Table IV.2.3 AGRICULTURAL LAND USE IN THE PROJECT AREA

						Maize/		Buck-				
	Area WET LAND	Net	Paddy	Maize	Wheat	Soyabean	Mustard	wheat	Barley	Potato	Chili	Total
	wer LAND ntshi Distri	nt .					· .					
1	Pang Khar	6	6	***		· · · · · · ·	••					6
2	Ganzoor	16	16	_			_		-			16
3	Tangmachhu	185	184	·	4	-	-		***		· - ·	188
4	Minji	116	116			₩		~	-	-		116
5	Menjibi	12	12		~-	-	. ***	·		−;	-	12
6	Kupinesa	16	16	-		. –	- ,	·- ·	-	· - ·		16
7	Wambur	43	43	<u></u>					-	_	-	43
	Sub-total	394	393	.0	4	. 0	0	0	0	0	0	397
	gar District	. сл	54	16						_	_	70
9	Chall Karbithang	54 10	10	10		_		_		·		10
10	Karibee	0		***		~	_				_	0
11	Masangdaza	16	16	_		: <u>-</u> ,	٠ 🚐 .		.	-	_	16
12	Pangsibl	0		,		_		·	_			0
13	Gyelposhing	38	21	_		•••	· • .	1		_	1	23
14	Kalapang	0	- ,	. -		-	_		-	-	 '	0
15	Yadi	29	29		-	· -	· -	10		-	.	39
16	Chaskhar	46	46	2 t -				4	-		_	50
٠.	Sub-total	193	176	16	0	0	0	15	0	0	,1	192
Wet	land total	587	569	16	4	0	0	15	0	0	1	585
II.												
	ntshi Distri			· . ·		10					. 2	21
	Pang Khar	19		18		19		_		_		18
2	Ganzoor Tangmachhu	18 102	_	102	_	_	_	_	_	_	_	102
3 4	Minji	42	_	-	_	42		-	_	· _	_	42
5	Menjibi	7.		• • 7		~			-	_	***	7
6	Kupinesa	38	: -	-	_	38	-	_		-		38
7	Wambur	81	· _	-	-	81	-	-	· -	_	-	81
	Sub-total	307	. 0	127	0	180	<u>o</u>	0	0	. 0	2	309
Mon	gar District											
8	the contract of the contract o	100	<u> </u>	100	. 8	-	8	-		-	-	116
	Karbithang	0	-	-			-	-	_	-	-	9
.10	Karibee	22	-	36		-		-	-		_	36
11	Masangdaza	39		39	_		-	22			_	61 18
	Pangsibi	18	_	18 4		_		_	_	_	1	5
	Gyelposhing	4		9	-		-	2		_	_	11
14 15	Kalapang Yadi	77	· .]	77				2	40	<u>.</u>		119
16	Chaskhar	186	_	186		_	_	_	100	10	_	296
10	Sub-total	455	0	469	8	0	' 8	26	140	10	1	662
DEV	land total	762	0	596	8	180	.8	26	140	10	3	971
m	. TSHERI LANI) .										
	ntshi Distri	ct										
1	Pang Khar	. 9	-	· · - ·	2	· -	_	_	-		-	2
2		4	_	2	-	-	-	-	-		-	2
. 3	Tangmachhu	98	7 .	14	_		. -	_	-	- -,	-	14 6
4	Minji	20	<u>.</u>	- 1	•-	6	-	-	_		_	1
5	Menjibi	3	· -	_1	_	. – .6		_		_	· -	. 6
6	Kupinesa	32 16	· _	_ 5	_	. 6 		~	_	_		5
7	Wambur Sub-total	182	0	22	2	12	0	0	0		0	36
Mon	gar District	LOE		LL	_	16.	•	Ü	-		-	
8	Chali	50	_	. 10	0	_					-	10
9	Karbithang	0		0	0	-	-	-	-	-	- '	0
10	Karlbee	15	. <u>-</u>	3	0	-	-	-	-	-	-	3
11	Masangdaza	0	-	0	0	-		-		· -	_	0
12	Pangsibi	5	. .	2	0		-		<u>-</u>	· -	-	2
13	Gyelposhing	0	_	0	0.		-	-		-	-	0
14	Kalapang	5	-	3	0	· -	-	-	-		-	3
15	Yadi	30		6	0	: -	. -	-	-	_	-	6
16	Chaskhar	73		14	4	-	***	- <u>-</u>		·		18
	Sub-total	178	0	38	4	0	0	0	0	0	0	42
m 1-	eri land tota	360	٥	60	6	12	0	0	0	0	0	78

Table IV.2.4 LAND HOLDING STATUS IN THE STUDY AREA

Land	Owner Op	orator	Ar	ea	Average
Holding Size	Number	(8)	Area (ha)	(g)	Size
and the second s	Number.	/ 0 /	nrea (na)	101	(ha)
(ha)		······································			
. Lhuntshi Distric	. t				
. Lhuntshi Distric					
Below 0.2	10	1.8	1.4	0.1	0.14
0.2 - 0.4	5	0.9	1.4	0.2	0.28
0.4 - 0.6	14	2.6	4.2	0.5	0.30
0.6 - 0.8	26	4.7	15.1	1.6	0.58
0.8 - 1.0	100	18.2	76.7	8.3	0.77
1.0 - 1.2	8.4	15.3	95.7	10.4	1.14
1.2 - 1.4	16	2.9	20.4	2.2	1.28
1.4 - 1.6	35	6.4	41.0	4.5	1.17
1.6 - 1.8	90	16.4	146.5	15.9	1.63
1.8 - 2.0	45	8.2	101.7	11.0	2.26
Above 2.0	124	22.6	416 9	45.3	3.36
				1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	44
Total	549	100	921.0	100	1.68
	P				
				-	
I. Masangdaza Distri	ct				4.
		4.5.5	4.4		0.10
Below 0.2	118	15.5	11.5	1.4	0.10
0.2 - 0.4	72	9.5	18.5	2.3	0.26
0.4 - 0.6	57	7.5	30.6	3.7	0.54
0.6 - 0.8	82	10.8 12.2	59.9 81.3	7.3	0.73 0.87
0.8 - 1.0	93		79.3	9.7	1.22
1.0 - 1.2	65	·8.5	100.6	12.3	1.22
1.2 - 1.4	81	10.6	69.3	12.3 8.5	1.24
1.4 - 1.6	50	6.6		9.9	1.39
1.6 - 1.8	42	5.5	80.9	and the second of the second o	1.90
1.8 - 2.0	23	3.0	43.7	5.4	3.09
Above 2.0	78	10.3	240.8	29.5	3.09
	7.61	100.0	816.4	100.0	1.07
Total	761	100.0	010.4	ino. A	1.07

Source: Demographic surveys in the project schemes.

