)	8 (3)	44 (7)	53 (11)	35 (11)	552 (12)	
l. Project to be formulated to increase income	15 (6)	30 (5)	4 (4)	21 (6)	0 (0)	12 (2)	4 (1)	3 (2)	15 (2)	1 (0)	16 (3)	33 (7)	46 (14)	200 (4)	
m. Good irrigation water supply better irrigation	56 (23)	102 (16)	1 (1)	15 (4)	0 (0)	12 (2)	17 (5)	25 (16)	34 (5)	32 (10)	78 (13)	64 (13)	35 (11)	471 (10)	
n. Recommendation on group farming	4 (2)	25 (4)	3 (3)	12 (3)	1 (2)	7 (1)	73 (23)	4 (3)	44 (7)	4 (1)	1 (0)	5 (1)	1 (0)	184 (4)	
o. Prevention of major problems like pests and predator animals	4 (2)	6 (1)	2 (2)	15 (4)	0 (0)	9 (2)	6 (2)	3 (2)	24 (4)	24 (8)	20 (4)	5 (1)	6 (2)	124 (3)	
p. Land improvement/ make the most of it	8 (3)	3 (0)	2 (2)	5 (1)	0 (0)	11 (2)	14 (5)	2 (1)	29 (5)	9 (3)	9 (2)	16 (3)	6 (2)	114 (3)	
q. Paddy fields not suitable for other crops	9 (4)	153 (22)	17 (17)	28 (8)	6 (15)	42 (9)	75 (24)	5 (3)	54 (9)	9 (3)	1 (0)	7 (1)	1 (0)	407 (9)	
r. Paddy staple food - cannot change	0 (0)	25 (4)	4 (4)	3 (1)	1 (2)	31 (6)	24 (8)	6 (4)	22 (4)	1 (0)	0 (0)	14 (3)	3 (1)	134 (3)	
s. No suggestion	23 (10)	96 (15)	28 (28)	130 (35)	15 (39)	156 (32)	41 (13)	41 (27)	154 (24)	52 (17)	95 (16)	120 (24)	51 (16)	1,002 (21)	
t. Others	25 (9)	46 (7)	19 (19)	56 (15)	4 (11)	66 (12)	66 (23)	21 (14)	98 (16)	29 (10)	47 (8)	49 (10)	44 (14)	570 (12)	
Total No. of Responses*	370 (153)	796 (122)	136 (136)	525 (141)	48 (120)	606 (120)	573 (184)	189 (124)	857 (136)	436 (143)	1,172 (196)	793 (159)	540 (169)	7,041 (149)	
No. of Respondents	242	654	100	373	40	504	311	152	631	305	597	499	320	4,728	

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; Multiple answers are given.

Table B-5 Intention of Continuing Farm Operation by Age

(Q.101 x Q.209)

Intention*	Years	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total	(%)
No	a. 18 ~ 25	1	2	0	0	0	0	0	0	0	0	0	0	0	3	(1)
	b. 26 ~ 35	0	10	0	4	0	2	11	4	7	4	1	1	1	45	(8)
	c. 36 ~ 45	8	6	4	5	0	2	9	5	8	12	2	2	1	64	(12)
	d. 46 ~ 55	7	20	7	18	0	25	35	7	26	29	2	2	3	181	(33)
	e. Above 55	10	17	3	13	2	63	51	11	47	27	2	1	1	248	(46)
		26	55	14	40	2	92	106	27	88	72	7	6	6	541	(100)
Trans./sell	a. 18 ~ 25	0	0	0	0	0	0	0	0	1	0	0	0	0	1	(1)
	b. 26 ~ 35	1	3	0	0	0	0	2	0	1	1	1	0	0	9	(5)
	c. 36 ~ 45	9	3	2	2	0	0	3	1	1	4	3	0	0	28	(17)
	d. 46 ~ 55	6	14	0	3	0	7	3	2	7	9	6	0	0	57	(34)
	e. Above 55	9	11	2	3	0	4	12	1	12	11	4	0	2	71	(43)
		25	31	4	8	0	11	20	4	22	25	14	0	2	166	(100)
Convert	a. 18 ~ 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(0)
	b. 26 ~ 35	1	3	0	1	0	4	0	1	3	1	0	1	0	15	(12)
	c. 36 ~ 45	1	1	0	1	0	2	2	3	4	0	0	0	0	14	(11)
	d. 46 ~ 55	0	4	0	1	0	21	1	4	11	1	0	0	0	43	(34)
	e. Above 55	0	2	0	2	0	27	1	1	21	0	0	0	0	54	(43)
		2	10	0	5	0	54	4	9	39	2	0	1	0	126	(100)
Others	a. 18 ~ 25	1	3	0	2	0	0	1	0	1	0	3	2	0	13	(2)
	b. 26 ~ 35	0	23	0	9	1	5	2	3	2	4	16	13	9	87	(11)
	c. 36 ~ 45	6	42	2	22	0	1	2	3	10	2	26	6	8	130	(16)
	d. 46 ~ 55	5	77	4	52	3	25	6	8	44	5	56	6	11	302	(37)
	e. Above 55	3	75	8	45	12	14	4	10	45	9	35	6	11	277	(34)
		15	220	14	130	16	45	15	24	102	20	136	33	39	809	(100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

* ; No: No more continuation

Trans./sell: Transfer/sell to other persons

Convert: Convert to permanent crop cultivation

Table B-6 Hope for Succession of Farm Operations
by Household Members by Age

(Q.101 x Q.206)

Hope	Years	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total	(%)
Yes	a. 18~25	0	4	0	1	0	0	0	2	2	0	0	9	1	19	(1)
	b. 26~35	14	23	1	14	0	17	9	10	17	10	17	100	26	258	(8)
	c. 36~45	31	63	5	20	2	21	25	10	31	37	93	71	59	468	(16)
	d. 46~55	68	119	28	79	6	104	50	30	125	59	194	142	102	1,106	(37)
	e. Above 55	60	126	19	56	14	158	80	35	190	62	130	131	77	1,138	(38)
		173	335	53	170	22	300	164	87	365	168	434	453	265	2,989	(100)
No	a. 18~25	2	5	0	2	0	0	1	0	1	0	3	2	0	16	(1)
	b. 26~35	2	39	0	14	1	11	15	8	14	10	18	15	10	157	(9)
	c. 36~45	24	52	8	30	0	5	16	12	23	24	31	8	9	242	(15)
	d. 46~55	18	115	11	74	3	78	45	21	88	51	64	8	14	590	(36)
	e. Above 55	22	105	13	63	13	107	68	23	125	52	41	7	14	653	(39)
		68	316	32	183	17	201	145	64	251	137	157	40	47	1,658	(100)
No Answer	a. 18~25	0	0	0	0	0	0	0	0	1	0	0	0	0	1	(2)
	b. 26~35	0	0	0	6	0	1	0	0	1	0	1	6	3	18	(29)
	c. 36~45	0	0	0	4	0	0	0	0	1	0	3	0	3	11	(18)
	d. 46~55	1	2	0	6	0	0	1	1	1	0	0	0	2	14	(22)
	e. Above 55	0	1	1	4	1	2	1	1	6	0	1	0	0	18	(29)
		1	3	1	20	1	3	2	2	10	0	5	6	8	62	(100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-7 Hope for Succession of Farm Operations by Household Members
by Income from Major Crops

(Q.113 x Q.206)

Hope	Annual Income (M\$)	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total	(%)
Yes	a. No income	1	0	6	29	1	82	78	4	52	0	7	85	12	357	(13)
	b. 1 ~ 3,000	129	243	30	109	17	164	54	66	240	161	214	284	185	1,896	(67)
	c. 3,001 ~ 6,000	32	75	12	18	4	51	20	13	73	4	28	72	65	467	(17)
	d. 6,001 ~ 9,000	8	9	3	8	0	3	5	2	0	3	1	9	3	54	(2)
	e. Above 9,000	3	8	2	6	0	0	7	2	2	0	1	3	0	34	(1)
		173	335	53	170	22	300	164	87	367	168	251	453	265	2,808	(100)
No	a. No income	0	2	7	38	3	49	89	4	40	0	1	5	5	243	(15)
	b. 1 ~ 3,000	57	233	23	111	14	107	46	46	171	121	82	26	27	1,064	(67)
	c. 3,001 ~ 6,000	8	66	0	20	1	45	6	13	42	11	5	9	13	239	(15)
	d. 6,001 ~ 9,000	3	7	1	7	0	0	3	0	1	4	4	0	1	31	(2)
	e. Above 9,000	0	8	1	7	0	0	1	1	0	1	0	0	1	20	(1)
		68	316	32	183	18	201	145	64	254	137	92	40	47	1,597	(100)
No Answer	a. No income	0	0	1	5	0	0	2	0	2	0	0	2	1	13	(22)
	b. 1 ~ 3,000	1	2	0	9	0	2	0	1	8	0	2	3	5	33	(55)
	c. 3,001 ~ 6,000	0	1	0	2	0	1	0	1	0	0	2	1	2	10	(17)
	d. 6,001 ~ 9,000	0	0	0	1	0	0	0	0	0	0	0	0	0	1	(1)
	e. Above 9,000	0	0	0	3	0	0	0	0	0	0	0	0	0	3	(5)
		1	3	1	20	0	3	2	2	10	0	4	6	8	60	(100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-8 Problems or Difficulties Encountered in Farming Practices
by Incidence of Full Utilization of Paddy Fields

(Q.608 x Q.801)

Full Utilization	Problems or Difficulties	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total	(%)	
Yes	a. Poor facilities	291	349	50	129	4	63	173	77	83	229	476	407	224	2,555	(31)	
	b. Lack of fund/machinery	60	203	24	120	3	44	29	11	40	88	144	96	133	995	(12)	
	c. Labor shortage	44	134	8	60	2	106	60	13	44	23	29	37	59	619	(7)	
	d. Marketing difficulty	24	22	5	31	0	7	11	9	4	8	6	29	86	242	(3)	
	e. Natural disaster, pest/diseases	202	611	57	284	22	107	254	137	140	331	523	704	318	3,690	(44)	
	f. Others	17	18	0	7	2	8	3	3	3	3	7	26	18	13	125	(2)
	g. None	10	10	4	3	1	17	3	9	24	3	1	2	6	93	(1)	
		648	1,347	148	634	34	352	533	259	338	689	1,205	1,293	839	8,319	(100)	
No	a. Poor facilities	38	62	6	76	1	186	154	9	136	32	79	25	29	833	(28)	
	b. Lack of fund/machinery	1	19	3	36	0	57	20	1	102	11	13	6	20	289	(10)	
	c. Labor shortage	2	11	12	35	2	208	65	1	200	8	2	3	8	557	(18)	
	d. Marketing difficulty	0	5	2	11	0	8	9	2	7	0	2	5	10	61	(2)	
	e. Natural disaster, pest/diseases	8	83	23	104	1	112	172	9	358	34	83	25	59	1,071	(36)	
	f. Others	5	1	0	2	0	16	5	0	18	0	9	3	4	63	(2)	
	g. None	3	2	1	4	5	36	2	6	71	3	0	1	0	134	(4)	
		57	183	47	268	9	623	427	28	892	88	188	68	130	3,008	(100)	

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

Table B-9 Problems or Difficulties Encountered in Farming Practices
by Intention of Continuing Farm Operation

(Q.209 x Q.608)

Intention*	Problems & Difficulties	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total	(%)
No	a. Poor facilities	22	23	7	21	1	33	126	17	18	80	8	3	3	362	(29)
	b. Lack of fund/machinery	2	15	4	17	0	7	18	0	14	29	1	1	2	110	(9)
	c. Labor shortage	2	13	5	16	0	40	53	1	35	8	0	0	2	175	(14)
	d. Marketing difficulty	0	1	3	3	0	1	6	1	0	3	0	0	2	20	(1)
	e. Natural disaster/pest/diseases	15	61	14	42	1	30	153	26	56	106	5	5	5	519	(41)
	f. Others	4	2	0	1	0	4	2	0	4	3	1	0	0	21	(2)
	g. None	2	0	0	1	1	20	0	4	26	0	0	1	0	55	(4)
		47	115	33	101	3	135	358	49	153	229	15	10	14	1,262	(100)
Trans./sell	a. Poor facilities	43	11	2	3	0	4	26	3	8	23	12	0	2	137	(35)
	b. Lack of fund/machinery	2	7	3	4	0	1	5	0	5	2	6	0	0	35	(9)
	c. Labor shortage	2	7	1	1	0	10	8	1	8	4	1	0	0	43	(11)
	d. Marketing difficulty	2	1	0	4	0	1	1	0	0	1	1	0	0	11	(3)
	e. Natural disaster/pest/diseases	17	36	2	11	0	3	17	3	17	33	13	0	0	152	(39)
	f. Others	2	1	0	0	0	0	1	0	0	1	0	0	0	5	(1)
	g. None	4	0	0	0	0	0	2	0	3	0	0	0	1	10	(2)
		72	63	8	23	0	19	60	7	41	64	33	0	3	393	(100)
Convert	a. Poor facilities	3	11	0	0	0	39	2	5	11	0	0	2	0	73	(27)
	b. Lack of fund/machinery	1	2	0	1	0	5	0	0	9	0	0	1	0	19	(7)
	c. Labor shortage	1	1	0	1	0	39	1	1	15	0	0	0	0	59	(21)
	d. Marketing difficulty	1	0	0	1	0	2	1	2	1	0	0	0	0	8	(3)
	e. Natural disaster/pest/diseases	2	11	0	3	0	21	4	13	39	0	0	0	0	93	(34)
	f. Others	2	0	0	0	0	1	0	0	0	0	0	0	0	3	(1)
	g. None	0	0	0	0	0	9	1	1	6	2	0	0	0	19	(7)
		10	25	0	6	0	116	9	22	81	2	0	3	0	274	(100)
Others	a. Poor facilities	17	165	4	71	2	26	16	16	41	24	142	29	33	586	(31)
	b. Lack of fund/machinery	2	81	5	55	1	4	3	4	19	5	25	6	15	225	(12)
	c. Labor shortage	3	60	4	30	3	31	7	4	44	4	5	0	5	200	(10)
	d. Marketing difficulty	0	7	1	13	0	2	1	3	1	0	0	1	11	40	(2)
	e. Natural disaster/pest/diseases	20	207	15	135	8	19	23	17	106	17	132	50	56	805	(42)
	f. Others	0	9	0	4	1	2	0	0	6	1	15	0	1	39	(2)
	g. None	0	5	1	2	3	3	1	2	9	0	0	1	1	28	(1)
		42	534	30	310	18	87	51	46	226	51	319	87	122	1,923	(100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; No: No more continuation