Table IV. 2.5 CROPPIMG INTENSITY IN THE PROJECT AREA

pped Cropping Cropped Cropping Cropped area Intensity Net area Intensity Intensity Intensity Net area Intensity Int			Wet land	7		Dry land		Tsheri	eri land	d		Total	
Net area Intensity Area area Broth Broth Broth Broth	Area		Cropped	Cropping		Cropped		Ö	ropped	Cropping		Cropped	Cropping
6 6 100% 19 21 111% 9 2 22% 34 29 8 16 16 100% 18 100% 4 2 50% 38 36 99 185 188 102% 102 100% 4 2 50% 38 36 99 116 110% 42 42 100% 20 6 30% 178 164 9 12 12 100% 3 100% 32 6 13% 22 20 164 9 16 16 16 3 3 100% 32 6 13% 16 60 74 2 10 10 30 101% 16 5 31% 16 16 6 6 16 60 16 10 43 101% 307 309 101% 16 2 20% 10		Net	area	Intensity	Net	area	Intensity	et	area	Intensity	Net	area	Intensit
oct 6 100% 19 21 111% 9 2 22% 34 29 8 16 16 100% 18 101% 42 100% 42 100% 3 14% 385 304 7 116 110% 42 42 100% 20 6 30% 178 164 9 12 110% 42 42 100% 20 6 30% 178 164 9 12 110% 3 100% 3 100% 3 164 9 22 26 30% 178 164 9 16 10% 3 100% 3 100% 16 16 9 16 16 9 394 397 100% 30 101% 16 16 9 16 16 9 10 10 10 10 10 10 10 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>٠.</td><td></td><td></td></t<>											٠.		
6 6 100% 19 21 111% 9 2 22% 3% 29 8 185 186 102% 18 100% 4 2 50% 38 304 9 116 100% 42 100% 20 6 30% 178 164 9 12 100% 42 100% 3 1 15% 304 9 2 20% 304 9 14 14% 385 304 9 1 14% 36 10 1 10 10 10 10 10 10 1	Lhuntshi Distri	ig.									-		. 1
16 100\$ 18 100\$ 4 2 50\$ 38 36 9 14 14\$ 385 304 7 7 100\$ 98 14 14\$ 385 304 7 100\$ 12 100\$ 12 304 7 100\$ 16 100\$ 16 100\$ 10 100\$ 10 100\$ 10 100\$ 10		6	9	0	5 7	21	Н	on On	7	3		29	S
185 188 102\$ 102\$ 100\$ 98 14 14\$ 385 304 7 116 110\$ 42 42 100\$ 20 6 30\$ 178 164 9 12 12 100\$ 38 38 100\$ 8 6 19\$ 86 60 7 43 43 100\$ 81 100\$ 16 16 50\$ 10\$ 86 120 9 594 397 101\$ 38 100\$ 6 10\$ 86 16 129\$ 86 60 7 54 43 100\$ 81 101\$ 182 36 20\$ 883 742 8 10 10 10 16 16 16 16 19 8 10 10 10 10 10 16 16 20\$ 10 10 10 10 10 10		16	16	100%	18	18	00	4	7	0		36	υÇ
116 116 100% 42 42 100% 20 6 30% 178 164 9 12 12 100% 3 100% 32 6 33% 22 20 9 43 43 100% 81 100% 32 6 13% 140 129 9 394 397 101% 81 100% 32 6 34 140 129 9 54 70 130% 101 101% 16 16 20% 883 742 8 10 10 100% 116 116 16 5 31% 129 9 10 10 10 1 1 16 10 1<			∞	\sim		0	00		14	4	∞	0	(O)
12 12 100% 3 1 33% 22 20 9 16 16 100% 38 38 100% 32 6 19% 86 60 7 43 43 100% 38 100% 16 16 140 129 86 60 7 394 397 101% 307 309 101% 182 36 20% 883 742 8 10 10 20 20 30 116 116% 50 10 20% 883 742 8 10 10 30 116 116% 50 10 - 10 10 - 10 10 - 10 - 10 - 10 - 10 - - 10 - - 10 - - 10 - - 10 - - 10 - - <td< td=""><td></td><td>러</td><td>Н</td><td>100%</td><td>42</td><td>42</td><td>00</td><td></td><td>9</td><td>0</td><td>~</td><td>Ø</td><td>92%</td></td<>		러	Н	100%	42	42	00		9	0	~	Ø	92%
16 16 16 100% 38 38 100% 32 6 19\$ 86 60 7 394 43 100% 81 100% 16 5 31\$ 140 129 9 394 397 101% 81 100% 16 116* 5 20\$ 88 742 8 10 100% 307 101% 108 36 164* 15 36 20\$ 88 77 14 10 10 10 10 116* 16 16 20\$ 204 196 9 10 10 0 0 0 0 - 10 10 10 10 0 0 - 0 - 10 10 16 16 16 15 3 20\$ 37 39 10 16 16 16 15 3 20\$ 37 39 10 16 16 16 15 3 60\$ - 40\$ 23 20\$ 10 10 16 16 16 16 16 14 14 14				100%	7	1	00		~	ഗ	22	20	ᆏ
43 43 100% 81 100% 16 5 31% 140 129 9 394 397 101% 309 101% 182 36 20% 883 742 8 10 100% 307 309 101% 106 8 36 16 10 10 10 100% 0 - 0 - 10 10 16 16 10 - 0 - 10 10 16 16 10 - 0 - 10 10 16 16 10 - 0 - 10 10 16 16 10 0 - 10 10 16 16 18 18 10% 20% 37 39 10 10 - 18 10% 5 2 40% 23 20 8 20 0 - 45 125% 0 - 42 27 14 20 0 0 0 0 0 0 0 0 10 20 0 0 0 0 <td< td=""><td></td><td>9 T</td><td>91</td><td>00</td><td>38</td><td>38</td><td>00</td><td>32</td><td>ဖ</td><td>Q,</td><td>86</td><td>09</td><td>0</td></td<>		9 T	91	00	38	38	00	32	ဖ	Q,	86	09	0
394 397 101% 309 101% 182 36 20% 883 742 88 54 70 130% 100 116 116% 50 10 20% 204 196 9 10 100% 0 0 0 0 0 0 0 10 10 10 100% 0 <	7 Wambur		43	8	≓ 80	83	00	9 T	'n	Н	4	~	N
54 70 130% 100 116% 50 10 20% 204 196 9 10 10 100% 0 0 0 0 0 0 0 10 10 0 0 0 0 0 0 0 0 16 16 100% 39 61 156% 0 0 0 0 0 0 16 16 100% 39 61 156% 0 14	Sub-total	394	397	ರ	307	0	70	ထ		0	∞	4	4
54 70 130% 100 116 116% 50 10 20% 204 196 9 10 100% 0 - 0 - 10 10 10 100% 0 - 0 - 10 10 16 16 100% 39 61 156% 0 - 55 77 14 16 16 100% 39 61 156% 0 - 52 40% 23 20 38 22 58% 4 5 125% 0 - 42 27 6 0 0 0 - 40% 23 20 14 14 9 29 134% 77 119 155% 30 6 20% 134 11 46 50 109% 186 296 159% 73 18 25% 305 364 11 193 207 107% 455 662 145% 77 178 42 22% 1,709 1,653 9				٠.									
54 70 130% 100 116% 50 10 20% 204 196 9 anarg 10 100% 0 - 0 - 10	Mongar District												
lange 10 10 100% 0 0 - 0 0 - 10 10 10 10 10 10 10 10 10 10 10 10 10		54	70	0	\circ	Н	16	50	0 H	0	0	S)	Ø
laza 16 16 16 100% 39 61 156% 0 0 - 55 77 14 25 8		10	01	100%	0		1	0	0	ı. I.	Н	10	00
daza 16 16 100% 39 61 156% 0 - 55 77 14 bing 38 22 58% 4 5 125% 0 0 - 42 27 6 shing 38 22 58% 4 5 125% 0 0 - 42 27 6 ag 0 0 0 0 - 42 27 6 ar 46 50 109% 186 296 159% 73 18 25% 305 364 11 cal 193 207 107% 455 662 145% 178 42 24% 826 911 11 1 587 604 103% 762 971 127% 360 78 22% 1,709 1,653 9	•	0	0				64		ന	0	$^{\circ}$	39	0.5
bhing 38 22 58% 4 5 125% 0 0 - 42 27 6 5 3 60% 14 14 9 5 125% 30 6 6 20% 14 14 9 9 11 122% 5 3 60% 14 14 9 9 11 122% 5 3 60% 14 14 9 9 12 29 39 134% 77 119 155% 30 6 20% 136 164 12 23 16 50 109% 186 296 159% 73 18 25% 305 364 11 23 207 107% 455 662 145% 178 42 24% 826 911 11 11 11 11 11 11 11 11 11 11 11 11	H	16	76	0			56	0	0	i		77	40
shing 38 22 58% 4 5 125% 0 0 - 42 27 6 ng 0 0 08 9 11 122% 5 3 60% 14 14 9 29 39 134% 77 119 155% 30 6 20% 136 164 12 ar 46 50 109% 186 296 159% 73 18 25% 305 364 11 cal 193 207 107% 455 662 145% 178 42 224% 826 911 11 1 587 604 103% 762 971 127% 360 78 22% 1,709 1,653 9	 (7	0	0	1			00	ហ	2	0		20	[~
ng 0 0 0 08 9 11 122% 5 3 60% 14 14 9 2 2 3 3 9 134% 77 119 155% 30 6 20% 136 164 12 12 12 12 193 207 109% 145 662 145% 178 42 25% 305 364 11 11 11 193 207 103% 762 971 127% 360 78 22% 1,709 1,653 9		m	22	.58 %	4		25	0	0	1		27	64%
29 39 134% 77 119 155% 30 6 20% 136 164 12 ar 46 50 109% 186 296 159% 73 18 25% 305 364 11 tal 193 207 107% 455 662 145% 178 42 24% 826 911 11 11 587 604 103% 762 971 127% 360 78 22% 1,709 1,653 9		0		& O	თ		22	ιΩ	m	0		14	~
ar 46 50 109% 186 296 159% 73 18 25% 305 364 11 cal 193 207 107% 455 662 145% 178 42 24% 826 911 11 11 11 1587 604 103% 762 971 127% 360 78 22% 1,709 1,653 9	_Ω		88	- 41			S		9	\circ	ന	ďΩ	21
cal 193 207 107% 455 662 145% 178 42 24% 826 911 11 1 587 604 103% 762 971 127% 360 78 22% 1,709 1,653 9			20	109%		σ	R) Q)		18	S	0	9	19
1 587 604 103% 762 971 127% 360 78 22% 1,709 1,653 9	Sub-total	193	207	0.7	r)	Ó	Ω.	<u></u>	42	₹"	Ö	⊢1.	70
	Grand Hotal	· α	408	 	762	1 5	1	360			7.0	T.C	07
)	· >))))		-))		3)))