Trans./sell: Transfer/sell to other persons

Convert: Convert to permanent crop cultivation

Table B-10 Problems or Difficulties Encountered in Farming Practices by Intention of Paddy Field Conversion

(Q.608 x Q.806)

Conversion of Paddy Fields	Problems & Difficulties	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total	(%)
No	a. Poor facilities	140	275	15	86	3	24	34	3	121	113	94	151	4	1,063	(26)
	b. Lack of fund/machinery	48	195	6	87	3	11	7	0	94	64	32	35	7	589	(14)
	c. Labor shortage	32	109	9	52	1	44	22	1	160	22	7	21	2	482	(12)
	d. Marketing difficulty	15	21	4	27	0	2	2	2	6	5	0	17	3	104	(3)
	e. Natural disaster/pest/diseases	108	487	29	211	21	37	41	6	275	181	100	230	7	1,733	(42)
	f. Others	15	15	0	5	1	3	2	0	11	5	9	8	0	74	(1)
	g. None	6	9	2	6	1	9	1	3	57	4	0	1	0	99	(2)
			364	1,111	65	474	30	130	109	15	724	394	242	463	23	4,144
Exp. Divers.	a. Poor facilities	3	8	0	7	1	10	7	0	4	0	25	1	1	67	(27)
	b. Lack of fund/machinery	1	4	2	3	0	3	2	0	5	0	16	0	2	38	(15)
	c. Labor shortage	1	3	1	3	1	11	7	0	6	0	6	0	1	40	(16)
	d. Marketing difficulty	0	1	0	0	0	2	2	0	0	0	1	0	1	7	(3)
	e. Natural disaster/pest/diseases	2	13	2	11	0	4	6	0	10	0	38	0	2	88	(36)
	f. Others	1	0	0	0	0	0	0	0	0	0	2	1	0	4	(2)
	g. None	0	0	0	0	0	0	0	0	2	0	0	0	0	2	(1)
			8	29	5	24	2	30	24	0	27	0	88	2	7	246
Exp. Others	a. Poor facilities	36	32	4	20	0	52	67	3	36	44	65	5	3	367	(28)
	b. Lack of fund/machinery	10	16	2	21	0	10	10	0	27	15	32	0	6	149	(11)
	c. Labor shortage	12	29	7	17	1	55	42	0	58	2	4	0	2	229	(17)
	d. Marketing difficulty	7	4	1	4	0	4	4	0	3	3	3	0	0	33	(2)
	e. Natural disaster/pest/diseases	32	71	7	51	1	25	72	4	78	52	83	6	7	489	(37)
	f. Others	1	3	0	2	1	5	2	0	7	1	7	0	0	29	(2)
	g. None	7	2	1	0	2	8	0	1	16	1	0	1	0	39	(3)
			105	157	22	115	5	159	197	8	225	118	194	12	18	1,335
No Plan	a. Poor facilities	7	9	18	30	1	110	110	58	17	29	249	140	179	957	(27)
	b. Lack of fund/machinery	2	4	19	42	0	76	27	12	12	19	74	65	137	489	(14)
	c. Labor shortage	1	4	7	24	1	204	54	13	20	7	14	19	62	430	(12)
	d. Marketing difficulty	2	1	4	11	0	9	12	9	2	0	4	17	92	161	(5)
	e. Natural disaster/pest/diseases	6	17	47	76	1	152	140	105	38	49	281	225	241	1,378	(38)
	f. Others	0	0	0	1	0	15	4	3	2	1	15	11	12	64	(2)
	g. None	0	1	3	1	3	36	4	11	21	1	1	1	6	89	(2)
			18	36	98	185	6	602	351	211	112	106	638	478	729	3,570

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Perak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*; No: No intention to convert paddy field
 Exp. Divers.: Expecting to introduce crop diversification
 Exp. Others: Expecting to convert into others
 No Plan: No plan/no answer

Table B-11 Major Concerns to Introduce Other Crops in Paddy Fields
by Incidence of their Full Utilization

(Q.801 x Q.906)

Full Utilization	Major Concerns	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total	(%)
Yes	a. Finance	103	331	18	142	0	109	118	24	73	193	280	310	179	1,880	(31)
	b. Technique	45	139	12	68	0	23	88	12	24	78	79	186	132	886	(15)
	c. Marketing	43	210	14	113	0	33	100	23	27	134	242	98	175	1,212	(20)
	d. Labor	24	145	11	71	8	103	76	23	69	64	79	64	28	765	(13)
	e. Others	97	92	12	65	12	37	11	21	57	96	172	37	38	747	(12)
	f. None	18	66	27	63	11	39	33	76	28	15	15	81	37	509	(9)
		330	983	94	522	31	344	426	179	278	580	867	776	589	5,999	(100)
No	a. Finance	5	38	3	55	0	149	94	4	238	20	55	15	31	707	(29)
	b. Technique	2	12	4	22	0	32	70	2	60	3	19	11	17	254	(10)
	c. Marketing	3	24	4	38	1	46	68	2	92	13	37	10	24	362	(15)
	d. Labor	2	9	9	38	5	186	76	3	286	9	8	7	9	647	(26)
	e. Others	11	20	11	18	0	55	9	3	125	14	31	0	6	303	(12)
	f. None	2	11	5	18	3	66	16	9	38	2	3	3	8	184	(8)
		25	114	36	189	9	534	333	23	839	61	153	46	95	2,457	(100)

Remarks: PR; Perlis, KH; Kedah, PP; P. Pinang, PK; Pcrak, SG; Selangor, NS; N. Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu; KN; Kelantan, SA; Sabah and SK; Sarawak

*Feasibility Study on Rationalization and Crop Diversification
in Non-granary Irrigated Areas in Malaysia*

Vol. 2

Crop Diversification Evaluation Methodology

Appendix C

Views of Opinion Leaders in Rural Communities

*Feasibility Study on Rationalization and Crop Diversification
in Non-granary Irrigated Areas in Malaysia*

Volume 2

Appendix C

Socio-economic Survey (2)

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Appendix C
SOCIO-ECONOMIC SURVEY (2)

- Views of Opinion Leaders in Rural Communities -

C.1 Socio-economic Sample Survey

The objectives of the Socio-economic Sample Survey are to:

- Determine socio-economic characteristics of farmers by looking into their personal particulars, living circumstances and background of household members;
- Clarify problems and constraints faced by farmers in relation to farming operations;
- Confirm the farmers' preference and behavior towards the rationalization and crop diversification; and
- Provide the key data necessary for categorization of non-granary irrigation schemes.

To ensure the credibility of the sample survey and grasp a changing trend of rural community, the total target numbers of respondents were fixed at 4,700 for paddy farmers and 1,300 for local community opinion leaders through discussions with the Department of Irrigation and Drainage (DID) and the Ministry of Agriculture (MOA).

The above total sampling numbers were allocated according to the planted area of each scheme as below. Respondent opinion leaders were selected in areas where the respective non-granary irrigation schemes were located, while paddy farmers were selected in schemes presently planted with paddy and other crops.

<u>Size of Planted Area in 1984 (ha)</u>	<u>No. of Farmers</u>	<u>No. of Local Opinion Leaders</u>
0	0	1 - 2
1 - 10	2	1 - 2
11 - 100	5	1 - 2
101 - 300	10	1 - 2
301 - 500	21	1 - 2
Over 500	28	1 - 2

In each scheme, farmers and opinions leaders were selected by simple random sampling. Finally, the total numbers of farmers and opinion leaders interviewed in this survey are 4,728 and 1,309, respectively, as shown below.

<u>State</u>	<u>Paddy Farmers</u>		<u>Opinion Leaders</u>		<u>Total No. of Samples</u>
	<u>No. of Schemes</u>	<u>No. of Samples</u>	<u>No. of Schemes</u>	<u>No. of Samples</u>	
1. Perlis	22	242	22	40	282
2. Kedah	61	654	78	115	769
3. P. Pinang	8	100	15	31	131
4. Perak	44	373	63	91	464
5. Selangor	8	40	15	20	60
6. N. Sembilan	103	504	158	200	704
7. Melaka	54	311	57	116	427
8. Johor	17	152	23	33	185
9. Pahang	155	631	279	321	952
10. Trengganu	33	305	38	65	370
11. Kelantan	72	597	76	125	722
12. Sabah	41	499	53	79	578
13. Sarawak	34	320	38	73	393
<u>Total</u>	<u>652</u>	<u>4,728</u>	<u>915</u>	<u>1,309</u>	<u>6,037</u>

C.2 Profile and Position of Opinion Leaders in Rural Communities

The Socio-economic Sample Survey for 1,309 opinion leaders is carried out to collect the reliable supporting data necessary for the formulation of the future desirable direction of the crop diversification.

Of 1,309 opinion leaders, 85% are more or less engaging in agricultural activities and their living expenses depend partly to fully on the income from agriculture as shown in Table C-1 (1/6) and summarized below:

<u>Living Sources</u>	<u>No. of Responses (%)</u>
Depending fully on agricultural activities	611 (47)
Depending mainly on agricultural activities with regular incomes from non-agricultural sectors	234 (18)
Depending partly on agricultural activities with main income sources from non-agricultural sectors	266 (20)
Depending fully on non-agricultural activities	198 (15)
Total	1,309 (100)

As to the age distribution of opinion leaders, 80% of them are over 46 years of age as shown in Table C-1 (1/6). Neither their educational level nor land tenure status constitute the conditions to be opinion leaders in the rural communities as shown in Table C-1 (2/6).

With regard to the holding size of farm lands, opinion leaders who possess more than 1.2 ha account for 64%, while 21% own no more than 1.2 ha. The holding size of paddy field ranges also widely, but 45% have paddy fields between 0.4 and 1.5 ha as shown in Table C-1 (4/6).

To the question whether the opinion leaders who are more or less engaged in agricultural activities hope for succession of farm operations by their household members, 64% answer "yes", while 36% in the negative as shown in Table C-1 (4/6). This proportion is similar to that of paddy farmers. The same results was obtained for the number of candidate successors and future mode of farm operations as shown in Tables C-1 (5/6) and C-1 (6/6).

Seeing such identical responses, it can be said that opinion leaders represent rightly the views of the paddy farmers in their areas.

To another question whether the opinion leaders think about possibility of changing paddy farmers' behavior in promoting modern farming technology, 58% of them answer "possible", if the following items are assured to motivate the paddy farmers, especially young generation:

- More profit and income,
- Introduction of modern machines and technology, and
- Cultivation of more profitable crops with faster yield and less manpower.

The influence of position of opinion leaders in the rural communities are indicated in Table C-1 (6/6) and summarized below:

<u>Influence</u>	<u>No. of Responses (%)</u>	
Possible	755	(58)
Limitedly possible	226	(17)
Impossible	306	(23)
No comment	22	(2)
Total	1,309	(100)

Opinion leaders who reply "limitedly possible" give reasons such as manpower problem, lack of farmers' interest on farming, anxiety about the level of technology to be introduced, and uncertainty to change the farmers' attitude. While, those who answer "impossible" point out reasons such as difficulty to change farmers' attitude because of their special attachment to paddy cultivation, lack of manpower, unsuitability of land for other crops than paddy, and old aging of farmers and loss of courage for farming.

C.3 Opinion Leaders' Views on the Present Agricultural Development Condition and Crop Diversification

To the question whether opinion leaders know that DID is maintaining its constructed irrigation and drainage facilities in your area, 66% of them say "yes and well known", followed by 27% for "yes but not in detail" and 7% for "no" as shown in Table C-2 (1/14). With regard to the facilities conditions, those who say "well maintained" are only 48% for irrigation and 43% for drainage. As compared to paddy farmers' responses accounting for 70%, this result indicates severe judgement of opinion leaders.

About DID's operation and management works of the facilities, 37% of the opinion leaders say that farmers are satisfied with their works, followed by 34% of "yes, but sometimes not sufficient" as shown in Table C-2 (2/14). While, 30% of them answer "no, quite dissatisfied" due to DID's labor shortage and/or financial limitations.

When asked about the understanding of opinion leaders on the present situation as to how farmers utilize irrigated paddy fields, 67% say that farmers are fully or partly engaging in paddy cultivation, while 33% answer "stopped paddy cultivation and already converted to other crop" or "full abandoned it and left as idle land" as shown in Table C-2 (3/14) and summarized below.

Items	Country Total (%)	States with Higher Incidence (%)
a. Fully utilizing for paddy cultivation	367 (30)	Sabah (81), Kedah (62), P. Pinang (53), Perak (43), Kelantan (38)
b. Still utilizing for paddy cultivation, but being faced with increasing trend of abandoned paddy field	383 (32)	Trengganu (64), Kelantan (52), N. Sembilan (43), Perak (36), Melaka (35), Johor (34)
c. Undertaking paddy cultivation for the main season and cash crop growing for the off-season	65 (5)	Perlis (36), Sarawak (16), Sabah (10), Trengganu (7)
d. Stopped paddy cultivation and already converted to tree or other cash crop areas	126 (10)	Selangor (55), N. Sembilan (31), Melaka (14), Sabah (14)
e. Fully abandoned and left as idle land	279 (23)	Pahang (63), P. Pinang (33), Melaka (25), Johor (25)
Total No. of Respondents	1,220 (100)	

About the incidence of idle paddy fields, 70% of opinion leaders answer "yes, knowing it". Besides, 88% consider that it is not good to increase the idle paddy fields in their areas as shown in Table C-2 (3/14). Those who consider to increase the incidence of idle paddy fields are relatively high in the States of Perlis, Kelantan and Sabah, as shown in Table C-2 (4/14), where paddy farmers attach to paddy cultivation to a large extent.