Table IV.2.6 STATISTICAL DATA ON CULTIVATED AREA, PRODUCTION AND YIELD IN THE STUDY AREA

V+ VP							and the		
LHONTSHIT DISTRICT	Y	الا الكال ويوارس مساعدة بمياد مياد المياد المي	Wet	Drv	Tsheri	Other*	Total	Total	Unit
LHUNTISHI DISTRICT	Crop			_	and the state of the state of		area	Production	Yield
LHOWTSHI DISTRICT	77.75					(ha)	(ha)	(ton)	(ton/ha)
Total net area 839		121							
Cereals	LHUNTSHI DIST	RICT							
Maize			839	1,943	758	93	3,633		
Wheat	Cereals	Paddy	772	0	0	0			
Barley		Maize	0	1,360	200	0	1,560	1,385	0.9
Buckwheat 0		Wheat	478	53	0	. 0	531	531	
Millet		Barley	0	:80	. 0	0	80		4.7
Legumes		Buckwheat	0	80	0				
Legumes				200	. 0	0	and the second second	and the second of the second of	0.5
Others 0 40 0 0 0 40 10 0.3 Others 0 440 0 0 0 440 210 Oil seed Mustard 12 40 20 0 72 18 0.3 Vegetables Potato 20 60 40 16 136 1,000 7.4 Chilli 0 320 80 20 420 300 0.7 Others 4 10 0 40 54 40 0.7 Others 2 4 10 0 40 54 40 0.7 Total 1,286 2,643 340 76 4,345 4,426 **NONCAR DISTRICT** Total net area 527 2,896 2,454 88 5,965 Cereals Paddy 543 0 0 0 543 815 1.5 Maize 20 3,456 30 0 3,506 7,013 2.0 Barley 0 240 0 0 240 220 0.9 Buckwheat 16 60 0 0 76 86 1.1 Millet 0 20 120 0 140 144 1.0 total 587 3,948 150 0 4,685 8,466 Legumes Soyabean 0 240 0 0 240 140 144 1.0 total 0 384 0 0 384 288 Oil seed Mustard 0 200 0 0 240 180 0.8 Chilli 0 144 0 0 144 108 0.8 Vegetables Potato 0 360 0 0 724 3,695 Total 587 5,256 150 0 5,993 12,618 STRUDY ARRA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 136 116 0.7 Wheat 486 225 0 0 7,908 11,315 1.5 Maize 20 4,816 230 0 5,066 8,398 1.7 Total 1,873 5,721 350 0 7,908 11,318 Legumes Soyabean 0 60 0 0 722 0.9 Total 1,873 5,721 350 0 7,908 11,318 Legumes Soyabean 0 60 0 0 722 0.9 Total 1,873 5,721 350 0 7,908 11,318 Legumes Soyabean 0 60 0 0 724 3,695 Total 1,873 7,789 490 0 0 272 193 0.7 Vegetables Mustard 16 10 0 0 0 144 171 1.0 Others 0 20 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		total	1,250	1,773	200				
Number Cotal Cot	Legumes	Soyabean	0	400	0	0			200
Oil seed Mustard Vegetables 12 Potato 40 20 0 72 18 0.3 Vegetables Potato 20 60 40 16 136 1,000 7.4 Chilli 0 320 80 20 420 300 0.7 total 24 10 0 40 54 40 0.7 Total 1.286 2,643 340 76 4,345 4,426 MONGAR DISTRICT Total net rea 527 2,896 2,454 88 5,965 Cereals Paddy 543 0 0 0 543 815 1.5 Malze 20 3,456 30 0 3,506 7,013 2.0 Wheat 8 172 0 0 180 180 1.0 Barley 0 240 0 0 76 86 1.1 Millet 0		Others	0	40	0	0			0.3
Vegetables Potato 20		total	0						±
Chilli	Oil seed	Mustard		1.55					
Others	Vegetables	Potato	20	60			the second secon		
Total		Chilli		320					
MONGAR DISTRICT		Others	4	10	0				0.7
MONGAR DISTRICT		total	. 24	390	The second secon				
Total net area 527 2,896 2,454 88 5,965 Cereals Paddy 543 0 0 0 543 815 1.5 Maize 20 3,456 30 0 3,506 7,013 2.0 Wheat 8 172 0 0 0 180 180 1.0 Barley 0 240 0 0 240 222 0.9 Buckwheat 16 60 0 0 76 86 1.1 Millet 0 20 120 0 140 144 1.0 total 587 3,948 150 0 4,685 8,460 Legumes Soyabean 0 240 0 0 0 240 180 0.8 Chers 0 144 0 0 144 108 0.8 Chers 0 144 0 0 144 108 0.8 Chers 0 360 0 0 384 288 Oil seed Mustard 0 200 0 0 384 288 Oil seed Mustard 0 300 0 0 360 3,150 8.8 Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 200 175 0.9 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,993 12,618 STUDY AREA Total net area 1,466 225 0 0 711 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 Wheat 486 225 0 0 711 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 total 1,837 5,721 350 0 7,908 11,318 Legumes Soyabean 0 640 0 640 380 0.6 Chers 0 184 0 0 824 498 Oil seed Mustard 12 240 20 0 0 272 193 0.7 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 Lotal 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044	Total		1,286	2,643	340	76	4,345	4,426	
Total net area 527 2,896 2,454 88 5,965 Cereals Paddy 543 0 0 0 543 815 1.5 Maize 20 3,456 30 0 3,506 7,013 2.0 Wheat 8 172 0 0 0 180 180 1.0 Barley 0 240 0 0 240 222 0.9 Buckwheat 16 60 0 0 76 86 1.1 Millet 0 20 120 0 140 144 1.0 total 587 3,948 150 0 4,685 8,460 Legumes Soyabean 0 240 0 0 0 240 180 0.8 Chers 0 144 0 0 144 108 0.8 Chers 0 144 0 0 144 108 0.8 Chers 0 360 0 0 384 288 Oil seed Mustard 0 200 0 0 384 288 Oil seed Mustard 0 300 0 0 360 3,150 8.8 Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 200 175 0.9 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,993 12,618 STUDY AREA Total net area 1,466 225 0 0 711 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 Wheat 486 225 0 0 711 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 total 1,837 5,721 350 0 7,908 11,318 Legumes Soyabean 0 640 0 640 380 0.6 Chers 0 184 0 0 824 498 Oil seed Mustard 12 240 20 0 0 272 193 0.7 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 Lotal 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044		200						in the sections	
Cereals	MONGAR DISTRI	CT			*	* .			1.00
Maize 20 3,456 30 0 3,506 7,013 2.0 Wheat 8 172 0 0 180 180 1.0 Barley 0 240 0 0 240 222 0.9 Buckwheat 16 60 0 0 76 86 1.1 Millet 0 20 120 0 140 144 1.0 total 587 3,948 150 0 4,685 8,460 Legumes Soyabean 0 240 0 0 240 180 0.8 Others 0 144 0 0 144 108 0.8 Others 0 144 0 0 144 108 0.8 total 0 384 0 0 384 288 Oil seed Mustard 0 200 0 0 200 175 0.9 Vegetables Potato 0 360 0 0 360 3,150 8.8 Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 220 275 1.3 total 0 724 0 0 724 3,695 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,066 8,398 1.7 Wheat 486 225 0 0 711 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 total 1,837 5,721 350 0 7,908 11,318 Legumes Soyabean 0 640 0 0 640 380 0.6 Others 0 184 0 0 184 118 0.6 total 0 824 0 0 824 498 Oil seed Mustard 12 240 20 0 627 193 0.7 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 4 230 0 40 274 315 1.1 total 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044	Total net	area	527	2,896					
Wheat	Cereals	Paddy						and the second s	
Barley		Maize	20						
Buckwheat 16		Wheat		the second second					
Millet		Barley							
Legumes Soyabean 0 240 0 0 240 180 0.8 Others 0 240 0 0 240 180 0.8 Others 0 144 0 0 144 108 0.8 Cotal 0 384 0 0 384 288 0 Oil seed Mustard 0 200 0 0 200 175 0.9 Vegetables Potato 0 360 0 0 360 3,150 8.8 Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 220 275 1.3 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 </td <td></td> <td>Buckwheat</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>and the second second</td> <td></td>		Buckwheat						and the second second	
Legumes Soyabean O 240 O O 240 180 O O O Chers O 144 O O O 144 108 O O O O O O O O O		Millet					and the second s		1.0
Others 0 144 0 0 144 108 0.8 total 0 384 0 0 384 288 Oil seed Mustard 0 200 0 0 200 175 0.9 Vegetables Potato 0 360 0 0 360 3,150 8.8 Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 220 275 1.3 total 0 724 0 0 724 3,695 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 1,315 1,587 1,2 Maize 20 4,816 230 0 5,066				1 To					
total 0 384 0 0 384 288 Oil seed Mustard 0 200 0 0 200 175 0.9 Vegetables Potato 0 360 0 0 360 3,150 8.8 Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 220 275 1.3 total 0 724 0 0 724 3,695 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,066 8,398 1.7 Wheat 486 225 0 0 711 <	Legumes	–					Annual Control of the		
Oil seed Mustard 0 200 0 0 200 175 0.9 Vegetables Potato 0 360 0 0 360 3,150 8.8 Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 220 275 1.3 total 0 724 0 0 724 3,695 1.3 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,066 8,398 1.7 Wheat 486 225 0 0 711 711 1.0 Barley <t< td=""><td></td><td></td><td></td><td></td><td></td><td>A CONTRACTOR OF THE PARTY OF TH</td><td></td><td>and the second of the</td><td>0.8</td></t<>						A CONTRACTOR OF THE PARTY OF TH		and the second of the	0.8
Vegetables Potato 0 360 0 0 360 3,150 8.8 Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 220 275 1.3 total 0 724 0 0 724 3,695 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,966 8,398 1.7 Wheat 486 225 0 0 711 711 1.0 Barley 0 320 0 0 711 711 1.0 Millet 0 220 120 <		7							
Chilli 0 144 0 0 144 270 1.9 Others 0 220 0 0 0 220 275 1.3 total 0 724 0 0 724 3,695 Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,066 8,398 1.7 Wheat 486 225 0 0 711 711 1.0 Barley 0 320 0 0 5,066 8,398 1.7 Millet 0 220 120 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 total 1,837 5,721 350 0 7,908 11,318 Legumes Soyabean 0 640 0 0 640 380 0.6 Others 0 184 0 0 184 118 0.6 total 0 824 0 0 624 498 Oil seed Mustard 12 240 20 0 272 193 0.7 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 4 230 0 40 274 315 1.1 total 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044		and the second second second							
Others 0 220 0 0 220 275 1.3 total 0 724 0 0 724 3,695 Total 587 5,256 150 0 724 3,695 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,066 8,398 1.7 Wheat 486 225 0 0 711 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 total 1,837 5,721 350 0	Vegetables		and the second second						
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Total 587 5,256 150 0 5,993 12,618 STUDY AREA Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,066 8,398 1.7 Wheat 486 225 0 0 7111 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 total 1,837 5,721 350 0 7,908 11,318 Legumes Soyabean 0 640 0 0 640 380 0.6 Others 0 184 0 0 640 380 0.6 Others 0 184 0 0 184 118 0.6 total 0 824 0 0 824 498 Oil seed Mustard 12 240 20 0 272 193 0.7 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 4 230 0 40 274 315 1.1 total 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044								the second second	1.3
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Total net area 1,366 4,839 3,212 181 9,598 Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,066 8,398 1.7 Wheat 486 225 0 0 711 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 total 1,837 5,721 350 0 7,908 11,318 Legumes Soyabean 0 640 0 0 640 380 0.6 Others 0 184 0 0 184 118 0.6 total 0 824 0 0 824 498 Oil seed Mustard 12 240 20 0 272 193 0.7 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 4 230 0 40 274 315 1.1 total 1,873 7,899 490 76 10,338 17,044				<i>:</i>		4.00			
Cereals Paddy 1,315 0 0 0 1,315 1,587 1.2 Maize 20 4,816 230 0 5,066 8,398 1.7 Wheat 486 225 0 0 711 711 1.0 Barley 0 320 0 0 320 262 0.8 Buckwheat 16 140 0 0 156 116 0.7 Millet 0 220 120 0 340 244 0.7 total 1,837 5,721 350 0 7,908 11,318 Legumes Soyabean 0 640 0 0 640 380 0.6 Others 0 184 0 0 184 118 0.6 total 0 824 0 0 824 498 Oil seed Mustard 12 240 20 0 272			1 266	4 000	2 212	101	0.500		100
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total 0 824 0 0 824 498 Oil seed Mustard 12 240 20 0 272 193 0.7 Vegetables Potato 20 420 40 16 496 4,150 8.4 Chilli 0 464 80 20 564 570 1.0 4 230 0 40 274 315 1.1 total 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044	Legumes						and the second second		
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Chilli 0 464 80 20 564 570 1.0 4 230 0 40 274 315 1.1 total 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044									
4 230 0 40 274 315 1.1 total 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044	vederapies				and the second s				
total 24 1,114 120 76 1,334 5,035 Total 1,873 7,899 490 76 10,338 17,044		CHILL							
Total 1,873 7,899 490 76 10,338 17,044		+ a+ a.3				40			1.1
	Wat a 1	cocal							
	iocai		1,013		490	16	10,338	. I,7,044	

Source : Lhuntshi and Mongar Districts

 $[\]star$: Others includes orchard and kitchen garden

Table IV.2.7 ESTIMATED CROP PRODUCTION IN THE STUDY AREA

	<u> </u>			<u> </u>		. :
	Wet	Dry	Tsheri	Total	Total	Unit*1
Distric Crop	land	land	land	area	Production	Yield
	(ha)	(ha)	(ha)	(ha)	(ton)	(ton/ha)
I. LHUNTSHI DISTRI	С п					
Total net area		1,820	700	3,710		
Paddy	1,190	0	0	1,190	1,430	1.2
Maize	-, -50	1,220	130	1,350	2,300	1.7
Wheat	10	50	10	70	70	1.0
Barley	0	70	0	70	60	0.8
Buckwheat	ŏ	90	ŏ	90	60	0.7
Millet	. 0	200	0	200	140	0.7
Soyabean	Ŏ	340	20	360	220	0.6
Mustard	. 0	40	0	40	30	0.7
Potato	0	50	0	50	420	8.4
Chilli	. 0	320	0	320	320	1.0
Total	1,200	2,380	160	3,740		1.0
TOCAL	1,200	2,300	. 100	3,740		
II. MONGAR DISTRIC	· (†				•	
Total net area		3,920	3,290	8,120		
	830	3,320	3,290	830	1,000	1.2
Paddy Maize	80	4,020	700	4,800	8,160	1.7
Wheat	0	200	80	280	280	1.0
16 19 9 19 7 4 4	0	250	: 0	250	200	0.8
Barley Buckwheat	70	100	. 0	170	120	0.7
Millet	0	20	0	20	10	0.7
Soyabean	0	220	0	220	130	0.6
Mustard	0	230	0	230	160	0.7
· · · · · · · · · · · · · · · · · · ·	0	260	0	260	2,180	8.4
Potato Chilli	0	90	0	90	90	1.0
and the second s	1,890	9,310	4,070	15,270	30	1.0
Total	1,030	9,310	4,070	15,210		
		,				
III. STUDY AREA				•		
Total net area	2,100	5,740	3,990	11,830		
Paddy	2,020	0	0	2,020	2,430	1.2
Maize	80	5,240	830	6,150	10,460	1.7
Wheat	10	250	90	350	350	1.0
Barley	. 0	320	. 0	.320	2.60	0.8
Buckwheat	70	190	0	260	180	0.7
Millet	Ŏ	220	0	220	150	0.7
Soyabean	0	560	20	580	350	0.6
Mustard	Ö	270	0	270	190	0.7
Potato	ő	310	Ŏ	310	2,600	8.4
Chilli	. 0	410	0	410	410	1.0
Total	2,180	7,770	940	10,890		2,0
IULAI	4,100	. Will	240	10/030		

^{*1} Unit yields of crops are the average yields of statisyical data, mentioned in Table IV. 2.6.

Table IV.2.8 NUMBER OF LIVESTOCK AND POULTRY
IN THE STUDY AREA

The state of the s		Distric	ťs	
	Lhunt	shi	Mong	ar
	Head	(%)	Head	(용)
			ing the second s	
Cattle		**	0000	
Local Varieties	15,042	96	30,819	99
Improved Varieties	581	4	322	1
Total	15,623	100	31,141	100
Vole	276			
Yak	270			. –
Bufalow	· . <u>-</u> ·	<u> </u>		
Daratow	The second secon			
Sheep		•		
Local Varieties	391	80	140	100
Improved Varieties	99	20	_	
Total	490	100	140	100
		Ÿ		
Goat	_	9	± 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	
Horse				
Local Varieties	1,087	96	1,530	99
Improved Varieties	42	.4	17	1
Total	1,129	100	1,547	100
-				
Pigs	2 054	00	C E10	99
Local Varieties	3,054	99 1	6,518 89	99
Improved Varieties Total	39 3 , 093	100	6,607	100
iotai	3,093	1.00	0,007	100
Poultry				
Local Varieties	7,696	94	14,272	93
Improved Varieties	532	6	1,063	7
Total	8,228	100	15,335	100
		\$		

Source: District (Dzongkhag) Administration

LIVESTOCK AND POULTRY PRODUCTIVITY (1/2) Table IV.2.9

						;	
# 6 	11 11 11	Cattle	Te morror	7 F	Pags Tentromod	HOT	Horses
ר כי פוו	ם דונים		TIIIDTOVEG	1000 1000	DANGIGIIT	LOCAL	DDAO TAINT
1. Age at puberty	Month	36	24	16	10	36	56
2. Age at first parturition	Year	ਹਾ	- ന -	7	H	4	ც
3. Average number of young per parturition	No.	H	H	7-8	10-12	rd	H
4. Interparturition period	Month	24	4	9	1	24.	1
5. Adult live-weight	kg				٠		
- Male)	350	450	09	80	400	500
- Female		275	400	52	06	400	450
6. Adult dressed weight	ķģ	-			·		
. Male		195	1	45	09	ı	1
- Female		130	1	42	65		1
7. Feed requirement	kq/day						
(Dry matter)	•	4.5	ស	1	ı		Ļ
- Calves			6.8	1	ł		1
- Heifers		10.5		ł	ì	1	1
- Bulls				•			
8. Milk production	·		-				
- Yield	kg/year	300	900	1	1	1	1
- Butter fat content	οĶο	4.0-4.5	4.5-6.0		í		Ι .

Source: Mongar Animal Husbandry Farm, 1988.

LIVESTOCK AND POULTRY PRODUCTIVITY (2/2) Table IV.2.9

Item	Unit	Ü	Chicken
		Local	Improved
1. Age of maturity	Month	Ø 1	L-9
2. Egg production	No./year	150	200-225
3. Average egg weight	gram	35-40	50-55
4. Mature live-weight	, Б	0.75-1.0	1.0-1.25
5. Carcass weight	kg	0.5-0.75	0.75-1.0
6. Dressing-out percentage	οko	25	. 25

Source: Mongar Animal Husbandry Farm, 1988

Table IV.2.10 EXISTING MILLS IN THE STUDY AREA (1/2) (LHUNTSHI DISTRICT)

	Rice 1	Will		Oil	Mill
Block	Number	Total Capacity (ton/year)		Number	Total Capacity (ton/year)
1 Dungkhar	. 2	300	9	_	-
2 Gangzoor	6	900		_	·
3 Khoma	2	300	4.5	-	
4 Minji	4	600		_	
5 Tangmachhu	8	1,200			
6 Metsho				-	· · · · · · · · · · ·
7 Jarrey	1	150			•
8 Chengkhar	4	600			s .
Total	27	4,050		<u> </u>	

Note: Annual capacity of a rice mill is estimated about 150 ton on the basis following assumptions;

- Milling capacity / hour ; 150 Kg
 - Operational hours / day ; 5 hours
 - Annual workable days / year ; 200 days

Table IV.2.10 EXISTING MILLS IN THE STUDY AREA (2/2) (MONGAR DISTRICT)

	Rice	Mill	X	oil	Mill
Block	Number	Total Capacity (ton/year)		Number	Total Capacity (ton/year)
1 Chakaling	6	900		_	· · · · · · · · · · · · · · · · · · ·
2 Chamang	. 444	-		-	 .
3 Chaskhar	為扩展	<u></u>		<u></u>	_
4 Demchi	5	750			. –
5 Ngatshang	4	600		1	15
6 Gongdu				-	- .
7 Kengkhar		. - ,		-	_
8 Mongar	5	750	*	1	15
9 Salling	3	450		-	-
10 Silambi	- '	· _			· · · -
11 Thangrong	-	Aug.		· <u>-</u>	· · · -
Total	23	3,450		2	30

Note: Annual capacity of a oil mill is estimated about 15 ton on the basis following assumptions;

- Milling capacity / hour ; 30 Kg
- Operational hours / day ; 5 hours
 - Annual workable days / year ; 100 days

Table IV.2.11 PRESENT FARM ECONOMY OF AVERAGE SIZE FARMERS IN THE STUDY AREA

			Lhuntshi	CLEAN MANAGEMENT CONTRACTOR		Mongar	
	Item		Project			Project	
4.1	rcem		Area	es la		Area	
							
I.	Average Farm Size ((ha)					
	-Wet Land		0.7	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	The second		
	-Dry Land		0.6			0.6	
	-Tshery Land		0.3			0.2	
	-Others		0.1				
	Total		1.7			1.1	
					٠.		
				Produc-			Produc-
		Area	Yield	tion	Area	Yield	tion
II.	Crop Production	(ha)	(t/ha)	(t)	(ha)	(t/ha)	(t)
	-Paddy	0.70		2.03	0.27	1.50	0.41
	-Maize	0.66		1.25	0.69	2.00	1.38
-	-Wheat	0.01	0.50	0.02	0.01	1.00	and the second second
	-Buckwheat		. —	-	0.06	0.90	0.05
•	-Barley	* 		* # 1	0.18	0.90	0.16
	-Soybeans *	0.37	4	0.26	 .		-
	-Others	0.06				· -·	
	Total	1.43	20		1.21		
				5.1	1100		
III.	Cropping Intensity	849	5		110%		
	Crop Production Val (IV) Farm Income			10,940			5,320
	-Crops			980			130
	-Livestocks			1,270	100		730
	-Others		e sege		a de la companya de		. 60
* .	Total (V)		grande de la company	2,250			
* Com							920
	mercial Rate of Crop	os (%)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9	39 °		
	mercial Rate of Crop (Crop Income / IV))s (%)		9			
)S (%)		9			
				9			
	(Crop Income / IV)	1)		9 270			
	(Crop Income / IV) Non-Farm Income (Nu	1)					320
	(Crop Income / IV) Non-Farm Income (Nu -Government Employm	1)		270			320 440
	(Crop Income / IV) Non-Farm Income (Nu -Government Employm -Others	1)		270 360			320 440
VI.	(Crop Income / IV) Non-Farm Income (Nu -Government Employm -Others	1)		270 360			320 440 760
VI.	(Crop Income / IV) Non-Farm Income (Nu-Government Employment Country Total (VI)	1)		270 360 630			320 440 760
VI.	(Crop Income / IV) Non-Farm Income (Nu-Government Employment - Others Total (VI) Total Income (Nu)	ı) nent		270 360 630			320 440 760
VI.	(Crop Income / IV) Non-Farm Income (Nu-Government Employment - Others Total (VI) Total Income (Nu) (VII = V + VI)	ı) nent		270 360 630			320 440 760 1,680
VI.	(Crop Income / IV) Non-Farm Income (Nu -Government Employm -Others Total (VI) Total Income (Nu) (VII = V + VI) Living Expenses (Nu -Foods -Clothes	ı) nent		270 360 630 2,880 630 1,060			320 440 760 1,680
VI.	(Crop Income / IV) Non-Farm Income (Nu-Government Employment - Total (VI) Total Income (Nu) (VII = V + VI) Living Expenses (Nu-Foods -Clothes -Fuel	ı) nent		270 360 630 2,880 630 1,060 140			320 440 760 1,680 600 510
VI.	(Crop Income / IV) Non-Farm Income (Nu -Government Employm -Others Total (VI) Total Income (Nu) (VII = V + VI) Living Expenses (Nu -Foods -Clothes	ı) nent		270 360 630 2,880 630 1,060 140 1,010			320 440 760 1,680 600 510
VI.	(Crop Income / IV) Non-Farm Income (Nu-Government Employment - Total (VI) Total Income (Nu) (VII = V + VI) Living Expenses (Nu-Foods -Clothes -Fuel	ı) nent		270 360 630 2,880 630 1,060 140			320 440 760 1,680 600 510 130 440
VI. VII. VIII.	(Crop Income / IV) Non-Farm Income (Nu-Government Employment Empl	ı) nent		270 360 630 2,880 630 1,060 140 1,010 2,840			320 440 760 1,680 1,680 1,680
VI. VII. VIII.	(Crop Income / IV) Non-Farm Income (Nu -Government Employm -Others Total (VI) Total Income (Nu) (VII = V + VI) Living Expenses (Nu -Foods -Clothes -Fuel -Others	ı) nent		270 360 630 2,880 630 1,060 140 1,010			320 440 760 1,680 510 130 440

Note: *; Intercropped with maize.