As reasons of existence of the idle paddy fields, 566 opinion leaders give the following 1,174 reasons and the breakdown by State is shown in Table C-2 (4/14).

<u>Reason</u>	<u>No. of Responses (%)</u>
a. Shortage of manpower	566 (100)
b. Low profitability of paddy cultivation/ land is not suitable for growing paddy	77 (13)
c. Lack of drainage facilities/flood	109 (20)
d. Insufficient water supply/lack of irrigation facilities	278 (50)
e. Rats, pests, birds, insects, diseases	66 (11)
f. Salty water/water pollution	9 (2)
g. Shortage of capital/poor mechanization	19 (4)
h. Others	50 (9)
Total (No. of respondents: 566)	1,174 (207)

About the data collected from opinion leaders on the present condition of converted paddy fields, they serve to corroborate the views expressed by farmers as shown in Table C-2 (5/14).

To the question whether opinion leaders have any plan to utilize the idle land, their answers are shown in Table C-2 (5/14) and summarized below. In the future plan to utilize the idle land, those who answer "conversion to tree crop" occupy 35%. However, those who answer "no plan" account for 32%. The decision making system of conversion plan is reported to be different from area to area. Of opinion leaders, 51% say that farmers take initiative or decide themselves in preparation of conversion plan as shown in Table C-2 (6/14).

<u>Utilization Plan</u>	<u>Country Total (%)</u>	<u>States with Higher Incidence (%)</u>
a. Conversion to tree crop	318 (35)	N. Sembilan (71), P. Pinang (64), Johor (64), Melaka (48)
b. Conversion to non-farm land	26 (3)	Sarawak (23), Sabah (15), Pahang (4)
c. Conversion to upland crop	45 (5)	Sarawak (28), Sabah (25), Trengganu (9)
d. Conversion to fish culture pond	61 (7)	Pahang (15), Kelantan (9)
e. Others	199 (22)	Kedah (41), Perak (36), Trengganu (36), Melaka (30)
f. No plan	291 (32)	Kelantan (69), Perlis (67), Trengganu (55), Sarawak (33)
Total No. of Responses	940 (103)	
No. of Respondents	917	

With regard to farmers' intentions towards irrigated paddy cultivation in the future, opinion leaders consider that 60% of farmers will continue the paddy cultivation and 23% of them will stop it sooner or later as shown in Table C-2 (7/14) and summarized below:

	Country Total (%)	States with Higher Incidence (%)
a. Positive continuation of paddy cultivation (95),	787 (60)	Perlis (98), Sabah (97), Kelantan Kedah (88), Trengganu (83)
b. Negative continuation of paddy cultivation	295 (23)	Selangor (50), N. Sembilan (45), Pahang (31), Johor (30)
c. Stop to grow paddy cultivation and leave paddy field abandoned	49 (4)	Johor (12), Sarawak (8), Melaka (7)
d. Permanent conversion to crop cultivation	205 (16)	Selangor (35), N. Sembilan (30), Melaka (30), Johor (27)
e. Permanent conversion to fish culture pond	46 (4)	Sarawak (12), Pahang (9)
f. Introduction of cash crop cultivation	46 (4)	P. Pinang (10), Sarawak (7), Pahang (6), Sabah (6)
g. No comment	8 (1)	
Total No. of Responses	1,436 (110)	
No. of Respondents	1,309	

As expected, positive continuation of paddy cultivation is predicted by opinion leaders in the rice growing States such as Perlis, Kedah and Kelantan. On the contrary, the negative prospect of "no continuation of paddy cultivation" is observed in the States of Selangor, Negeri Sembilan, Pahang and Johor. It is supposed that urbanization pressure primarily acts as a cause of its non-continuation in the first two States, while there exist physical constraints such as lack of irrigation water or poor drainage in the latter two States.

The survey data also indicate that 58% of opinion leaders consider that farmers in their areas have no intention towards conversion to other crop fields, while 31% are more or less expecting it as shown in Table C-2 (8/14).

As to the drainage facilities, farm roads and other related facilities, their improvement in general is strongly required in Sabah and Sarawak. In the Peninsula, Melaka and Perlis shows the relatively higher rates of expectations for improvement of drainage facilities as shown in Tables C-2 (9/14) to C-2 (11/14).

On the question of the expected beneficial effects by growing other crops than paddy, opinion leaders give the following answers in order of frequency and as shown in Table C-2 (12/14).

<u>Beneficial Effects</u>	<u>Responses (%)</u>
Income increase	1,010 (77)
Stable revenue	436 (33)
Leveling up of living standard	392 (30)
Creation of employment opportunity	290 (22)
Nothing special	189 (14)
Others	15 (1)
Total No. of Responses	2,332 (178)
No. of Respondent	1,309

To the question what are your concerns to introduce crop diversification in the paddy fields, 58% of opinion leaders indicate "finance", followed by labor chosen by 45%, marketing by 42%, technique by 32% and others by 25% as shown in Table C-2 (13/14) and summarized below. In general, opinion leaders consider the situations more seriously and above all are concerned with labor shortage next to financial constraints.

<u>Concerns</u>	<u>Country Total (%)</u>	<u>States with Higher Incidence (%)</u>
a. Finance	755 (58)	Kelantan (78), Melaka (74)
b. Technique	420 (32)	Melaka (63)
c. Marketing	554 (42)	P. Pinang (68), Sarawak (67), Trengganu (63)
d. Labour	587 (45)	N. Sembilan (67), Melaka (66) Selangor (65), Pahang (65)
e. Others	329 (25)	Trengganu (57)
f. None	147 (11)	Johor (39)
Total No. of Responses	2,792 (213)	
No. of Respondents	1,309	

To this final question what are your suggestions/opinions on the rationalization and crop diversification, a number of opinion leaders stress on the importance of Government assistance to realize the crop diversification. In general, their suggestions/opinions were similar to those expressed by farmers and served to corroborate the views expressed by them as shown in Table C-2 (14/14).

*Feasibility Study on Rationalization and Crop Diversification
in Non-granary Irrigated Areas in Malaysia*

*Vol. 2
Crop Diversification Evaluation Methodology*

Appendix C

Tables

Table C-1 Profile of Opinion Leaders in Rural Communities
and their Perception on Agricultural Development (1/6)

														Unit: Number (%)
Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
1. INCOME SOURCES (Q.1110)														
a. Depending fully on agricultural activities	18 (45)	62 (53)	18 (58)	61 (66)	2 (10)	55 (28)	23 (20)	24 (73)	123 (39)	17 (26)	106 (85)	49 (63)	53 (73)	611 (47)
b. Depending mainly on agricultural activities with regular incomes from non-agricultural sectors	10 (25)	11 (10)	0 (0)	16 (18)	5 (25)	42 (21)	21 (18)	4 (12)	75 (23)	20 (31)	3 (2)	16 (20)	11 (15)	234 (18)
c. Depending partly on agricultural activities with main income sources from non-agricultural sectors	11 (28)	11 (10)	6 (19)	6 (7)	7 (35)	72 (35)	28 (24)	3 (9)	64 (20)	26 (40)	15 (12)	13 (16)	4 (5)	266 (20)
d. Depending fully on non-agricultural activities	1 (2)	31 (27)	7 (23)	8 (9)	6 (30)	31 (16)	44 (38)	2 (6)	59 (18)	2 (3)	1 (1)	1 (1)	5 (7)	198 (15)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)
2. AGE DISTRIBUTION OF OPINION LEADERS (Q.1101)														
a. 18 ~ 25	0 (0)	1 (1)	1 (3)	1 (1)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	5 (0)
b. 26 ~ 35	3 (7)	6 (5)	0 (0)	4 (4)	0 (0)	9 (5)	8 (7)	2 (6)	10 (3)	5 (8)	10 (8)	16 (20)	5 (7)	78 (6)
c. 36 ~ 45	8 (20)	24 (21)	2 (6)	7 (8)	0 (0)	11 (6)	18 (16)	4 (12)	31 (10)	12 (18)	38 (30)	17 (22)	14 (19)	186 (14)
d. 46 ~ 55	17 (43)	54 (47)	16 (52)	45 (50)	6 (30)	52 (26)	47 (40)	18 (55)	146 (45)	30 (46)	51 (41)	29 (37)	25 (34)	536 (41)
e. Above 55	12 (30)	30 (26)	12 (39)	34 (37)	14 (70)	128 (63)	42 (36)	9 (27)	134 (42)	18 (28)	26 (21)	16 (20)	29 (40)	504 (39)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

Table C-1 Profile of Opinion Leaders in Rural Communities and their Perception on Agricultural Development (2/6)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
3. EDUCATIONAL LEVEL OF OPINION LEADERS (Q.1105)														
a. No schooling	2 (5)	11 (10)	2 (6)	7 (8)	0 (0)	1 (0)	4 (3)	3 (9)	14 (5)	21 (32)	36 (29)	20 (25)	23 (32)	144 (11)
b. Primary	30 (74)	75 (65)	22 (71)	69 (76)	20 (100)	181 (91)	79 (69)	26 (79)	266 (83)	38 (58)	75 (59)	36 (46)	39 (54)	956 (73)
c. Form 1-3	6 (15)	6 (5)	4 (13)	5 (5)	0 (0)	10 (5)	11 (9)	1 (3)	16 (5)	4 (6)	5 (4)	20 (25)	8 (11)	96 (7)
d. Form 4-5	1 (3)	7 (6)	3 (10)	8 (9)	0 (0)	7 (4)	15 (13)	1 (3)	15 (5)	1 (2)	7 (6)	3 (4)	1 (1)	69 (5)
e. Form 6	0 (0)	2 (2)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	1 (1)	0 (0)	1 (1)	6 (1)
f. College level	0 (0)	5 (4)	0 (0)	1 (1)	0 (0)	1 (0)	4 (3)	2 (6)	4 (1)	0 (0)	0 (0)	0 (0)	1 (1)	18 (2)
g. Vocational level	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)
h. Religious school	1 (3)	8 (7)	0 (0)	0 (0)	0 (0)	0 (0)	2 (2)	0 (0)	4 (1)	1 (2)	1 (1)	0 (0)	0 (0)	17 (1)
i. University	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)
4. LAND TENURE STATUS (Q.1207)														
a. Owner operator	30 (75)	62 (54)	15 (48)	68 (75)	13 (65)	94 (47)	66 (57)	29 (88)	227 (71)	54 (83)	103 (82)	70 (89)	63 (86)	894 (68)
b. Tenant	2 (5)	13 (11)	7 (23)	14 (15)	1 (5)	63 (32)	5 (4)	2 (6)	16 (5)	5 (8)	14 (11)	7 (9)	3 (4)	152 (12)
c. Owner - Tenant	7 (18)	9 (8)	2 (6)	1 (1)	0 (0)	12 (6)	2 (2)	0 (0)	19 (6)	4 (6)	6 (5)	1 (1)	2 (3)	65 (5)
d. No answer	1 (2)	31 (27)	7 (23)	8 (9)	6 (30)	31 (15)	43 (37)	2 (6)	59 (18)	2 (3)	2 (2)	1 (1)	5 (7)	198 (15)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

Table C-1 Profile of Opinion Leaders in Rural Communities
and their Perception on Agricultural Development (3/6)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
5. SIZE OF TOTAL FARM LAND (Q.1208)														
a. Less than 0.4 ha	0 (0)	4 (3)	0 (0)	5 (5)	1 (5)	7 (4)	9 (8)	2 (6)	7 (2)	2 (3)	2 (2)	0 (0)	2 (3)	41 (3)
b. 0.4 ~ 0.7 ha	3 (7)	4 (3)	6 (19)	10 (11)	5 (25)	12 (6)	17 (15)	2 (6)	10 (3)	11 (17)	9 (7)	3 (4)	0 (0)	92 (7)
c. 0.8 ~ 1.1 ha	5 (13)	11 (10)	6 (19)	16 (17)	5 (25)	19 (10)	15 (13)	5 (15)	13 (4)	12 (18)	25 (20)	4 (5)	7 (10)	143 (11)
d. 1.2 ~ 1.5 ha	6 (15)	6 (5)	2 (6)	11 (12)	0 (0)	26 (13)	7 (6)	5 (15)	18 (6)	7 (11)	14 (11)	7 (9)	3 (4)	112 (9)
e. 1.6 ~ 20 ha	7 (18)	16 (14)	1 (4)	6 (7)	1 (5)	24 (12)	11 (9)	3 (9)	35 (11)	9 (14)	15 (12)	7 (9)	1 (1)	136 (10)
f. 2.1 ~ 4.0 ha	16 (40)	21 (18)	7 (23)	18 (20)	2 (10)	61 (30)	11 (9)	10 (31)	87 (27)	14 (21)	39 (30)	21 (27)	16 (22)	323 (25)
g. 4.1 ~ 6.0 ha	2 (5)	15 (13)	2 (6)	9 (10)	0 (0)	10 (5)	0 (0)	3 (9)	55 (17)	5 (8)	12 (10)	15 (18)	14 (19)	142 (11)
h. More than 6.0 ha	0 (0)	7 (6)	0 (0)	7 (8)	0 (0)	10 (5)	2 (2)	1 (3)	36 (12)	3 (5)	6 (5)	21 (27)	25 (34)	118 (9)
i. Don't Know	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	1 (1)	0 (0)	1 (0)	0 (0)	1 (1)	0 (0)	0 (0)	4 (0)
j. No Answer	1 (2)	31 (28)	7 (23)	8 (9)	6 (30)	31 (15)	43 (37)	2 (6)	59 (18)	2 (3)	2 (2)	1 (1)	5 (7)	158 (15)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