POPULATION AND HOUSEHOLDS IN THE MODEL PROJECT AREA (1/2) (TANGMACHHU) Table IV.2.12

			- 1		C - + - E
	Wet Land Owner	Dry Land Owner	randless Farmer	Absent Land Owner	Total
Village	No. of Population	No. of Population	No. of Population	: :	n No. of Population
	Household	Household	Household	Household	Household
(1) Nebi	42 402	3 43	F 8	5 0	0 48 460
(2) Peri	1. 1.1	0	2 12		0 3 23
(3) Yongri	15	0	0	0	15 O
(4) Dosagang	0	1 37	ις, L		6 9 93
(5) Takila	2 16	0	4	36 0	0 6 52
(6) Khandar	20 203	5 T. 4	20.00	08	0 26 224
(7) Tungkhar	3. 26	0	0		0 3 26
(8) Khasaling	14 86	0	н м		0 17 99
(9) Kusumphel	8 53	1 . 12	0		65 65
(10) Gorgan	11 120	3 16		8 0	6 22 1.92
(11) Baming Dangsha	177	0	0		0 11 102
(12) Tangmachhu	88	0	0	0 11 10	ı.
(13) Domashong	32 7 104	2 14	0		0 34 118
(14) Sangtong	2 17	0	0	0 0	0 2 17
(15) Fakidung	36 370	0	0	0 10 6	3 46 4
(16) Thinlay Pang	10	0	0		0 7 70
(17) Larjeep	0	0	4	16 0	0 4 16
(18) Murmo	109	0			0 5 109
(19) Ngunmaling	12 350	. 0	0	0 0	0 12 350
(20) Bushong	59	0	0	.,	6 9 0
Total	216 2,136	14 135	23 156	6 29 224	(4 282 2,651

253 9.6 2,427 Landless Farmer 156 23 8.9 Dry Land Owner 135 9. 댓 Wet Land Owner Total Population 2,136 216 و. و. Total Household Family Size

Source : Population census and land registered record in Tangmachhu Block.

POPULATION AND HOUSEHOLDS IN THE MODEL PROJECT AREA (2/2) (MASANGDAZA) Table IV.2.12

	Wet Land Owner	Owner	Dry Land Owner	d Owner	'n	Landless Farmer	Farmer	Y	sent La	Absent Land Owner		Total	
Village	No. of P	Population	No. of Household	Population		No. of	Population		No of	Population	•	No. of Pop	Population
(1) Karibee	13	119	ß		38	. 6		21		2	.0	23	178
(2) Karibithang	0	0	0		0	0		0		m	0	m	0
(3) Masangdaza	e e e	150	ব		18	0				N.	0	თ რ	168
(4) Bongdima	80	7.8			0	0		0	11	H	0	19	78
(5) Pangsibi	61	<u>თ</u>	. (1)		ιń	0		0	•	0	0	21	74
Total	73	416	11		61	m		21	Ä	œ	0	105	498
			. *										

Source : Population census and land registered record in Salling Block.

Table IV.2.13 POPULATION DISTRIBUTION BY AGE AND SEX IN THE MODEL PROJECT AREA (1/2) (TANGMACHHU)

Age	Po	pulation	taasi Africa	Percentag	e Distri	bution (%
Group	Male	Female	Total	Male	Female	Total
0 - 4	56	48	104	4.71	3.88	4.29
5 - 9	126	158	284	10.60	12.76	11.70
10 - 14	147	151	298	12.36	12.20	12.28
15 - 19	92	81	173	7.74	6.54	7.13
20 - 24	92	84	176	7.74	6.79	7.25
25 - 29	103	110	213	8.66	8.89	8.78
30 - 34	100	92	192	8.41	7.43	7.91
35 - 39	70	62	132	5.89	5.01	5.44
40 - 44	107	92	199	9.00	7.43	8.20
45 - 49	111	140	251	9.34	11.31	10.34
50 - 54	55	73	128	4.63	5.90	5.27
55 – 59	96	114	21.0	8.07	9.21	8.65
60 - 64	23	22	45	1.93	1,77	1.85
65 -	11	11	22	0.92	0.88	0.91
	and the second seco					that they
Total	1,189	1,238	2,427	100.00	100.00	100.00
	化二氯化二甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基		(100.00%)		•	•

Note: Population distribution data are based on the result of demografic survey in Tangmachhu model project area.

Table IV.2.13 POPULATION DISTRIBUTION BY AGE AND SEX IN THE MODEL PROJECT AREA (2/2) (MASANGDAZA)

Age	Po	opulation		Percentag	<u>e Distri</u>	bution (
Group	Male	Female	Total	Male	Female	Total
	1.					
0 4	35	19	54	12.59	8.64	10.84
5 - 9	39	32	71	14.03	14.55	14.26
10 - 14	39	23	62	14.03	10.45	12,45
15 - 19	28	24	52	10.07	10.91	10.44
20 - 24	30	19	49	10.79	8.64	9.84
25 - 29	11	19	30	3.96	8.64	6.02
30 - 34	21	11	32	7.55	5.00	6.43
35 - 39	17	17	34	6.12	7.73	6.83
40 - 44	7	8	15	2.52	3.64	3.01
45 - 49	16	17	33	5.76	7.73	6.63
50 - 54	15	12	27	5.40	5.45	5.42
55 - 59	10	8	18	3.60	3.64	3.61
60 - 64	2	7	9	0.71	3.17	1.81
65 -	8	4	12	2.87	1.81	2.41
**	Ŭ				. :	
Total	278	220	498	100.00	100.00	100.00
	55.82%)		00.00%)			

Note: Population distribution data are based on the result of demografic survey in Masangdaza model project area consisting of Karbithang, Karibee, Masangdaza including Bongdima, and Pangsibi.

Table IV.2.14 LAND HOLDING STATUS BY OWNERSHIP
IN THE MODEL PROJECT AREA (1/2)
(TANGMACHHU)

Item	Wet Land Owner	Dry Land Al Owner	osent Land Owner	Landless Farmer	Total
	Owner	Owner	OWIGE	raimer	
No. of Household	216	14	29	(23)	282
No. of househore	•	<u> </u>		,	(259)
					(23)
Land Holding (ha)		19			
-Wet Land	188	0	36	0	224
-Dry Land	108	2	4	0	114
-Tsheri	93	2	0	0	95
-Others	42	3	0	0	45
Total	431	7	40	0	478
Average Holding Size	э .				/_1
-Wet Land	0.87	0	1.24	0	0.86
-Dry Land	0.50	0.14	0.14	0	0.44
-Tsheri	0.43	0.14	0	0	0.37
-Others	0.19	0.21	0	0	0.17
Total	1.99	0.49	1.38	0	1.84

^{/ 1 :} Land holding size devided by the number of land owner ; excluding the number of landless farmer.

Table IV.2.14 LAND HOLDING STATUS BY OWNERSHIP IN THE MODEL PROJECT AREA (2/2) (MASANGDAZA)

Item	Wet Land Owner	Dry Land Abs Owner	ent Land Owner	Landless Farmer	Total
No. of Household	73	11	18	(3)	105
No. of household					(102)
					(3)
Land Holding (ha)					
-Wet Land	19	. 0	11	0	30
-Dry Land	68	10	3	0	81
-Tsheri	2	1	0	0	3
-Others	0	0	9	0	9
Total	89	11	23	0	123
Average Holding Size					/ 1
-Wet Land	0.26	0	0.61	0	0.29
-Dry Land	0.93	0.91	0.17	0	0.79
-Tsheri	0.03	0.09	0	. 0	0.03
-Others	0	0	0.50	0	0.09
Total	1.22	1.00	1.28	0	1.20

^{/1:} Land holding size devided by the number of land owner; excluding the number of landless farmer.

Table IV.2.15 LAND HOLDING STATUS BY SIZE IN THE MODEL PROJECT AREA (1/2) (TANGMACHHU)

en e						/44110114	J V		1. 1.201			
Land		Wet Land			Dry Lanc		Wet/D	ry Land	Total	T.	seri Lar	id
Holding	Number	Area	Average	Number	Area	Average	Number	Area	Average	Number	Area	Average
Size(ha)	1 14 14	(ha)	Size(ha)		(ha)	Size(ha)		(ha)	Size(ha)		(ha)	Size(ha)
0	14	0.00	0.00	70	0,00	0.00	7	0.00	0.00	161	0.00	0.00
~ 0.2	20	2,45	0,12	43	5,41	0.13	12	1,58	0.13	20	2.25	0.11
$0.2 \sim 0.4$	40	12.48	0.31	52	15,02	0,29	26	7.68	0.30	20	6.00	0.30
$0.4 \sim 0.6$	45	22.59	0.50	34	17.21	0,51	. 26	12,89	0.50	13	6.29	0.48
0.6 ~ 0.8	29	20,20	0.70	18	12.18	0.68	36	24.55	0.68	9	5.98	0.66
$0.8 \sim 1.0$	26	23.44	0.90	8	7.24	0.91	14	12.52	0.89	15	12.90	0.86
1.0 ~ 1.2	28	30.79	1.10	9	10.00	1.11	21	23.02	1.10	4	4.54	1.14
1.2 ~ 1.4	10	13.12	1.31	9	11.81	1.31	25	32.75	1.31	3	3.86	1.29
1.4 ~ 1.6	19	28.12	1.48	4	5.98	1.50	14	21.05	1.50	1	1.53	1.53
1.6 ~ 1.8	3	5.03	1.68	2	3.26	1.63	16	26.87	1.68	1	1.77	1.77
1.8 ~ 2.0	- 8	14.80	1.85	3	5.63	1.88	18	33.96	1.89	2	3.76	1.88
2.0 ~ 2.2	2	3.99	2.00	1	2.00	2.00	10	20.80	2.08	2	4.27	2.14
2.2 ~ 2.4	4	8.83	2.21	3	6.72	2.24	3	7.10	2.37	0	0.00	0.00
2.4 ~ 2.6	0	0.00	0.00	0	0.00	0.00	7	17.32	2.47	0	0.00	0.00
2.6 ~ 2.8	4	10.55	2.64	0	0.00	0.00	4	10.83	2.71	0	0.00	0.00
2.8 ~ 3.0	0	0.00	0.00	0	0.00	0.00	1	11.59	2.90	0	0.00	0.00
3.0 ~ 3.2	0	0.00	0.00	1	3.01	3.01	2	6.23	3.12	1	3.17	3.17
3.2 ~ 3.4	0	0.00	0.00	0	0.00	0.00	2	6.70	3.35	î	3.33	3.33
3.4 ~ 3.6	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	1	3.46	3.46
3.6 ~ 3.8	4	14.52	3.63	0	0.00	0.00	3	11.07	3.69	0	0.00	0.00
3.8 ~ 4.0	2	7.80	3,90	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
4.0 ~ 4.2	0	0.00	0.00	2	8.27	4.14	0	0.00	0.00	1	4.01	4.01
4.2 ~ 4.4	0	0.00	0.00	0	0.00	0.00	1	4.39	4.39	1	4.27	4.27
4.4 ~ 4.6	0	0.00	0.00	0	0.00	0.00	1	4.51	4.51	. 0	0.00	0.00
4.6 ~ 4.8	0	0.00	0.00	0	0.00	0.00	. 0	0.00	0.00	. 0	0.00	0.00
4.8 ~ 5.0	0	0.00	0.00	0	0.00	0.00	2	9.77	4.89	0	0.00	0.00
Above 5.0	1	5.92	5.92	0	0.00	0.00	5	31.19	6.24	3	23.92	7.97
Total	259	224.63	0.87	259	113.74	0.44	259	338.37	1.31	259	95.31	0.37