Table C-1 Profile of Opinion Leaders in Rural Communities
and their Perception on Agricultural Development (4/6)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
6. SIZE OF TOTAL PADDY FIELD (Q.1209)														
a. Less than 0.4 ha	2 (5)	10 (9)	0 (0)	6 (7)	3 (15)	8 (4)	8 (7)	5 (15)	26 (8)	1 (2)	5 (4)	1 (1)	2 (3)	77 (6)
b. 0.4 ~ 0.7 ha	2 (5)	15 (13)	5 (16)	24 (26)	1 (5)	36 (18)	23 (20)	6 (18)	30 (9)	20 (30)	20 (16)	9 (11)	7 (10)	198 (15)
c. 0.8 ~ 1.1 ha	10 (25)	13 (11)	6 (20)	19 (21)	0 (0)	32 (16)	18 (16)	5 (15)	65 (20)	15 (23)	40 (32)	18 (22)	24 (33)	265 (20)
d. 1.2 ~ 1.5 ha	9 (22)	11 (10)	1 (3)	8 (9)	0 (0)	13 (7)	5 (4)	2 (6)	36 (12)	8 (12)	16 (13)	15 (19)	9 (12)	133 (10)
e. 1.6 ~ 2.0 ha	5 (13)	12 (10)	2 (6)	6 (7)	1 (5)	11 (6)	2 (2)	1 (4)	34 (11)	7 (11)	25 (20)	14 (18)	8 (11)	128 (10)
f. 2.1 ~ 4.0 ha	11 (28)	11 (10)	5 (16)	5 (5)	0 (0)	2 (1)	4 (3)	3 (9)	16 (5)	10 (15)	13 (10)	15 (19)	8 (11)	103 (8)
g. 4.1 ~ 6.0 ha	0 (0)	5 (4)	0 (0)	2 (2)	1 (5)	0 (0)	1 (1)	3 (9)	4 (1)	1 (2)	3 (2)	2 (3)	3 (4)	25 (2)
h. More than 6.0 ha	0 (0)	4 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	2 (3)	3 (4)	10 (1)
i. None	0 (0)	3 (3)	5 (16)	13 (14)	8 (40)	67 (33)	12 (10)	6 (18)	50 (16)	1 (2)	1 (1)	2 (3)	4 (5)	172 (13)
j. No answer	1 (2)	31 (27)	7 (23)	8 (9)	6 (30)	31 (15)	43 (37)	2 (6)	59 (18)	2 (3)	2 (2)	1 (1)	5 (7)	198 (15)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)
7. HOPE FOR SUCCESSION OF FARM OPERATIONS BY HOUSEHOLD MEMBERS (Q.1204)														
a. Yes	21 (54)	52 (62)	18 (75)	40 (49)	6 (43)	93 (55)	50 (69)	18 (58)	154 (59)	47 (74)	96 (78)	56 (72)	56 (82)	707 (64)
b. No	18 (46)	32 (38)	6 (25)	41 (49)	8 (57)	75 (44)	22 (31)	13 (42)	108 (41)	15 (24)	27 (22)	21 (27)	12 (18)	398 (36)
c. No answer	0 (0)	0 (0)	0 (0)	2 (2)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	1 (1)	0 (0)	5 (0)
No. of Respondents	39 (100)	84 (100)	24 (100)	83 (100)	14 (100)	169 (100)	72 (100)	31 (100)	262 (100)	63 (100)	123 (100)	78 (100)	68 (100)	1,110 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

Table C-1 Profile of Opinion Leaders in Rural Communities
and their Perception on Agricultural Development (5/6)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
8. NUMBER OF CANDIDATE SUCCESSOR(S) (Q.1205a)														
a. 1 person	9 (43)	30 (58)	11 (61)	20 (50)	1 (17)	40 (43)	35 (70)	10 (56)	72 (47)	28 (60)	59 (62)	6 (11)	10 (18)	331 (47)
b. 2 persons	7 (33)	14 (27)	2 (11)	14 (35)	4 (66)	23 (25)	12 (24)	7 (39)	55 (36)	12 (26)	31 (32)	24 (42)	15 (27)	220 (31)
c. 3 persons	3 (14)	5 (10)	3 (17)	4 (11)	1 (17)	6 (6)	2 (4)	0 (0)	17 (11)	2 (4)	6 (6)	8 (14)	11 (20)	68 (10)
d. 4 persons	0 (0)	3 (5)	2 (11)	0 (0)	0 (0)	10 (11)	1 (2)	0 (0)	4 (3)	3 (6)	0 (0)	6 (11)	6 (11)	35 (5)
e. 5 persons	2 (10)	0 (0)	0 (0)	1 (2)	0 (0)	9 (10)	0 (0)	0 (0)	2 (1)	2 (4)	0 (0)	6 (11)	8 (14)	30 (4)
f. 6 persons	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	2 (2)	0 (0)	1 (5)	2 (1)	0 (0)	0 (0)	4 (7)	2 (3)	12 (2)
g. 7 persons	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	2 (0)
h. 8 persons	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (3)	2 (0)
i. 9 persons	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	2 (4)	1 (2)	5 (1)
j. 10 persons	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)
k. Above 10 persons	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)
No. of Respondents	21 (100)	52 (100)	18 (100)	40 (100)	6 (100)	93 (100)	50 (100)	18 (100)	154 (100)	47 (100)	96 (100)	56 (100)	56 (100)	707 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

Table C-1 Profile of Opinion Leaders in Rural Communities and their Perception on Agricultural Development (6/6)

														Unit: Number (%)
Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
9. FUTURE MODE OF FARM OPERATIONS (Q.1206)														
a. As full time farmer	4 (19)	19 (36)	5 (28)	22 (55)	0 (0)	24 (26)	10 (20)	7 (39)	78 (51)	15 (32)	42 (44)	47 (84)	50 (89)	323 (46)
b. As part time farmer	17 (81)	31 (60)	11 (61)	18 (45)	5 (83)	49 (53)	32 (64)	5 (28)	68 (44)	32 (68)	44 (46)	15 (27)	9 (16)	336 (48)
c. As land owner with full time job other than agriculture	0 (0)	2 (4)	2 (11)	0 (0)	0 (0)	18 (19)	8 (16)	6 (33)	5 (3)	0 (0)	9 (9)	0 (0)	0 (0)	50 (7)
d. No intention	0 (0)	0 (0)	0 (0)	0 (0)	1 (17)	2 (2)	0 (0)	0 (0)	3 (2)	0 (0)	1 (1)	0 (0)	2 (4)	9 (1)
Total No. of Responses*	21 (100)	52 (100)	18 (100)	40 (100)	6 (100)	93 (100)	50 (100)	18 (100)	154 (100)	47 (100)	96 (100)	62 (111)	61 (109)	718 (102)
No. of Respondents	21	52	18	40	6	93	50	18	154	47	96	56	56	707
10. INFLUENCE OF OPINION LEADER TO CHANGE BEHAVIOUR OF PADDY FARMERS (Q.1503(1))														
a. Possible	29 (73)	52 (45)	17 (56)	81 (89)	9 (45)	98 (49)	66 (57)	19 (58)	175 (54)	41 (63)	55 (44)	55 (69)	58 (79)	755 (58)
b. Limitedly possible	5 (13)	13 (11)	2 (6)	2 (2)	9 (45)	74 (37)	9 (8)	1 (3)	54 (17)	11 (17)	21 (17)	14 (18)	11 (15)	226 (17)
c. Impossible	6 (14)	50 (44)	11 (35)	8 (9)	2 (10)	28 (14)	41 (35)	13 (39)	73 (23)	13 (20)	49 (39)	10 (13)	2 (3)	306 (23)
d. No comment	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	19 (6)	0 (0)	0 (0)	0 (0)	2 (3)	22 (2)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (1/14)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
1. OPINION LEADERS' PERCEPTION ABOUT DID WORKS (Q.1301)														
a. Yes and well known	34 (85)	69 (60)	23 (74)	63 (69)	20 (100)	182 (90)	51 (44)	29 (88)	196 (61)	29 (44)	91 (73)	46 (58)	36 (49)	869 (66)
b. Yes but not in detail	5 (13)	42 (37)	7 (23)	23 (25)	0 (0)	1 (1)	55 (47)	3 (9)	86 (27)	27 (42)	34 (27)	31 (39)	37 (51)	351 (27)
c. No	1 (2)	4 (3)	1 (3)	5 (6)	0 (0)	17 (9)	10 (9)	1 (3)	39 (12)	9 (14)	0 (0)	2 (3)	0 (0)	89 (7)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)
2. CONDITION OF IRRIGATION FACILITIES (Q.1303)														
a. Well maintained	12 (31)	57 (51)	18 (60)	50 (59)	15 (75)	92 (50)	63 (59)	16 (50)	130 (47)	19 (34)	58 (45)	33 (43)	17 (23)	580 (48)
b. Structures broken	13 (33)	18 (16)	1 (3)	16 (19)	0 (0)	42 (23)	23 (22)	5 (16)	47 (17)	7 (13)	27 (22)	11 (14)	27 (37)	237 (19)
c. Canal broken	13 (33)	21 (19)	5 (17)	8 (9)	1 (5)	21 (11)	7 (7)	3 (9)	23 (8)	9 (15)	14 (11)	27 (35)	15 (21)	167 (14)
d. Canal deposited	7 (18)	17 (15)	5 (17)	9 (10)	0 (0)	45 (24)	9 (8)	1 (3)	32 (11)	4 (7)	2 (2)	7 (9)	26 (36)	164 (13)
e. Noe enough water	0 (0)	4 (4)	0 (0)	0 (0)	0 (0)	6 (3)	0 (0)	0 (0)	3 (1)	5 (9)	20 (16)	2 (3)	3 (4)	43 (4)
f. Not good/Unsatisfactory	2 (5)	5 (5)	0 (0)	2 (2)	2 (10)	16 (9)	3 (3)	7 (22)	68 (24)	4 (7)	1 (1)	1 (1)	0 (0)	111 (9)
g. Others	1 (3)	2 (2)	1 (3)	1 (1)	2 (10)	2 (2)	2 (2)	2 (6)	1 (0)	13 (24)	9 (8)	3 (4)	1 (1)	40 (2)
Total No. of Responses*	48 (123)	124 (112)	39 (100)	86 (100)	20 (100)	224 (122)	107 (101)	34 (106)	304 (108)	61 (109)	131 (105)	84 (109)	89 (122)	1,342 (110)
No. of Responses	39	111	30	86	20	183	106	32	282	56	125	77	73	1,220

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (2/14)

														Unit: Number (%)
Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
3. CONDITION OF DRAINAGE CONTROL FACILITIES (Q.1304)														
a. Well maintained	13 (33)	52 (47)	17 (57)	51 (60)	14 (70)	87 (48)	61 (58)	18 (56)	106 (38)	28 (49)	30 (24)	37 (48)	16 (22)	530 (44)
b. Canal deposited	11 (28)	26 (22)	6 (20)	22 (26)	2 (10)	66 (36)	16 (15)	3 (9)	39 (14)	10 (18)	6 (5)	27 (35)	40 (55)	274 (23)
c. Stop log/ gate broken	16 (41)	22 (20)	5 (17)	9 (10)	0 (0)	14 (7)	19 (18)	5 (16)	53 (19)	3 (5)	8 (6)	12 (15)	22 (30)	188 (15)
d. Unsatisfactory/ not good	0 (0)	15 (14)	1 (3)	2 (2)	4 (20)	13 (7)	9 (8)	6 (19)	82 (29)	11 (19)	25 (20)	2 (2)	2 (3)	172 (14)
e. No water in the drain/drain is dry	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	2 (4)	47 (38)	0 (0)	0 (0)	52 (4)
f. Others	1 (3)	2 (2)	1 (3)	2 (2)	0 (0)	3 (2)	5 (5)	1 (3)	15 (5)	6 (12)	11 (9)	4 (6)	1 (1)	52 (4)
Total No. of Responses*	41 (105)	117 (105)	31 (103)	86 (100)	20 (100)	185 (101)	110 (104)	33 (103)	295 (105)	60 (107)	127 (102)	82 (106)	81 (111)	1,268 (104)
No. of Respondents	39	111	30	86	20	183	106	32	282	56	125	77	73	1,220
4. RATING OF DID'S OPERATION AND MANAGEMENT WORKS OF IRRIGATION AND DRAINAGE FACILITIES (Q.1305)														
a. Yes, satisfactory	22 (56)	47 (42)	19 (63)	52 (60)	15 (75)	58 (32)	35 (33)	10 (31)	84 (30)	17 (30)	60 (48)	23 (29)	15 (21)	457 (37)
b. Yes, but sometimes not sufficient	8 (21)	43 (39)	11 (37)	25 (30)	3 (15)	57 (31)	50 (47)	13 (41)	98 (35)	14 (25)	49 (39)	22 (29)	20 (27)	413 (34)
c. No, quite dissatisfied due to lack of DID's manpower	5 (13)	10 (9)	0 (0)	3 (3)	2 (10)	26 (14)	18 (17)	0 (0)	24 (8)	7 (13)	14 (11)	22 (29)	27 (37)	158 (13)
d. No, quite dissatisfied due to lack of DID's operation and maintenance budgets	4 (10)	11 (10)	0 (0)	6 (7)	0 (0)	42 (23)	3 (3)	9 (28)	76 (27)	18 (32)	2 (2)	10 (13)	11 (15)	192 (16)
No. of Respondents	39 (100)	111 (100)	30 (100)	86 (100)	20 (100)	183 (100)	106 (100)	32 (100)	282 (100)	56 (100)	125 (100)	77 (100)	73 (100)	1,220 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (3/14)

														Unit: Number (%)
Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
5. UNDERSTANDING OF OPINION LEADER'S ABOUT HOW FARMERS UTILIZE IRRIGATED PADDY FIELDS (Q.1302)														
a. Fully utilizing for paddy cultivation	20 (51)	69 (61)	16 (54)	37 (43)	2 (10)	7 (4)	26 (25)	9 (28)	28 (10)	13 (23)	47 (38)	62 (81)	31 (43)	367 (30)
b. Still utilizing for paddy cultivation, but being faced with increasing trend of abandoned paddy field	4 (10)	32 (29)	1 (3)	31 (37)	6 (30)	79 (43)	37 (34)	11 (35)	56 (20)	36 (65)	65 (51)	5 (6)	20 (27)	383 (32)
c. Undertaking paddy cultivation for the main season and cash crop growing for the off-season	14 (36)	4 (4)	1 (3)	3 (3)	0 (0)	6 (3)	2 (2)	1 (3)	4 (1)	4 (7)	6 (5)	8 (10)	12 (16)	65 (5)
d. Stopped paddy cultivation and already converted to tree or other cash crop areas	1 (3)	2 (2)	2 (7)	7 (8)	11 (55)	57 (31)	15 (14)	3 (9)	16 (6)	0 (0)	2 (2)	0 (0)	10 (14)	126 (10)
e. Fully abandoned and left as idle land	0 (0)	4 (4)	10 (33)	8 (9)	1 (5)	34 (19)	26 (25)	8 (25)	178 (63)	3 (5)	5 (4)	2 (3)	0 (0)	279 (23)
No. of Respondents	39 (100)	111 (100)	30 (100)	86 (100)	20 (100)	183 (100)	106 (100)	32 (100)	282 (100)	56 (100)	125 (100)	77 (100)	73 (100)	1,220 (100)
6. OCCURRENCE OF IDLE PADDY FIELDS (Q.1401)														
a. Yes knowing	6 (15)	44 (38)	14 (45)	64 (70)	13 (65)	180 (90)	91 (78)	14 (42)	286 (89)	47 (72)	99 (79)	20 (25)	39 (53)	917 (70)
b. Not know	34 (85)	71 (62)	17 (55)	27 (30)	7 (35)	20 (10)	25 (22)	19 (58)	35 (11)	18 (28)	26 (21)	59 (75)	34 (47)	392 (30)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (4/14)

														Unit: Number (%)
Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
7. INTENTIONS TO INCREASE FURTHER THE IDLE PADDY FIELDS (Q.1407)														
a. Yes	2 (33)	0 (0)	1 (7)	11 (17)	0 (0)	16 (9)	3 (3)	0 (0)	20 (7)	0 (0)	47 (47)	7 (35)	6 (15)	113 (12)
b. No	4 (67)	44 (100)	13 (93)	53 (83)	13 (100)	164 (91)	88 (97)	14 (100)	266 (93)	47 (100)	52 (53)	13 (65)	33 (85)	804 (88)
No. of Respondents	6 (100)	44 (100)	14 (100)	64 (100)	13 (100)	180 (100)	91 (100)	14 (100)	286 (100)	47 (100)	99 (100)	20 (100)	39 (100)	917 (100)
8. REASONS AS EXISTENCE OF THE IDLE PADDY FIELDS (Q.1402a)														
a. Shortage of manpower	1 (100)	7 (100)	5 (100)	33 (100)	8 (100)	137 (100)	76 (100)	5 (100)	228 (100)	19 (100)	32 (100)	3 (101)	12 (100)	566 (100)
b. Low profitability of paddy cultivation/land is not suitable for growing paddy	2 (200)	2 (29)	1 (20)	6 (18)	0 (0)	4 (3)	15 (19)	1 (20)	39 (17)	4 (22)	2 (6)	1 (33)	0 (0)	77 (13)
c. Lack of drainage facilities/flood	1 (100)	1 (14)	0 (0)	5 (16)	0 (0)	4 (3)	27 (36)	1 (20)	57 (25)	6 (31)	6 (19)	1 (33)	0 (0)	109 (20)
d. Insufficient water supply/lack of irrigation facilities	0 (0)	3 (43)	1 (20)	17 (51)	2 (26)	71 (52)	53 (70)	3 (60)	82 (36)	11 (58)	34 (107)	1 (33)	0 (0)	278 (50)
e. Rats, pests, birds, insects and diseases	0 (0)	0 (0)	1 (20)	3 (9)	0 (0)	3 (2)	6 (8)	0 (0)	49 (22)	2 (11)	2 (6)	0 (0)	0 (0)	66 (10)
f. Salty water/water pollution	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4 (3)	1 (1)	0 (0)	3 (1)	1 (5)	0 (0)	0 (0)	0 (0)	9 (2)
g. Shortage of capital/poor mechanization	0 (0)	0 (0)	2 (40)	7 (21)	1 (12)	0 (0)	2 (3)	0 (0)	3 (1)	1 (5)	1 (3)	0 (0)	2 (17)	19 (4)
h. Others	0 (0)	0 (0)	1 (20)	9 (27)	0 (0)	4 (3)	7 (9)	1 (20)	18 (8)	5 (26)	3 (9)	1 (33)	1 (8)	50 (8)
Total No. of Responses*	4 (400)	13 (186)	11 (220)	80 (242)	11 (138)	227 (166)	187 (246)	11 (220)	479 (210)	49 (258)	80 (250)	7 (233)	15 (125)	1,174 (207)
No. of Respondents	1	7	5	33	8	137	76	5	228	19	32	3	12	566

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (5/14)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
9. PRESENT CONDITION OF THE CONVERTED PADDY FIELDS (Q.1405)														
a. No problem	0 (0)	3 (43)	1 (25)	3 (20)	7 (100)	86 (78)	26 (76)	3 (75)	20 (71)	0 (0)	3 (60)	3 (75)	14 (62)	169 (70)
b. Ill drained condition	0 (0)	0 (0)	0 (0)	3 (20)	0 (0)	11 (10)	3 (9)	0 (0)	5 (17)	0 (0)	0 (0)	0 (0)	1 (4)	23 (9)
c. Poor access to farm lots	0 (0)	1 (14)	0 (0)	3 (20)	0 (0)	1 (1)	1 (3)	1 (25)	1 (4)	0 (0)	0 (0)	0 (0)	3 (13)	11 (5)
d. Insufficient irrigation water supply	1 (100)	1 (14)	0 (0)	0 (0)	0 (0)	6 (5)	1 (3)	0 (0)	0 (0)	1 (100)	1 (20)	1 (25)	3 (13)	15 (6)
e. Low standard of farming practices	0 (0)	2 (29)	3 (75)	3 (20)	0 (0)	6 (5)	3 (9)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	18 (7)
f. Pest problem	0 (0)	0 (0)	0 (0)	1 (7)	0 (0)	1 (1)	0 (0)	0 (0)	1 (4)	0 (0)	1 (20)	0 (0)	1 (4)	5 (2)
g. Others	0 (0)	0 (0)	0 (0)	2 (13)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)	0 (0)	3 (1)
No. of Respondents	1 (100)	7 (100)	4 (100)	15 (100)	7 (100)	111 (100)	34 (100)	4 (100)	28 (100)	1 (100)	5 (100)	4 (100)	23 (100)	244 (100)
10. UTILIZATION PLAN OF THE IDLE LANDS (Q.1406)														
a. Conversion to tree crop	1 (17)	7 (16)	9 (64)	19 (30)	8 (62)	128 (71)	44 (49)	9 (65)	79 (28)	0 (0)	4 (4)	4 (20)	6 (16)	318 (34)
b. Conversion to non farm land	0 (0)	1 (2)	0 (0)	1 (2)	0 (0)	0 (0)	1 (1)	0 (0)	11 (4)	0 (0)	0 (0)	3 (15)	9 (23)	26 (3)
c. Conversion to upland crop	0 (0)	2 (5)	0 (0)	3 (5)	0 (0)	1 (1)	2 (2)	0 (0)	13 (5)	4 (9)	4 (4)	5 (25)	11 (28)	45 (5)
d. Conversion to fish culture pond	0 (0)	3 (7)	0 (0)	0 (0)	0 (0)	2 (1)	3 (3)	0 (0)	43 (15)	1 (2)	9 (9)	0 (0)	0 (0)	61 (7)
e. Others	1 (17)	18 (40)	1 (7)	23 (35)	2 (15)	2 (13)	27 (30)	2 (14)	64 (22)	17 (36)	14 (14)	4 (20)	3 (8)	199 (22)
f. No plan	4 (66)	14 (32)	4 (29)	18 (28)	3 (23)	26 (14)	14 (15)	3 (21)	94 (32)	26 (55)	68 (69)	4 (20)	13 (33)	291 (32)
Total No. of Responses*	6 (100)	45 (102)	14 (100)	64 (100)	13 (100)	180 (100)	91 (100)	14 (100)	304 (106)	48 (102)	99 (100)	20 (100)	42 (108)	940 (103)
No. of Respondents	6	44	14	64	13	180	91	14	286	47	99	20	39	917

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (6/14)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
11. INITIATIVE TAKEN FOR PREPARATION OF CONVERSION PLAN (Q.1404)														
a. Farmers themselves with their own ideas	1 (100)	6 (86)	0 (0)	12 (80)	6 (86)	52 (46)	9 (26)	1 (25)	16 (57)	1 (100)	4 (80)	1 (25)	15 (66)	124 (51)
b. Community committee	0 (0)	0 (0)	2 (50)	2 (13)	0 (0)	35 (32)	17 (50)	2 (50)	5 (18)	0 (0)	0 (0)	3 (75)	6 (26)	72 (30)
c. Direction by state government	0 (0)	1 (14)	2 (50)	1 (7)	1 (14)	4 (4)	7 (21)	1 (25)	1 (4)	0 (0)	1 (20)	0 (0)	1 (4)	20 (8)
d. Incorporation into rural development plans done by agencies concerned other than DID	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	20 (18)	0 (0)	0 (0)	6 (21)	0 (0)	0 (0)	0 (0)	1 (4)	27 (11)
e. No answer	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)
No. of Respondents	1 (100)	7 (100)	4 (100)	15 (100)	7 (100)	111 (100)	34 (100)	4 (100)	28 (100)	1 (100)	5 (100)	4 (100)	23 (100)	244 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (7/14)

														Unit: Number (%)
Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
12. FARMERS' INTENTIONS TOWARDS IRRIGATED PADDY CULTIVATION (Q.1501)														
a. Positive continuation of paddy cultivation	39 (98)	101 (87)	19 (61)	64 (70)	3 (15)	44 (21)	71 (60)	14 (43)	136 (42)	54 (84)	119 (95)	77 (97)	46 (63)	787 (60)
b. Negative continuation of paddy cultivation	2 (5)	10 (9)	4 (13)	9 (10)	10 (50)	90 (44)	31 (27)	10 (30)	100 (31)	10 (15)	6 (5)	2 (3)	11 (15)	295 (23)
c. Stop to grow paddy cultivation and leave paddy field abandoned	0 (0)	1 (1)	0 (0)	2 (2)	0 (0)	9 (5)	8 (7)	4 (12)	16 (5)	2 (3)	0 (0)	1 (1)	6 (9)	49 (4)
d. Permanent conversion to crop cultivation	0 (0)	3 (3)	5 (16)	18 (20)	7 (35)	59 (30)	32 (28)	9 (27)	50 (16)	0 (0)	0 (0)	11 (14)	11 (15)	205 (16)
e. Permanent conversion to crop cultivation	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (2)	2 (2)	0 (0)	30 (9)	0 (0)	0 (0)	2 (3)	9 (12)	46 (3)
f. Introduction of cash crop cultivation	2 (5)	1 (1)	3 (10)	0 (0)	0 (0)	3 (2)	5 (4)	1 (3)	19 (6)	2 (3)	0 (0)	5 (6)	5 (7)	46 (3)
g. No comment	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (2)	0 (0)	0 (0)	5 (2)	0 (0)	0 (0)	0 (0)	0 (0)	8 (1)
Total No. of Responses*	43 (108)	116 (101)	31 (100)	93 (102)	20 (100)	211 (106)	149 (128)	38 (115)	356 (111)	68 (105)	125 (100)	98 (124)	88 (121)	1,436 (110)
No. of Respondents	40	115	31	91	20	200	116	33	321	65	125	79	73	1,309

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*, Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (8/14)

Item	Unit: Number (%)													Total
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	
13. INTENTIONS TO CONVERT OR FURTHER UTILIZE THE PADDY FIELDS (Q.1601)														
a. No intention to convert paddy fields to other crop field	30 (76)	104 (91)	13 (42)	64 (71)	7 (35)	57 (29)	46 (40)	14 (43)	146 (46)	57 (88)	111 (89)	72 (91)	39 (53)	760 (58)
b. Expecting to introduce crop diversification on irrigated paddy fields	2 (5)	4 (3)	2 (6)	5 (5)	1 (5)	6 (3)	17 (15)	0 (0)	27 (8)	3 (4)	3 (2)	1 (1)	7 (10)	78 (6)
c. Expecting to convert paddy fields to tree planting	1 (2)	5 (4)	4 (13)	12 (14)	5 (25)	80 (40)	42 (36)	10 (30)	69 (21)	1 (2)	4 (3)	0 (0)	3 (4)	236 (18)
d. Expecting to introduce crop diversification to some extent	0 (0)	1 (1)	1 (3)	5 (5)	0 (0)	11 (5)	1 (1)	0 (0)	18 (6)	1 (2)	0 (0)	3 (4)	0 (0)	41 (3)
e. Expecting others	1 (2)	0 (0)	4 (13)	0 (0)	5 (25)	3 (1)	4 (3)	0 (0)	35 (11)	3 (4)	0 (0)	0 (0)	0 (0)	55 (4)
f. No plan/ no answer	6 (15)	1 (1)	7 (23)	5 (5)	2 (10)	43 (22)	6 (5)	9 (27)	26 (8)	0 (0)	7 (6)	3 (4)	24 (33)	139 (11)
Total No. of Respondents	40 (100)	115 (100)	31 (100)	91 (100)	20 (100)	200 (100)	116 (100)	33 (100)	321 (100)	65 (100)	125 (100)	79 (100)	73 (100)	1,309 (100)