Land		Fallow		Hom	e Garder	/ Others		Total	
Holding	Number	Area	Average	Number	Area	Average	Number	Area	Average
Size (ha)		(ha)	Size(ha)		(ha)	Size(ha)		(ha)	Size(ha)
0	189	0.00		135	0.00	0.00	0	0.00	0.00
~ 0.2	25	3.00	0.12	89	7.19	0.08	16	2.05	0.13
$0.2 \sim 0.4$	25	7.16	0.29	32	8.52	0.27	14	4.11	0.29
0.4 ~ 0.6	10	5.19	0.52	2	0.90	0.45	19	9,29	0.49
0.6 ~ 0.8	3	2.03	0.68	1	0.72	0.72	33	22.94	0.70
0.8 ~ 1.0	5	4.52	0.90	0	0.00	0.00	12	10,97	0.91
1.0 ~ 1.2	0	0.00	0.00	0	0.00	0.00	16	17,77	1.11
1.2 ~ 1.4	0	0.00	0.00	0	0.00	0.00	30	38.88	1.30
1.4 ~ 1.6	0	0.00	0.00	0	0.00	0.00	11	16.47	1.50
1.6 ~ 1.8	0	0.00	0.00	0	0.00	0.00	8	13.60	1.70
1.8 ~ 2.0	0	0.00	0.00	0	0.00	0.00	19	36.04	1.90
2.0 ~ 2.2	1	2.10	2.10	0	0.00	0.00	13	27.00	2.08
2.2 ~ 2.4	0	0.00	0.00	0	0.00	0.00	10	22.47	2,25
2.4 ~ 2.6	0	0.00	0.00	0	0.00	0.00	6	14.76	2.46
2.6 ~ 2.8	0	0.00	0.00	0	0.00	0.00	10	26.91	2.69
2.8 ~ 3.0	0	0.00	0.00	0	0.00	0.00	4	11.53	2.88
3.0 ~ 3.2	1	3.03	3.03	0	0.00	0.00	9	28.07	3.12
3.2 ~ 3.4	0	0.00	0.00	0	0.00	0.00	5	16.59	3.32
3.4 ~ 3.6	0	0.00	0.00	0	0.00	0.00	1	3,58	3.58
3.6 ~ 3.8	. 0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
3.8 ~ 4.0	0	0.00	0.00	0	0.00	0.00	1	3.95	3.95
4.0 ~ 4.2	0	0.00	0.00	0	0.00	0.00	2	8.13	4.07
4.2 ~ 4.4	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
4.4 ~ 4.6	0	0.00	0.00	0	0.00	0,00	2	9.07	4.54
4.6 ~ 4.8	0	0.00	0.00	0	0.00	0.00	1	4.62	4.62
4.8 ~ 5.0	0	0.00	0.00	0	0.00	0.00	2	9.88	4.94
Above 5.0	0	0.00	0.00	. 0	0.00	0.00	15	119.36	7.96
Total	259	27.03	0.10	259	17.33	0.07	259	478.04	1.85

Table IV.2.15 LAND HOLDING STATUS BY SIZE IN THE MODEL PROJECT AREA (2/2) (MASANGDAZA)

											ur Lastian star	
Land		Wet Land			Dry Land	Jan 18	Wet/D	ry Land	Total	0 m.	Tsheri	
Holding	Number	Area	Average	Number	Area	Average	Number	Area	Average	Number	Area	Average
Size(ha)		(ha)	Size (ha)		(ha)	Size (ha)	Maria de la California America de la America	(ha)	Size (ha)			Size (ha)
0	24	0.00	0.00	16			11	0.00		91	0.00	0.00
~ 0.2	43	3,85	0.09	5	0.51	0.10	<u> </u>	0.23		5	0.48	0.10
$0.2 \sim 0.4$	19	4,85	0.26	2	0.40	0.20		0.68			1.02	0.26
0.4 ~ 0.6	7	3,14	0.45	9	4.49	0.50	3	1.39	0.46		1.10	0.55
0.6 ~ 0.8	1	0.61	0.61	11	7.51	0.68	3	2.02	0.67	0	0.00	0.00
0.8 ~ 1.0	2	1.60	0.80	12	10.14	0.85	18	14.90	0.83	0	0.00	0.00
1.0 ~ 1.2	3	3.60	1.20	29	31.49	1.09	10	11.04	1,10	0	0.00	0.00
1.2 ~ 1.4	0	0.00	0.00	9	11.16	1.24	34	41.40	1.22	. 0	0.00	0.00
1.4 ~ 1.6	2	3.00	1.50	2	3.03	1.52	3	4.61	1.54	. 0	0.00	0.00
1.6 ~ 1.8	0	0.00	0,00	4	6.46	1.62	10	16.41	1.64	0	0.00	0.00
1.8 ~ 2.0	0	0.00	0.00	2	3.68	1.84	1	1.96	1.96	. 0	0.00	0,00
2.0 ~ 2.2	. 0	0.00	0.00	(a) 0	0,00	0.00	1	2.19	2.19	0	0.00	0.00
2.2 ~ 2.4	0	0.00	0.00	0	0.00	0.00	*** O	0.00	0.00	. 0	0.00	0.00
2.4 ~ 2.6	0	0.00	0.00	0	0.00	0.00	1	2.46	2.46	0	0.00	0.00
2.6 ~ 2.8	0	0.00	0.00	1	2.68	2.68	0	0.00	0.00	0	0.00	0.00
2.8 ~ 3.0	0	0.00	0.00	0	0.00	0.00	ig	2.91	2.91	0	0.00	0.00
3.0 ~ 3.2	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
3.2 ~ 3.4	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
3.4 - 3.6	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
3.6 ~ 3.8		0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
3.8 ~ 4.0	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	. 0	0.00	0.00
4.0 ~ 4.2	0	0.00	0.00	0	0.00	0.00	<u> </u>	0.00	0.00	0	0.00	0.00
4.2 ~ 4.4	0	0.00	0.00	0	0,00	0.00	0	0.00	0.00	Ô	0.00	0.00
4.4 ~ 4.6		0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
4.6 ~ 4.8		0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
4.8 ~ 5.0		0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Above 5.0	1	9.60	9.60	0	0.00	0.00	1	9.60	8.60	0	0.00	0.00
Total	102	30.25	0.30	102	81.55	0.80	102	111.80	1.10	102	2,60	0.03

					August 1990 August	. N. 466 at 1, 1984 (1)		and the second	to a specifical
Land		Fallow		Home	Garden /			Total	
Holding	Number	Area	Average	Number	Area	Average	Number	Λrea	Average
Size(ha)		(ha)	Size(ha)	1 1 1.00		Size (ha)	in to be quien.	(ha)	Size (ha)
0	91	0.00	0.00	102	0.00	0.00	0	0.00	0.00
~ 0.2	0	0.00	0.00	0	0.00	0.00	(http://d. 1	0.10	0.10
$0.2 \sim 0.4$	0	0.00	0.00	0	0.00	0.00	4	0.88	0.22
$0.4 \sim 0.6$	0	0.00	0.00	. 0	0.00	0.00	3	1.39	0.46
$0.6 \sim 0.8$	0	0.00	0.00	0	0.00	0.00	2	1.40	0.70
0.8 ~ 1.0	11	8.80	0.80	0	0.00	0.00	29	23.70	0.82
1.0 ~ 1.2	0	0.00	0.00	0	0.00	0.00	7	7,69	1.10
1.2 ~ 1.4	0	0.00	0.00	0	0.00	0.00	36	44.16	1.23
1.4 ~ 1.6	0	0.00	0.00	0	0.00	0.00	3	4.56	1.52
1.6 ~ 1.8	0	0.00	0.00	0	0.00	0.00	11	17.97	1.63
1.8 ~ 2.0	0	0.00	0.00	0	0.00	0.00	2	3.81	1.91
2.0 ~ 2.2	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
2.2 ~ 2.4	0	0.00	0.00	0	0.00	0.00	. 0	0.00	0.00
2.4 ~ 2.6	0	0.00	0.00	0	0.00	0.00	2	5.03	2.52
2.6 ~ 2.8	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
2.8 ~ 3.0	0	0.00	0.00	0	0.00	0.00	1	2.91	2.91
3.0 ~ 3.2	0	0.00	0.00	0	0.00	0.00	. 0	0.00	0.00
3.2 ~ 3.4	0	0.00	0.00	0	0.00	0.00	. 0	0.00	0.00
3.4 ~ 3.6	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
3.6 ~ 3.8	0	0.00	0.00	0	0.00	0.00	.0	0.00	0.00
3.8 ~ 4.0	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
4.0 ~ 4.2	0	0.00	0.00	Ö	0.00	0.00	0	0.00	0.00
4.2 ~ 4.4	0	0.00	0.00	o	0.00	0.00	0	0.00	0.00
4.4 ~ 4.6	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
4.6 ~ 4.8	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
4.8 - 5.0	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Above 5.0	0	0.00	0.00	ol	0.00	0.00	1	9.60	9.60
Total	102	8.80	0.09	102	0.00	0.00	102	123.20	1.21
				~~~					

Table IV. 2.16 NUMBER OF LIVESTOCK AND POULTRY
IN THE MODEL PROJECT AREA

	Item	Cattle	Horse	Pig	Poultry
Ι,	Tangmachhu				
	1. No. of Livestock and Poultry			4.	
	- Young (0-3 year)	770	60	397	692
	- Adult (3-year)	771	101	132	274
	Total	1,541	161	529	966
	2. No. of Household		25	3	
			<u>م</u> م		
	3. Average Holding (1/2)	6.1	0.6	2.1	3.8
ı.	Masangdaza				
	Masanguaza				
	1. No. of Livestock and Poultry				
•	- Young (0-3 year)	241	19	66	126
	- Adult (3-year)	406	40	26	227
	Total	647	59	92	353
			1		
	2. No. of Household	~ · ·	8	7	
	2: Reserved Heldler (4/2)	7.4	7.0	1.1	4.
	3. Average Holding (1/2)	1.4	7.0	1.1	7.