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (9/14)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
14. EXPECTATIONS FOR DRAINAGE FACILITIES (Q.1602)														
a. Construction of a farm level drainage facilities	18 (45)	16 (14)	1 (3)	23 (25)	1 (5)	68 (34)	63 (53)	13 (40)	96 (30)	17 (26)	7 (6)	53 (67)	40 (55)	416 (32)
b. Construction of new drainage network	23 (58)	34 (30)	12 (39)	25 (27)	1 (5)	71 (36)	68 (59)	7 (21)	102 (31)	26 (39)	29 (23)	62 (78)	49 (68)	509 (39)
c. Construction of flood protection works	18 (45)	51 (43)	9 (29)	35 (38)	6 (30)	72 (36)	60 (52)	9 (27)	70 (22)	22 (34)	27 (22)	65 (82)	47 (64)	491 (37)
d. Rehabilitation of existing drainage facilities	24 (59)	49 (43)	13 (43)	50 (56)	10 (50)	13 (7)	47 (41)	8 (24)	92 (29)	22 (34)	76 (61)	64 (82)	51 (70)	519 (39)
e. Upgrading of existing drainage facilities	10 (25)	11 (10)	6 (19)	22 (24)	4 (20)	13 (6)	59 (51)	8 (24)	52 (16)	18 (28)	48 (38)	38 (48)	47 (64)	336 (26)
f. None	3 (8)	6 (5)	1 (3)	16 (18)	3 (15)	21 (10)	5 (4)	4 (12)	32 (10)	3 (5)	4 (3)	1 (1)	1 (1)	100 (8)
g. Others	3 (8)	1 (1)	1 (3)	4 (4)	0 (0)	2 (2)	1 (1)	0 (0)	13 (4)	2 (3)	3 (2)	0 (0)	0 (0)	30 (2)
Total No. of Responses*	99 (248)	168 (146)	43 (139)	175 (192)	25 (125)	260 (130)	303 (261)	49 (148)	457 (142)	110 (169)	194 (155)	283 (358)	235 (322)	2,401 (183)
No. of Respondents	40	115	31	91	20	200	116	33	321	65	125	79	73	1,309

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (10/14)

														Unit: Number (%)
Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
15. EXPECTATIONS FOR THE FARM ROADS (Q.1603)														
a. Construction of new farm road	7 (18)	17 (15)	11 (35)	38 (42)	5 (25)	78 (39)	57 (49)	16 (49)	165 (51)	36 (56)	18 (14)	56 (71)	41 (56)	545 (42)
b. Rehabilitation of existing farm road	12 (30)	45 (39)	14 (45)	20 (22)	5 (25)	59 (29)	60 (51)	4 (12)	37 (12)	12 (18)	12 (10)	55 (70)	45 (62)	380 (29)
c. Upgrading/pavement of existing farm road	19 (48)	34 (30)	8 (26)	52 (57)	5 (25)	80 (40)	54 (47)	12 (36)	81 (25)	16 (25)	79 (63)	56 (71)	47 (64)	543 (42)
d. Widening of existing farm road	12 (30)	23 (20)	7 (23)	23 (25)	2 (10)	42 (21)	29 (25)	8 (24)	36 (11)	4 (6)	9 (7)	47 (59)	51 (70)	293 (22)
e. Others	1 (2)	1 (1)	1 (3)	0 (0)	0 (0)	4 (2)	1 (1)	3 (9)	9 (3)	2 (3)	1 (1)	2 (2)	0 (0)	25 (2)
f. None	8 (20)	14 (12)	1 (3)	9 (10)	7 (35)	15 (8)	22 (19)	2 (6)	49 (15)	10 (15)	9 (7)	0 (0)	0 (0)	146 (11)
Total No. of Responses*	59 (148)	134 (117)	42 (135)	142 (156)	24 (120)	278 (139)	223 (192)	45 (136)	377 (117)	80 (123)	128 (102)	216 (273)	184 (252)	1,932 (148)
No. of Respondents	40	115	31	91	20	200	116	33	321	65	125	79	73	1,309

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (11/14)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
16. EXPECTATIONS FOR OTHER RELATED FACILITIES (Q.1604)														
a. Processing facilities	10 (25)	33 (29)	8 (26)	51 (56)	1 (5)	83 (41)	78 (66)	5 (15)	136 (43)	35 (55)	13 (90)	77 (97)	65 (90)	695 (54)
b. Storage facilities	10 (25)	17 (15)	14 (46)	27 (30)	1 (5)	82 (41)	65 (56)	5 (15)	50 (16)	12 (18)	90 (72)	67 (85)	60 (83)	500 (38)
c. Drying	18 (45)	37 (32)	8 (26)	32 (35)	1 (5)	23 (12)	49 (42)	4 (12)	39 (12)	12 (18)	23 (18)	72 (91)	54 (74)	372 (28)
d. Machinery	1 (2)	4 (3)	2 (6)	23 (25)	5 (25)	47 (24)	2 (2)	2 (6)	67 (21)	21 (32)	1 (1)	23 (29)	12 (16)	210 (16)
e. Do not need any other facilities	16 (40)	50 (43)	13 (42)	29 (32)	12 (60)	58 (29)	18 (16)	13 (40)	103 (32)	17 (26)	8 (6)	2 (3)	4 (5)	343 (26)
f. Others	15 (38)	14 (13)	2 (6)	23 (25)	3 (15)	7 (4)	14 (13)	11 (33)	24 (7)	3 (5)	3 (3)	2 (3)	2 (2)	123 (9)
Total No. of Responses*	70 (175)	155 (135)	47 (152)	185 (203)	23 (115)	300 (150)	226 (195)	40 (121)	419 (131)	100 (154)	238 (190)	243 (308)	197 (270)	2,243 (171)
No. of Respondents	40	115	31	91	20	200	116	33	321	65	125	79	73	1,309

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (12/14)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
17. EXPECTED BENEFICIAL EFFECTS BY GROWING OTHER CROPS THAN PADDY (Q.1605)														
a. Income increase	32 (80)	48 (42)	22 (72)	77 (84)	9 (45)	169 (84)	90 (77)	14 (42)	252 (79)	59 (90)	107 (86)	66 (84)	65 (89)	1,010 (78)
b. Stable revenue	11 (28)	18 (16)	9 (29)	40 (44)	4 (20)	87 (44)	50 (43)	5 (15)	109 (34)	19 (29)	9 (7)	47 (59)	28 (38)	436 (33)
c. Creation of employment opportunity	11 (28)	3 (3)	10 (32)	36 (40)	3 (15)	4 (2)	67 (58)	4 (12)	94 (29)	25 (38)	0 (0)	13 (17)	20 (28)	290 (22)
d. Leveling up of living standard	10 (25)	22 (19)	11 (35)	47 (52)	1 (5)	67 (34)	47 (41)	9 (27)	114 (36)	14 (22)	24 (19)	14 (18)	12 (16)	392 (30)
e. Nothing special	6 (15)	56 (48)	6 (20)	11 (12)	7 (35)	7 (4)	12 (10)	15 (46)	46 (14)	1 (2)	15 (12)	5 (6)	2 (3)	189 (14)
f. Others	1 (2)	1 (1)	2 (6)	3 (3)	0 (0)	3 (1)	1 (1)	0 (0)	1 (0)	1 (2)	0 (0)	1 (1)	1 (1)	15 (1)
Total No. of Responses*	71 (178)	148 (129)	60 (194)	214 (235)	24 (120)	337 (169)	267 (230)	47 (142)	616 (192)	119 (183)	155 (124)	146 (185)	128 (175)	2,332 (178)
No. of Respondents	40	115	31	91	20	200	116	33	321	65	125	79	73	1,309

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (13/14)

Item	Unit: Number (%)													
	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
18. CONCERNS ABOUT INTRODUCING OTHER CROPS THAN PADDY (Q.1606)														
a. Finance	20 (50)	68 (59)	14 (45)	54 (60)	3 (15)	92 (45)	86 (74)	14 (43)	194 (60)	33 (51)	98 (79)	36 (46)	43 (59)	755 (58)
b. Technique	16 (40)	36 (31)	13 (42)	35 (38)	1 (5)	33 (17)	73 (63)	2 (6)	88 (27)	11 (17)	53 (42)	33 (41)	26 (36)	420 (32)
c. Marketing	27 (68)	54 (47)	14 (45)	46 (51)	5 (25)	37 (19)	61 (53)	7 (21)	112 (35)	41 (63)	65 (52)	36 (46)	49 (66)	554 (42)
d. Labor	14 (35)	25 (22)	11 (35)	33 (36)	13 (65)	133 (66)	76 (66)	4 (12)	208 (65)	9 (14)	35 (28)	19 (24)	7 (10)	587 (45)
e. Others	14 (35)	23 (20)	13 (42)	31 (34)	4 (20)	61 (31)	13 (11)	6 (18)	79 (25)	37 (57)	35 (28)	6 (8)	7 (10)	329 (25)
f. None	2 (5)	9 (8)	6 (20)	11 (12)	0 (0)	28 (14)	14 (11)	13 (39)	28 (9)	0 (0)	8 (6)	16 (20)	12 (16)	147 (11)
Total No. of Responses*	93 (233)	215 (187)	71 (229)	210 (231)	26 (130)	384 (192)	323 (278)	46 (139)	709 (221)	131 (202)	294 (235)	146 (185)	144 (197)	2,792 (213)
No. of Respondents	40	115	31	91	20	200	116	33	321	65	125	79	73	1,309

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Mclaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

Table C-2 Opinion Leaders' Views on Present Agricultural Development Condition and Crop Diversification (14/14)

Unit: Number (%)

Item	PR	KH	PP	PK	SG	NS	MA	JR	PH	TR	KN	SA	SK	Total
19. SUGGESTIONS AND OPINIONS ON THE RATIONALIZATION AND CROP DIVERSIFICATION (Q.1607)														
a. Repair drains/better drainage system	1 (2)	6 (5)	0 (0)	7 (8)	0 (0)	1 (1)	8 (7)	2 (6)	17 (5)	1 (2)	0 (0)	8 (10)	4 (5)	55 (4)
b. Improve or extend roads	1 (2)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	4 (1)	3 (4)	2 (2)	2 (3)	2 (1)	14 (1)
c. More mechanization and modernized farming	0 (0)	1 (1)	1 (3)	1 (1)	2 (10)	1 (1)	2 (2)	1 (3)	24 (7)	3 (4)	19 (15)	4 (5)	6 (8)	65 (5)
d. More knowledge about farming and introduction of modern technique	3 (8)	7 (6)	2 (6)	5 (5)	1 (5)	3 (2)	9 (8)	0 (0)	13 (4)	10 (15)	42 (34)	4 (5)	4 (5)	103 (8)
e. Increase Govt. help for more crop harvest	0 (0)	5 (4)	7 (23)	4 (4)	5 (25)	19 (9)	15 (13)	6 (18)	79 (24)	24 (37)	23 (19)	7 (9)	15 (21)	209 (16)
f. Supply agricultural inputs	1 (2)	3 (3)	1 (3)	0 (0)	1 (5)	2 (1)	24 (21)	5 (15)	8 (2)	8 (13)	47 (37)	4 (5)	15 (21)	119 (9)
g. Better market for their crops	1 (2)	5 (4)	3 (10)	1 (1)	1 (5)	13 (6)	7 (6)	1 (3)	6 (2)	16 (25)	5 (4)	1 (1)	9 (12)	69 (5)
h. Promote crop diversification project	18 (45)	9 (8)	7 (23)	15 (17)	1 (5)	44 (22)	18 (16)	2 (6)	35 (11)	1 (2)	9 (7)	18 (22)	19 (26)	196 (15)
i. Introduce other crops which require less manpower and care	1 (2)	11 (10)	6 (19)	8 (8)	0 (0)	35 (17)	13 (11)	2 (6)	22 (7)	4 (6)	0 (0)	16 (20)	7 (10)	125 (10)
j. Introduce crops which are more profitable with better yield	3 (8)	4 (3)	1 (3)	10 (11)	0 (0)	10 (5)	14 (12)	0 (0)	10 (3)	2 (3)	2 (2)	3 (4)	12 (16)	71 (5)
k. Conduct surveys and plant crops which are suitable for paddy field	8 (20)	10 (9)	3 (10)	15 (17)	1 (5)	42 (21)	28 (24)	5 (15)	63 (20)	3 (4)	11 (9)	10 (13)	14 (19)	213 (17)
l. Project to be formulated to increase income	0 (0)	11 (10)	3 (10)	14 (16)	1 (5)	21 (10)	4 (3)	1 (3)	24 (7)	0 (0)	6 (5)	10 (13)	8 (11)	103 (8)
m. Good irrigation water supply/better irrigation	17 (43)	14 (12)	1 (3)	16 (18)	1 (5)	8 (4)	7 (6)	2 (6)	22 (7)	17 (26)	9 (7)	9 (11)	6 (8)	129 (10)
n. Recommendation on group farming	0 (0)	1 (1)	0 (0)	4 (4)	0 (0)	4 (2)	26 (22)	2 (6)	16 (5)	1 (2)	4 (3)	1 (1)	0 (0)	59 (5)
o. Prevention of major problems like pests and predator animals	1 (2)	1 (1)	0 (0)	4 (4)	0 (0)	4 (2)	6 (5)	0 (0)	11 (3)	9 (14)	3 (2)	4 (5)	1 (2)	44 (3)
p. Land improvement/ make the most of it	0 (0)	1 (1)	0 (0)	3 (3)	0 (0)	4 (2)	3 (3)	2 (6)	18 (6)	0 (0)	1 (1)	3 (4)	2 (3)	37 (3)
q. Paddy field not suitable for other crops	3 (8)	27 (23)	4 (13)	6 (7)	3 (15)	4 (2)	23 (20)	5 (15)	25 (8)	2 (3)	5 (4)	10 (13)	2 (3)	119 (9)
r. Paddy staple food - Cannot change	0 (0)	11 (10)	2 (6)	1 (1)	2 (10)	9 (5)	7 (6)	1 (3)	20 (6)	0 (0)	3 (2)	10 (13)	1 (2)	67 (5)
s. No suggestion	5 (13)	20 (17)	5 (16)	7 (8)	2 (10)	41 (20)	2 (2)	7 (22)	21 (7)	1 (2)	47 (37)	2 (3)	2 (3)	162 (12)
t. Others	3 (8)	15 (13)	8 (26)	35 (39)	8 (40)	43 (22)	25 (21)	4 (12)	92 (30)	6 (9)	10 (8)	13 (16)	18 (23)	280 (22)
Total No. of Responses*	66 (165)	162 (141)	54 (174)	157 (173)	29 (145)	308 (154)	241 (208)	48 (145)	530 (165)	111 (171)	248 (198)	139 (176)	146 (200)	2,239 (171)
No. of Respondents	40	115	31	91	20	200	116	33	321	65	125	79	73	1,309

Remarks: PR; Perlis, KH; Kedah, PP; Pulau Pinang, PK; Perak, SR; Selangor, NS; Negeri Sembilan, MA; Melaka, JR; Johor, PH; Pahang, TR; Terengganu, KN; Kelantan, SA; Sabah, and SK; Sawarak

*; Multiple answers are given.

**Feasibility Study on Rationalization and Crop Diversification
in Non-granary Irrigated Areas in Malaysia**

**Vol. 2
Crop Diversification Evaluation Methodology**

Appendix D

Crop Suitability

*Feasibility Study on Rationalization and Crop Diversification
in Non-granary Irrigated Areas in Malaysia*

Volume 2

Appendix D

Crop Suitability

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Appendix D

CROP SUITABILITY

D.1 Introduction

The agricultural environment comprises two elements: soil and climate. As climate is a major factor in soil formation, these two elements are interrelated, but in effects of the elements on agriculture these are of quite different characters. Soil conditions can be artificially improved to some extent. On the other hand, climate cannot be changed to make it coincide with crop requirements. Further, soils often indicate strong contrasts over short distances, while climate conditions show entirely different patterns of changes being normally different only over relatively large distance with very gradual transitions.

In Peninsular Malaysia, agriculture is in a process of rapid change. Agriculture has been grown under favorable climatic conditions such as few devastating storms, sufficient sunshine, temperatures close to the optimum growth of most cultivated crops, and rate periods of severe droughts. However, traditional experiences are of little assistance to introduce agricultural innovation and to promote crop diversification.

In setting up a criteria to evaluate potential for crop diversification in non-granary irrigated areas, therefore, examination of crop suitability from the soil and climatic viewpoints is one of the most important process. For this purpose, available information on soils and climate of Malaysia are collected from the Ministry of Agriculture (MOA), Malaysian Agricultural Research and Development Institute (MARDI) and Sarawak Department of Agriculture (DOA). Through review of information collected, the criteria is established aiming at evaluation of soil and climatic factors related to identify suitable crops.

The basic concept of criteria is to identify suitable crops firstly taking into account soil conditions and then to screen identified crops from the viewpoint of agro-climatic conditions.

D.2 Soil Suitability

D.2.1 Factors limiting crop growth

Definitions of suitability subclasses and classes are confined to general statements of conditions only. In practice, however, more specific parameters are needed to guide the allocation of mapping units to the various suitability subclasses and classes. For this purpose,

the factors limiting crop growth in Malaysia are separated into the following four groups:

- Very serious limitations: such limitations will not only retard but may even totally inhibit the use of these soils for crop production,
- Serious limitations: these are not detrimental to all crops. While some of the more sensitive crops may not survive such conditions, others may even thrive in these soils such as paddy and sago under wet conditions,
- Moderate limitations: these affect a limited range of crops which may be very sensitive to some soil conditions. For most crops these limitations can be surmounted by proper management, and
- Minor limitations: these affect only a selected number of crops. The effect is more in terms of yields than of crop survival.

The parameters indicated in Table D-1 are based on current knowledge of crop response to soils. With more empirical data on crop performances they may be defined even more precisely.

D.2.2 Soil suitability classes

Soils are grouped into suitability classes according to the severity of crop growth limitations. At this level of classification no recommendation can be given regarding choice of crops or management practices.

Class 1: Soils with no limitation or only minor limitations to crop growth

The soils in Class 1 are suitable for the widest range of crops and can be profitably cultivated under a moderate level of management. These soils occur on flat to rolling terrain with a gradient of 0° to 12°. The soils have good waterholding and nutrient-retaining capacities and are well suited to continuous cropping on a sustained yield basis. The most versatile soils in this class are those found in flat areas where these can be utilized for a very wide range of dryland crops or irrigated for paddy cultivation. These are deep and well structured soils.

Class 2: *Soils with moderate limitations to crop growth*

These soils are suitable for a narrower range of crops than Class 1 soils. Management practices may include erosion control measures, minor drainage and irrigation works, or improvements resulting in better tilth.

Class 3: *Soils with one serious limitation to crop growth*

As these soils possess one serious limitation besides possibly one or more moderate limitations, they are restricted to an even narrower range of crops. Necessary management practices may include erosion control measures, intensive fertilizer program and/or drainage and irrigation works involving moderate expense.

Class 4: *Soils with more than one serious limitation to crop growth*

In having more than one serious limitation these soils are suitable for a very narrow range of crops. Moreover, major conservation or amelioration measures are necessary before these soils can be cultivated on a long term basis.

Class 5: *Soils with at least one very serious limitation to crop growth*

The soils included within this class, in the present condition, are least suitable for crop growth. Where these are not built over for urban development or excavated for mining and quarrying purposes these soils are best allowed to continue under primary or regenerating forest.

D.2.3 Soil suitability subclasses

Soil suitability subclasses are subdivisions within suitability classes. These subclasses are formed on the basis of the kinds of limitation affecting crop growth. While suitability classes are broad groupings, the subclasses are more specific. On the basis of subclasses it would be possible to make recommendations on specific crops and management practices. Thus the formation and inclusion of subclasses will give potential users a better guide regarding the choice of crops and the management practices which may be needed for long term cultivation of land.

As there are altogether 10 different types of limitations to crop growth in Malaysia, subdivision of suitability classes into subclasses is accordingly based on these different limitations. These are listed

below with respective letter symbols which will indicate the kinds of limitation possessed.

Each soil limitation will therefore be indicated by its respective letter symbol as shown below.

<u>Symbol</u>	:	<u>Limitation</u>
a	:	acid sulphate layer
c	:	depth to compacted layer
D or d	:	drainage
E or e	:	erodibility
H	:	disturbed land
N or n	:	nutrient imbalance
o	:	organic horizon
R or r	:	stoniness
s	:	salinity
T or t	:	texture and structure

- The symbol "D" is used to indicate excessive drainage, while "d" represents poor drainage conditions.
- The symbol "E" is used to indicate more erodible soils of which surface textures consist of less than 27% clay and more than 45% sand, while "e" represents less erodible soils.
- The symbol "N" indicates the presence of toxic level of plant nutrients, while "n" denotes deficiency level.
- The symbol "R" indicates the presence of less than 25 cm of stone-free soils, while "r" shows a less severe limitation to crop growth by the presence of stone.
- The symbol "T" indicate moderately coarse-textured and medium-textured soils, while "t" represents moderately fine-textured and fine-textured soils.

Among these, limitations closely related to upland crop cultivation are drainage and acid sulphate layer. The detailed explanation of these two limitations is as below:

(1) Drainage

The drainage status of soils does not affect all plants in the same way. While wetland crops such as paddy and sago palm thrive under very wet conditions all dryland crops may not survive under these conditions. As most crops are inhibited in growth with increasing soil wetness or dryness, the drainage classes of the U.S.D.A. Soil Survey Manual have been adopted in this suitability classification.

Accordingly very poor drainage occurs when water is removed from the soils so slowly that the water table remains at or on the surface the greater part of the time. Poor drainage occurs when water

is removed so slowly that the soils remain wet for a large parts of the time; the water table is commonly at or near the surface during a considerable part of the year. Poorly drained conditions are due to a high water table, to a slowly permeable layer within the profile, to seepage, or to some combination of these conditions. Among the marine coastal clay soils, very poorly drained soils are characterized by a uniform greenish grey colour throughout the profile. Very poorly drained coastal sand and podzolic soils have dark-grey or black surfaces and are light grey, with or without mottling in the deeper parts of the profile. Poorly drained soils of marine clay origin have brownish grey to grayish brown profiles with or without mottles. Among the podzolic soils, poorly drained soils may be light grey from the surface downwards with or without mottlings. Very poorly and poorly drained conditions are serious limitations to the cultivation of all dryland crops, the only crops which can grow under such conditions being wet paddy and the sago palm.

Imperfect drainage has been defined as the condition when "water is removed from the soils slowly enough to keep it wet for significant periods but not all the time. Imperfectly drained soils commonly have a slowly permeable layer within the profile, a high water table, additions of water through seepage, or a combination of these conditions. Soils with imperfect drainage are characterized by the presence of mottles in the A, B and C horizons. This is a moderate limitation to crop growth as it only affects crops which are very sensitive to high moisture conditions.

In a moderately well drained soils, water is removed somewhat slowly so that the profile is wet for a small but significant part of the time. Moderately well drained soils commonly have a slowly permeable layer within or immediately beneath the solum, a relatively high water table, additions of water through seepage or some combination of these conditions. Moderately well drained soils have uniform colours in the A and upper B horizons with mottling in the lower B and C horizons.

On the other hand, excessive and somewhat excessive drainage affect crop growth through the possible lack of moisture supply. Excessive drainage occurs when water is removed from the soils very rapidly. The soils are very porous and usually have a very high sand content. Enough precipitation is commonly lost from these soils to make them unsuitable for ordinary crop production. Excessive drainage would therefore constitute a serious limitation to crop growth on a sustained yield basis.

In somewhat excessively drained soils, water is removed from the soils rapidly. Such soils may be predominantly sandy but would have a small percentage of clay or silt to retain moisture for some time.

(2) Acid sulphate layer

A considerable coverage of marine alluvial soils in Malaysia are highly acid due to the presence of excessive quantities of oxidizable sulphur compounds. These sulphur compounds are produced by the microbiological reduction of sulphur derived from sea water. When the soils are drained, oxidation of the sulphur compounds to sulphate takes place. Hydrolysis of the sulphate in water produces an acid condition in the soils. Drainage of a sulphate-containing soils usually results in severe deterioration of the condition of the soils so that very many years of continued aeration and leaching must elapse before the soils can become suitable for general cultivation.

As the acid sulphate condition of soils is influenced by the permanent ground water table, this condition occurs in affected soils as a definite layer within the profile. Utilization of acid sulphate soils involve proper drainage control and application of lime. Both of these are now standard recommendations for crop cultivation on acid sulphate soils; gradual lowering of minor drainage channels will remove excess sulphides and, at the same time, prevent the formation of sulphates; application of lime will neutralize the acidity of the soils.

The presence of the acid sulphate layer within the first 25 cm of the surface constitutes a serious limitation as the soils can only be considered for shallow-rooting crops. At depths between 25 and 50 cm, the cultivation of medium-rooting crops is possible, thus making the limitation a moderate one. When the acid sulphate layer is at 50 to 100 cm depth tree crop cultivation would be feasible so that the limitation can be considered to be minor only.

D.2.4 Soil-crop suitability classification

To examine soil-crop suitability classification, a total of 26 crop groups is as shown in Table D-2 and major crops are listed up below. Soil criteria for optimum growth of each crop group is set up as shown in Table D-3.

- Fruit group: Durian/mango, guava, banana, papaya, citrus, pineapple, watermelon
- Food crop group: Maize, sorghum, wet paddy, dry paddy
- Fodder group: Fodder grasses, pasture
- Vegetable group: Ginger, groundnut, vegetables
- Industrial crop group: Coconut, oil palm, cocoa, rubber, sago palm, cashewnut, coffee, tea, clove, tobacco, sugarcane, pepper

D.2.5 Evaluation of soil suitability classes for non-granary irrigation schemes

By referring available soil maps, identification of soil series is made for the purpose of evaluating soil suitability classes and selecting suitable crops. The list of soil series identified in the 924 non-granary irrigated areas is presented in Tables D-4 to D-16 with soil suitability classes. Then, crop suitability is examined based on the matrix as shown in Table D-17.

In the non-granary irrigated area, a total of 23 soil series is identified in Peninsular Malaysia, eight soil associations in Sabah and Sarawak through examination of soil maps. Soil classes and main features of each soil series distributed in Peninsular Malaysia are summarized below.

- *Akob soil series* with soil class "2dt" is found in Perlis, Kedah, Pulau Pinang, Perak, Selangor, Negeri Sembilan, Melaka, Johor, Pahang and Trengganu. Limitations to crop growth are expressed by imperfect drainage, and weak structure and variable texture.
- *Briah soil series* with soil classes "2dt" and "3d(t)" extends over Kedah, Johor and Pahang. Limitations to crop growth are expressed by imperfect to poor drainage, and fine texture with strong coarse structures.
- *Chempaka soil series* with soil class "2d" is identified in Trengganu and Kelantan. Limitation to crop growth is expressed by imperfect drainage. Chengai soil series with soil class "2d" is distributed in Kedah and Pulau Pinang. Limitation to crop growth is expressed by imperfect drainage.
- *Holyrood soil series* with soil classes "2DnT" and "3n(DT)" spreads in Perlis, Kedah, Negeri Sembilan, Johor and Kelantan. Limitations to crop growth are expressed by somewhat excessive drainage, more erodable on 0° to 6° slopes, acute nutrient deficiencies, moderately coarse to coarse texture, weakly structure, and low nutrient-retaining capacity among coarse-textured members.
- *Hutan soil series* with soil class "2d" is found in Perlis and Kedah. Limitation to crop growth is expressed by imperfect drainage.
- *Kampong Pusu soil series* with soil class "2dt" extends over Kedah, Pulau Pinang, Negeri Sembilan, Melaka, Johor and Pahang. Limitations to crop growth are expressed by imperfect drainage, fine texture and weak structure.
- *Linau soil series* with soil classes "4dt(a)" and "4adt" is found in Melaka. Limitations to crop growth are expressed by acid

sulphate layer within 30 cm depth, poor drainage, fine texture and structureless.