Source: Estimation based on the data, which are collected from Animal Husbandry Farm in Lingmethang, Mongar and the veterinary center in Tangmachhu, and the result of farm economic survey.

Farm Size	No. of Sampling	Average Family Size	P0000000000000000000000000000000000000	rage Land Holding (ha)		Livestor Poultry Ro	
(ha)	Farmers	(Persons)	Net Land	Dry Land Tota	Cattle	Horses [	iga Poultr
I. Tangmachhu							
Below 0.59	10	6.4	0.25	0.16 0.4	3,1	0.4	
0.59 - 1.08	19	7.3	0.64	0.19 0.8			2.1 3.4 2.3 4.3
1.08 - 1.74	5 . •	9.2	1.07	0.29 1.30			2.6 5.2
Ovar 1.74	6	12.3	2.20	0.60 2.8			2.2 4.7
Average	(40)	8.1	0.83	0.26 1.0			2,3 4.2
II. Hasangdaza							industrial in Africa Na
Below 0.80	8	4.1	0.14	0.42 0.54	6,9	1.4	1.3 2.9
0.80 - 1.20	9 -	5.4	0.17	0.68 0.80			1.3 2.9 0.8 4.7
1.20	3	5.7	0.11	1,09 1,20			1.7 3.3
Over 1.20	9 .	6.9	0.38	1.38 1.70			1.2 5.1
yverage	(29)	5.6	0.22	0.86 1.00			1.1 4.2

	Farm			. si	ATO O	f Diame	SITION	of Fe	Im Produ	int e	4.1						
	Sizo				idy	т олор.			114 1 2 0 0 1		120				umption apita C		
	(ha)	Food	Alcohol	Seed	Sold	Others	Total	Food	Alcohol	Spad	Sold	Others	Total	Paddy		Others	Tota
. 1	Fangmachhu				14 14			1.		The second			7				27 mg 242 mg
	Below 0.59		0.1			6.9				3.1		0	100.0	187 (51)	. 35		22
	0.59 - 1.08	82.1			13.7		100.0			4.2	. 0	3.2	100.0			. 11	26
J		90.5			3.2		100.0				0	0	100.0		40	. 7	25
	Over 1.74	74.3	2.3		17.9		100.0				. 0	. 0			36	6	25
	yverage	82.0	1.8	2.5	11.7	2.0	100.0	87.1	7.5	4.0	0	1.4	100.0	. 212 (15)	39	9	. 26
1. }	iaaangdaza				e i e			dig		100			r vite				٠
	Below 0.80	83.2	0	2.1	0	14.7	100.0	74.1	9.7	2.5	5.2	8.5	100.0	60 (10)	148	11	21
•	0.80 - 1.20	89.8	. 0	2.3	1.3		100.0	83.0	6.5	2.3			100.0	57 (16)			35
	1.20	90.0	. 0	2.0	0		100.0			4.1	0		160.0	32	275	10	31
	Over 1.20	75,9	. 0	2.3		14.6				2.7	9.0	10.2	100.0	96 (17)	289	3	37
	Average	81.0	- Q	2.3	4.3	12.4	100.0	74.8	8.5	2.8	5.7	8.2	100.0	71 (13)	230	6	30

# (3) Living Expenses (Cash Outgo)

Farm				SI	hare of	Living Ex	enses	(1)			
Size	- :		Foods			· · · · · · · · · · · · · · · · · · ·		Transport			
(ha)	Rice	Salt	Oil	Others	Total	Clothing	Fuel		Ceremony	Others	Total
I. Tangmachhu			1.				11:21:				
Below 0.59	43.0	4.9	7.1	7.0	62.0	19.7	3.6	0.4	9.9	4.4	100.0
0.59 - 1.98	8.4	3.2	7.9	9.5	29.0	37,6	11.4	2.5	8.6	10.9	100.0
1.08 - 1.74	0	2.2	3.5	3.3	9.0	32.0	4.4	4.8	25.3	24.5	100.0
Over 1.74	0	2.3	5.1	6.5	13.9	31.1	5.9	3.3	20.0	25.8	100.0
Average	10.6	3.1	6.3	7,1	27.1	32.2	7.6	2.8	14.6	15.7	100.0
II. Masangdaza					3 - 343 11 - 21			1		te T	
Below 0.80	14.5	8.7	. 0	2.0	25.2	38.2	1.5	0	6.7	28.4	100.0
0.80 - 1.20	23.3	6.2	28.7	5.0	63.8	20.8	1.0	. 0	11.3	3.1	100.0
1.20	. 0	15.5	0	4.2	19.7	41.5	0	ŏ	18.7	20.1	100.0
Over 1,20	25.3	7.3	0	4.2	36.8	31.9	3.6	1.0	18,1	8.6	100.0
Average	21.4	7.5	9.4	4.0	42.3	30.1	2.2	0.4	13.4	11.6	100.0

		·						(Unit: Nu)
Farm Size			Income		Non-Parm	Total	Living	Net
(ha)	Paddy	Maize	Others	Total	Income (Nu)	Income	Expenses	Reserve
				(1)	(11)	(111=1+11)	(IV)	(111-17)
I. Tangmachhu	100						189	
Below 0.59	120	· o.	185	305	1.590	1,895	1.840	55
0.59 - 1.98	745	Ö	150	895	2.020	2,915	2.520	399
1.08 - 1.74	275	. 0	3,195	3,470	2,195	5,665	4,910	755
Over 1.74	1,910	0	1,950	3,860	980	4,840	3,590	1,250
Average	705	0	805	1,510	1,775	3,285	2,805	480
II. Masangdaza					•		•	
				100		100		
Below 0.80	0	130	160	290	395	685	690	` -5
0.80 - 1.20	. 10	- 80	. 125	215	670	885	880	5
1.20	0 '	0	280	280	225	505	320	185
Over 1.20	155	830	310	1,295	375	1,670	1,100	570
Average	50	315	. 205	570	455	1,025	840	185
	<u> </u>		100		Called Control of the Control	4.7		

PRESENT LABOUR REQUIREMENT PER HOUSEHOLD IN THE MODEL PROJECT AREA (1/2) (TANGMACHHU MODEL PROJECT AREA) Table IV.2.15

Labour	Labour Requirement Person/dav/househ 1et	L	January			February	12		March	4 th	12	री		-	May	21		June 1 2nd	8 2	<b> </b>	July July	A 3rd	<b>}</b> -{-	A Aug	August 2nd 3	T P	September 1st 2nd	d Hiber	157	October 2nd	ober 3d 3rd	-	Nove	ovember 2nd 3	34	Dec	December 1 2nd 1 3	Tg
Paddy (Wet Land) Man-dav/ha	232	°						ļ	-			٥	9			- 7	<del> </del>	<del></del>	2		1 8		ļ <u> </u>		<del> </del>	0	<del> </del>				<del> </del>	1.13	<del> </del>	<del> </del>	1.13			ि
Area (ha)	6.89			1	1, 1	<u> </u>		<u> </u>	1,1			0	27	, 51		C4	~		. ~	٠,	<u> </u>			27	\$2	0						1.01	1.01		1.01	- 5	~~	
Wheat (Wet Land) Man-day/ha	62	0.16	0.16	l	0	i .	0 0.50	0.50	<u> </u>	0.50	0.50	0.50 0.5	8	0.50	0.50 0.50	50 0.50	<u> </u>	-	-				<u> </u>			8	0	4,0	<u> </u>	0.51 0.	0.51	0.51 0.	0.67 0.	16	0.67 0.	0.23	0.23	6.16
Area (ha)	0.02	•	-		-		0 0.01	0.01	0.01	0.01		0.01	0.75	0.0	0.01	10.0	ਰ	-	-	. 6.		6	-5-	10	-	0	0	0.01 0.01	0.0	. 0	5	0.01	0.01	0.01	0.01	~	0	0
Potato (Wet Lend) Man-day/ba	\$4	0.63	0.63	3 0.79	9 0.79	9 0.16	16 0.16		-				8	0	0	69.0.69	69 0.69	L	69.0						0		6	0	- 0	0	0						- 0	6
Arca (Da)	0.01	0.01	0.01	1 0.01	0.01	0.00	00.0	<u> </u>	0	0	· · ·	0		٥	0	0.0	.01 0.01		0.01	-	-	<u> </u>	8	0	0	0	0	0	0	<b>6</b>	0	5	~	- <del>-</del>	6	-	<del>~</del>	ō
Maise/Soyabean (Dry Land) Man-day/ha	8	٥			-		0 0.51	51 0.51	1 2	0.51 0.51		0.70	9	8	0.39 0.6	09	0.60	990	0.41	0.21 0.	0.21 0.	0.57 0.	0.37 0.	0.37 0.	0.37	0.37 0.	37.0	37	0.37 0.	37	- 0	0			6			0
Area (5a)	0.44	•		-	-		0 0.22	22 0.22		0.22 0.3	0.22 0.	0.31	0 0	0	0.17	72.0 72	27 0.27		0.18 0.0	0.09	0.09	0.25 0.	0.16	0.16 0.	0.16	0.16 0.	0.16 0.	0.16 0.1	0.16 0.	0.16	0	8	-		8	-	6	0
Chilli (Dry Land) Man-day/ha	264	o						0 0.12		0.12 0.	0.12 0.	0.12	0 89	0.68	1.34	1.34	1.34	86 1.1	1.86	1.74 1.	1.18	1.18	0.53 3.	8	3.60	.60	80	3.(	3.07			0	8					-
Area (na)	0.01	٥	2	-	-			0	-	6	-	9	0.	0.01	0.01 0.0	10.0	0	0.0	0.02 0.0	0.02 0.	0,011	0.01 0.	0.00	0.03 0.	0.03 0.	0.03	03	03 0.03	8	- 6	0	0	-6	-5-	-	-0	ō	0
Maize (Dry Land) Man-day/ba	48		8	-								- 0	0	6	0	0	0	0	0	0	0 1.	1.18 1.	1.18 1.	1.62 0.	4.	4	4 80	0.48 0.4	0.48 0.	48 0.	48 0		1.10 1.	1.10 1.	1.10	0		. 0
Area (ha)	0.01	0		-		-5		~			-	-	0	6	6	0	. 6	6	-	0	6	0.01	0.01 0.	0.01	0	8	0	0	0	0	6	0	10	0.01	0.01		-5-	0
Mustard (Dry Land) Man-day/he	45	0.46	6 0.46	6 0.46	:	- 6	- 8	- 6	0		- 6	0	0	0	0	0	0		Ö		0	0	8	- 0	42	0.42 0.	.53 0	53 0	53 0	53	0.11 0.	0.11	- 6		· · ·	0.46 0.	0.46	0,46
Area (ns)	0.03	0.01	1 0.01	10.01		-6	6	-6	-6	-	ő	-6	0	<u>,</u>	6	0	0	-5	-	6	6	0	0	0	6	0.01	0.01	6	0.01	0.01	0	-	5		0	0.01 0.	0.02 0	0.01
Maize (Tsheri Land) Man-day/ha	88 48		- 0	- 6		- 6	0 0.71		0.71 0.	0.97	0.97 0.	0.97 0.	55	0.55 0.	29 0.	58 0.	58 0.:	29 0.	.29 0.	29	8		0	0.55 0.	55 0	55 0.	55 0.	55 0.5	0.55	0	0		8	6	6	0	6	ō
Area (ha)	0.15		6	6	-	-0	0 0.1	0.11 0.	0.11 0.	0.15 0.	0.15 0.	0.15 0.0	0 80	0.08 0.0	.04	0.0	000	04 0.	0.04 0.0	Q.		-	0	0.08	8	0.08	8	0.08	80.0	6		6	-	-	0	-5-	5	اۃ
Total		0.02	2 0.02	20.02	10.0 20	21	0 0.3	0.34 0.:	0.34 0.	0.38 0.	0.65 0.	0.73 0.	76 0.	0.76 1.	1.54 1.0	1.69 2.	2 2	42 22	2.34 2.	2.24 2.	2.41 1.	1.55 1.	1.45 1.	1.56 0.	0.81		0.52	1.53	1.53	1.20	1.03	1.03	1.03 1.	1.03	1.03	0.02 0.	0.02	0.02
Note: Average	Average holding size of farm land in Tangmarchiu project area is wet land of 0.89 ha, dr	of far	n band	ië E	angma	chhu p	roject	area is	s wet 1	and of	0.39	la, dry	land (	of 0.45	0.45 ha and isheri land Of 0.38	t tsher	ha and Isheri land Of 0.3	of 0.3	- jë 8	+	4	+	-	-	1	1	1		-	-	4	-	-	-	$\frac{1}{2}$	-	┨	7