- *Local Alluvium soil series* with soil classes "3d(t)" and "3d(T)" is identified in Perlis, Kedah, Pulau Pinang, Perak, Negeri Sembilan, Melaka, Johor, Pahang and Trengganu. Limitations to crop growth are expressed by poor drainage and variable textures with poor structures.
- *Lubok Itek soil series* with soil classes "3d(t)" and "3d(at)" is distributed in Kelantan. Limitations to crop growth are expressed by acid sulphate at 30 to 100 cm depth, very poor drainage and fine texture with weak coarse structure.
- *Lubok Sendong soil series* with soil class "3d(t)" spreads in Kelantan. Limitations to crop growth are expressed by very poor drainage and fine texture with weak coarse structure.
- *Lunas soil series* with soil class "2dt" is found in Perlis, Kedah, Negeri Sembilan, Melaka, Johor, Pahang and Kelantan. Limitations to crop growth are expressed by imperfect drainage, moderately fine texture and weak structure.
- *Lundang soil series* with soil class "1d" extends over Trengganu and Kelantan. Limitation to crop growth is expressed by moderately well drainage.
- *Organic Clay and Muck soil series* with soil classes "2dt", "3t(d)" and "4dt" is identified in Perak, Selangor, Melaka, Johor and Pahang. Limitations to crop growth are expressed by imperfect to poor drainage, structureless to weakly structure, and moderate nutrient deficiency.
- *Peat soil series* with soil classes "2dn(o)", "2dno", "3D(n)", "3D(no)", "3d(n)", "3d(no)", "3o(dn)", "4Do(n)", "4do(n)" and "5o(d)" is distributed in Negeri Sembilan, Pahang and Trengganu. Limitations to crop growth are expressed by excessive drainage in case of drained peat, imperfect to very poor drainage, variable thickness, and acute nutrient deficiencies.
- *Rudua soil series* with soil class "4DnT(c)" spreads in Trengganu. Limitations to crop growth are expressed by compact layer below 50 cm depth, excessive drainage, structureless sand, acute nutrient deficiency, and low nutrient-retaining capacity.
- *Rusila soil series* with soil classes "4dt" and "4dT" is found in Pahang and Trengganu. Limitations to crop growth are expressed by poor drainage, and variable textures and structures.

- *Sedu soil series* with soil classes "2adt" and "2dt(a)" extends over Melaka. Limitations to crop growth are expressed by acid sulphate layer at 30 to 100 cm depth, imperfect drainage and fine texture with weak structure.
- *Sembrin soil series* with soil class "2t" is identified in Perlis and Kedah. Limitation to crop growth is expressed by fine texture with weak structure.
- *Sitiawan soil series* with soil class "1d" is distributed in Perlis. Limitation to crop growth is expressed by moderately well drainage.
- *Sogomana soil series* with soil class "3c(dt)" spreads in Perlis. Limitations to crop growth are expressed by compact layer at 30 cm depth, imperfect drainage, and fine texture with weak to moderate and medium to coarse structures.
- *Sungai Amin soil series* with soil classes "2dt" and "3d(t)" is found in Kelantan. Limitations to crop growth are expressed imperfect to poor drainage and fine texture with weak structure.
- *Telemong soil series* with soil classes "2Dt", "2DT", "3D(t)" and "3D(T)" extends over Kedah, Perak, Selangor, Negeri Sembilan, Melaka, Johor, Pahang, Trengganu and Kelantan. Limitations to crop growth are well to excessive drainage and variable texture with weak structure.
- *Tok Yong soil series* with soil class "1" is identified in Kelantan. There are no limitations to crop growth on a sustained yield basis in this soil.

Soil classes and main features of the respective soil associations found in non-granary irrigated areas in Sabah are summarized below.

- *Weston soil association* with soil class "5sa" is identified in tidal swamps. Limitations to crop growth are very poor drainage and salinity.
- *Tuaran soil association* with soil class "3wi" extends over meander belts adjacent to rivers and streams. There are no limitations to crop growth because soils are formed of alluvium with moderately coarse structure.
- *Kinabatangan soil association* with soil class "4fw" is distributed to flood plains. Limitation to crop growth is very poor to poor drainage.
- *Sapi soil association* with soil class "3w" is found in freshwater swamps which are formed as small areas of back-swamps in

the low-lying tributary valleys between the floodplains and hills and between tidal swamps and hills. Limitation to crop growth is very poor drainage.

- *Karamuak soil association* with soil class "4ws" spreads in valley floors and terraces formed along streams and rivers. Limitations to crop growth are poor drainage and shallow soil depth.
- *Labau soil association* with soil class "3wi" is identified in terraces formed along valley floors. Limitations to crop growth are imperfect drainage and frequent and short inundation.
- *Binkor soil association* with soil class "3w" extends over alluvial terraces of marine origin. Basically soils are well drained and deep. But soils used as paddy fields are subjected to imperfect drainage due to micro topographic conditions.
- *Brantian soil association* with soil class "4fm" is distributed in terrace remnants. Limitations to crop growth are low moisture-holding capacity and very low fertility.

Soil classes and main features of each soil series distributed in non-granary irrigation schemes in Sarawak are highlighted below.

- *Rajang soil series* with soil class "5sa" is mineral soils and has such limitations to crop growth as very serious salinity of groundwater and shallow depth to sulphidic layer.
- *Plan soil series* with soil class "4fw" is mineral soils derived from riverine alluvium and has such limitations to crop growth as acute deficiency of fertility, low retention of nutrients and low moisture-holding capacity.
- *Bijat soil series* with soil class "3wi" is mineral soils originated from riverine alluvium and has such limitations to crop growth as imperfect drainage and frequent and short inundation hazard.
- *Mukah soil series* with soil class "04gf" is organic soils and has such limitations to crop growth as very shallow depth to groundwater table and very low fertility.
- *Anderson soil series* with soil class "05go" is organic soils and has such limitations to crop growth as very shallow depth to groundwater table and very deep organic layer.

D.3 Agro-climatic Suitability

D.3.1 Factors influencing crop growth

(1) Perennial lowland crops

The main climatic requirements for optimal growth of perennial lowland crops are indicated in Table D-18. The most important factor for these crops is the duration of a dry month. Where this regularly exceeds two months, the cultivation of oil palm, cocoa, banana and pepper without irrigation is practically excluded, but crops such as sugarcane, cashewnut and mango may thrive under these conditions.

Surplus rainfall, often associated with flash floods, is an unfavorable factor to all perennial lowland crops with a different degree of effects. Cassava, pineapple, banana and papaya are most sensitive to this condition.

Strong winds are particularly harmful to rubber and banana trees, though cocoa and various fruit trees also suffer from wind gusts.

Sunshine requirements vary strongly among the perennial lowland crops. Much sunshine is needed by oil palm, coconut, sugarcane, mango, but cocoa needs shading for good performance. Most other perennial crops show a positive reaction to sunshine.

Other climatic factors are only important to some crops. Rainfall maximum during the morning is definite disadvantage to rubber cultivation because it interferes with tapping which is carried out in the morning. A small range of the diurnal temperature is preferred by oil palm and coconut, while larger diurnal temperature differences are favorable to sugarcane, papaya and durian.

(2) Annual lowland crops

The big advantage of these crops is that unfavorable reasons can be avoided by judicious timing of planting. In Peninsular Malaysia, the planting time is usually decided by the water supply situation. Unirrigated annual crops can avoid dry months. These crops have short root systems and therefore can draw moisture from only a shallow layer of soil. No annual lowland crops can survive under such condition for long and need a regular supply of rainfall. Where irrigation is possible, annual crops are normally planted after wet months when water supply is most reliable.

All annual crops except for wet paddy are unfavorably affected by heavy rainfall. Soils saturated with water prevent the efficient intake of nutrients by the roots due to lack of aeration. Flash floods may do irreparable damage to these crops.

Other climatic factors are of minor importance for the optimal growth of annual lowland crops. Because of the freedom in selecting

the most suitable season for cultivation, annual crops are less strictly controlled by climate than perennial crops. Most annual crops can be cultivated successfully almost anywhere in the lowlands of Peninsular Malaysia, provided the right time of planting is chosen.

D.3.2 Agro-climatic region

Agro-climatic regions set up by MARDI are determined by the following monthly climatic characteristics:

- D; *dry month*, defined by the Agricultural Rainfall Index being below 40 during at least 20% of the last 30 years on record. The Agricultural Rainfall Index is expressed by rainfall in percent of the potential evapotranspiration. A dry season or "agricultural drought" is defined as a period when the Agricultural Rainfall Index is below 40, indicating that less than half of the water requirements of most crops is supplied by rainfall.
- d; *irregular rainfall, causing short-term droughts*. Even during months with a reasonable total rainfall, much of it may have been received during only a few days. This concentration in time may cause moisture stress in plants with shallow root systems. A daily water-balance model is used to calculate the probability of days with a low moisture content in the topsoil. When this probability exceeds 40% during a certain month over a period of 25 years, the symbol "d" is used. Where "D" is indicated for the same month, "d" is omitted because in that cases it is irrelevant.
- m; *diurnal rainfall maximum during the morning*. In coastal areas the diurnal distribution of rainfall shows a morning maximum when the main monsoonal wind comes from the sea.
- F, f; *probability of flash floods*. These are caused by continuous intensive rainfall. Flash floods occur most frequently when the monthly total rainfall exceeds about 200 mm. The symbol "F" indicates that flash floods happen during 90% of the years on record, while "f" indicates a probability of 80%. However, the occurrence of flash floods is strongly affected by local landforms.
- WW, w; *probability of strong wind gusts*. Strong winds are particularly damaging to tree crops. Since wind records are kept at only a few meteorological stations in the country, the danger cannot be quantified very well. It is assumed here that wind gusts occur most frequently in coastal areas.
- r; *heavy cloudiness*, that reduces the amount of solar radiation to levels which are insufficient for some crops. The indicator

is used when the monthly mean number of sunshine hours per day is below 4.6. This value corresponds to about 40% of the maximum possible hours of sunshine.

Using these criteria, MARDI divides the lowlands of Peninsular Malaysia into 26 agro-ecological regions. Monthly characteristics in each region is shown in Table D-19. Climatic advantages and limitations for each particular crop in the respective regions are indicated in Table D-20. The correlation between administrative districts and these 26 agro-ecological regions is shown in Table D-21. Recommendable crops, both suitable and marginal, in each agro-ecological region are listed up in Table D-22.

*Feasibility Study on Rationalization and Crop Diversification
in Non-granary Irrigated Areas in Malaysia*

*Vol. 2
Crop Diversification Evaluation Methodology*

Appendix D

Tables

Table D-1 Soil Limitations to Crop Growth

Symbol	Type	Very Serious	Serious	Moderate	Minor
a	Depth to acid sulphate layer	-	0-25 cm fro the suerface (0-10 inches)	>25-50 cm from the surface (10-20 inches)	>50-100 cm from the surface (20-40 inches)
c	Depth to compacted layer	0-25 cm from the surface (0-10 inches)	>25-50 cm from the surface (10-20 inches)	>50-75 cm from the surface (20-30 inches)	>75-100 cm from the surface (30-40 inches)
D d	Drainage	-	Excessively drained Very poorly to poorly drained	Somewhat excessively drained Imperfectly drained	- Moderately well drained
E e	Erodibility	*>20° slopes for more erodable soils >35° slopes for less erodable soils	>12°-20° slopes for more erodable soils >20°-35° slopes for less erodable soils	>6°-12° slopes for more erodable soils >12°-20° slopes for less erodable soils	2°-6° slopes for more erodable soils 2°-12° slopes for less erodable soils
N n	Nutrient imbalance	Toxicity caused by extremely high contents of certain elements	- Low nutrient retaining capacity with or without acute nutrient deficiencies	Acute nutrient deficiencies	-
o	Organic horizon thickness	>125 cm plus other unfavourable properties	>125 cm thick from the surface	>50-125 cm thick from the surface	25-50 cm thick from the surface
R r	& stoniness to 100 cm depth	>75% with 0-25 cm stone-free soil	>50-75% with 0-25 cm stone-free soil	>25-50% with 0-25 cm stone-free soil >50-75% with 25-50 cm stone-free soil	10-25% with 0-25 cm stone-free soil 25-50% with 25-50 cm stone-free soil
s	Salinity	-	Strongly saline	Moderately saline	Very slightly saline
T t	Texture and structure	-	Coarse textured and structureless Fine textured and structureless	Coarse textured and weakly structured Fine textured and weakly structured or strongly coarse structured	- -
H	Human	Land disturbed by urbanization (u) and mining (m)	-	-	-

Remarks: *, In Sarawak the distinct change in slope occurs at 25° instead of 20°.
Source: Federal and Sarawak

Table D-2 List of Crops Examined on Soil-crop Suitability Classification (1/2)

Crop Group	Common Malaysian Name	Other Common Name
1.	Asam jawa Bacang - Berangan Binjai Durian Kuini Kundang Mangga Mata Kucing Nangka Rambai Sentol Sukun	Tamarind Brazil nut Mango Jackfruit Breadfruit
2.	Kelapa	Coconut
3.	Kelapa Sawit Pinang	Oil palm Arecanut
4.	Asam gelugur Buah keras Buah mentega Cempedak Ciku Duku Jambu air Jambu bol Jambu mawar Kedondong Kelumpang Koko Langsat Longan Manggis Meninjau Pulasan Rambutan	Candle nut Water rose apple Mountain apple Rose apple Cocoa Mangosteen
5.	- Buah pala Getah Kapok Jarak	Avocado Nutmeg Rubber Castor
6.	Sagu	Sago palm

Source: DOA

Table D-2 List of Crops Examined on Soil-crop Suitability Classification (2/2)

Crop Group	Common Malaysian Name	Other Common Name
7.	Bedara Belimbing buluh Belimbing manis Buah nona Cerma Delima Durian belanda Jambu batu Nona srikaya Rukam manis Rukam masam Salak	Chinese dates Carambola Custard apple Country gooseberry Pomegranate Soursop Guava Sop Rokam
8.	- - Makisa Pisang	Abaca Kenaf Passion fruit Banana
9.	Gajus	Cashewnut
10.	Kopi	Coffee
11.	Teh	Tea
12.	Cengkih	Clove
13.	Betik	Papaya
14.	Tembakau	Tobacco
15.	Limau	Citrus
16.	Halia	Ginger
17.	Tebu	Sugarcane
18.	Jagong Ubi kayu	Maize Tapioca
19.	Sekoi	Sorghum
20.	Lada hitam	Pepper
21.	Nanas	Pineapple
22.	Kacang tanah	Ground nut
23.	Sayur-sayur (+ Keledek)	Vegetable (+ sweet potatoes)
24.	Padi sawah	Wet paddy
25.	-	Fodder grasses
26.	-	Pasture

Source: DOA