IV - 73

Table IV.2.18 PRESENT LABOUR REQUIREMENT PER HOUSEHOLD IN THE MODEL PROJECT AREA (2/2) (MASANGDAZA MODEL PROJECT AREA)

	Labour Requirement Person/day/househo	quirement v/househo	Jst Ja	annary 2nd	3rd	Fe.	February   2nd	3rd	181	March 2nd	3cd	lst	April 2nd	3rd	181	May	3rd	181	June 2nd	3rd	181	July 2nd	3rd	Lst A	August 2ad	3rd	Seg. 15	September	3.0	1,51	October 2nd	3rd	Nov	November 2nd 3	r 3rd lst	December	mber d   3rd	П
Paddy (Wet Land) Man-day/ha		232	ó	0	0	٥	.0	0	0	0	0	0	0.40	0,40	0.40	0.40 0.40	0.40	. 0	1.99	1.99	6. 6. 8.	3.39	1.99	1.99	0.58	11.1	0.58	0.58	0.58 0.05	0.05	0.05	0.05	2.93 2	2.88 2	2.88		<u> </u>	0
Arca (bs)	3	0.22	0	0	0	0	-	-6	0	Ö	0	0	0.09	60.0	0.0	0.09	0.09	. 0	0.44	0.44	0.75	0.75	0.44	0,44	0.13	0.24	0.13	0.13	0.13	0.01	0.01	0.01	0.64 0	0.63 0	0.63	-6	6	- 6
Maise/Soyabean (Dry Land) Man-day/ha		84	0	o	0	0	6	0	0	0.56	0.56 0.56 0.77	0.77	0.77	0.77	1.00		0.44 0.44	0.46	0.46	0.46	0,23	0.23	0.68	0,45	0.45	0.45	0.45	0.45	0.45	Ö	8	o	0	0	6		0	~ 6
Area (ha)	၁	0.93	0	0	0	0	-6	0	-6	0.52	0.52	0.72	0.72	0.72	0.93	0.41	0.41	0.43	0.43	0.43	0.21	0.21	0.63	0,42	0.42	0.42	0.42	0.42	0.42	0	0	Ö.	0	٠ ٠	8	6	0	6
Wheat (Dry Lend) Man-day/ha		79	٥	0		8	8		8	6	0	6	•	0	0	•	8	٥	0	Ö	1.13	1.13	1.29	0.17	0.17	0.42	0.42	0.42	- (0	0	0	0		8		- 6	2.38 2.	2,38
Area (ha)	0	0.093	0	0	6	0	0	6	0	0	0	0	0		0	0	0	0	0	Ö	0.10	0.10	0.12	0.02	0.02	0.04	0.04	0.04	0	0	0	0	6	0	0	ci O	0.22 0.	0.22
Mustard (Dry Land) Man-day/ha Area (ha)		45	0.02	0.02	0.88	6 6		00	00	~ ~ ~	0 0	0 0	0 0	,0, 0	0 0	0 0	00	o <b>o</b>	0 0	0 0	0	0.79	0.79	0.03	0.21	0.21	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	00	0 0	6 6	0 0
Second Maize (Dry Lend) Meni-dny/ha	8	84	0 0	8 8	00	5 8	5 6	0 0	6 0	8 8	00	6 0	00	00	00	0 0	0 0	00	0.0	0 0	00	00	1.13	1:13	1.54	0.42	0.42	0.46	0.46	0.46	0.46	0.46	0.46	00	0 0	0 1.04 1.04		1.04
Total			0.02 0.02 0.02	20.02	0.02	0	8	O		0 0.52 0.52	0.52	0.72	0.80	0.80	1.02	0.49	0.49	0.43	0.86	0.86	2.0 P.	k [.09	6 1.09 1.76 1.45 11. Peak Labour Requirement	1.45	7,7	0.91	0.79	0.81	0.77	0.24	22.0	0.24	0.87	0.63	0.63 0.51	1 0.73	3 0.73	m
Note: A	Average holding size of farm land in Masangdaza project area is wei land of 0.22 ha and	ing size o	f farm	i puel	Mass	zepgu	proje	C sres	1 is we	t land	of 0.2	2 Pa	-	dry land of 0.93 ha.	£ 0.93	pa q														l.								١

Table IV.2.19 AVAILABLE LABOUR FORCE IN THE MODEL PROJECT AREA

and the second s	Unit	Tangmachhu	Masangdaza
I. Available Labour Force (Age groupe of 15-54 years old	31		and the course of the course o
(1) Male	<i>.</i> 1	730*0.9=657	145*0.9=131
(2) Female	4.	734*0.6=440	127*0.6=76
Total	Person	1,097	207
			•
II. Labour Force per Household	•		
(1) No. of Household	No.	253	87
(2) Avaoiable labour Force	Man-Days /Household	4.33	2.37
per Household	Auonsenord		•
III. Labour Requirement other than Wet/Dry Land Cultivation			
(1) Household			
- Family Size	Person	9.6	5.7
- Requirement per household	Man-Days /Household	0.50	0.30
(2) Herding	Man-Days	0.25	0.16
(2) heraing	/Household	(90 man-days	(60 man-days
	/ nousenoru	/365 days)	365 days)
(3) Duty on Public Works /	Man-Days	1.00	0.04
Private Employments	/Household	(20 man-days	(15 man-days
		/month)	/years)
		. <u> </u>	
Total	Man-Days /Household	1.75	0.5
IV. Available Labour Force	Man-Days	2.58	1.87
per Household for Wet/Dry	/Household		
Land Cultivation			

Note: Estimation on the basis of field survay.

## Table IV.3.1 PROPOSED FARMING PRACTICE (1/5 PADDY)

Ι.				
		genet of Nursery		Mak assimanas and day makhad
	1	Type of nursery Amount of seed		Wet nursery, semi-dry method
				50 kg / ha
		Area of nursery bed	:	5 % of planting field (500 sq.m per ha
		Sowing		Seed selection by water
		Duration of nursery		40 days
	6	Renewal of seed	:	Every four years,
				renewal to register seed
	T	Parameter and		
11.		Preparation Starting	_	20 days hafaya turanalantana
		Animal power		20 days before transplantiong Double bullock with single operator
	Z	Animal power	•	
	_	3 3 3		Improved steel plough
		1st ploughing		Under dry condition
		2nd ploughing		After applying irrigation water
	5	Puddling	:	l day before transplanting
III.	Plan			
		Planting method		Line transplanting
	2	Planting density		20 to 30 hills per sq. m
	3	No. of seedlings	. :	3 seedling per hill
IV.	Appl	ication of Fertilizer		
	1	Nursery bed U	Jrea :	5 kg per bed (2.1 kg N)
	2	Basal dressing U	Jrea :	80 kg per ha (36.8 kg N)
		T	'SP	70 kg per ha (29.4kg P205)
				4,000 kg per ha
	3	1st top dressing at 30 c		
				70 kg per ha (32.2 kg N)
			,	
V.	Weed	ing		
	1	Method	:	Rotary weeder and manual or herbicide
				at 1 to 2 days after transplanting
	2	1st weeding	:	At 20 day after transplanting
	3	2nd weeding		At 50 day after transplanting
VI.	Appl	icaation of Agro-chemical	ls	
		Application		On the basis of obserbation
VII.	Wate	r Management		and the state of t
	Gro	ving stage		Depth of water
•	1		:	Deep
		Most tillering stage		Shallow with intermitted irrigation
		Neck-node differenciation		Midseason drainaige
	-	-panicle formation	··· •	
	Ä	Panicle formation-heading	nor . •	Shallow
		Full ripening-harvesting		Water drained
	<b>J</b> .	rarr trbearng-narvescing	, .	Harer arathor
		esting, Threshing		
VIIT	Harve			Quetal
VIII.		Harvesting		
VIII.		Harvesting	:	Cutting stem near ground surface by sickle
VIII.	1			by sickle
VIII.		Harvesting Threshing		by sickle By pedal thresher
VIII.	1	Threshing	•	by sickle By pedal thresher after drying 1 to 2 days in the field
VIII.	1		•	by sickle By pedal thresher

Table IV.3.1 PROPOSED FARMING PRACTICE (2/5 MAILE AND SOYABEAN)

ī.	Land	Preparation		
		Ploughing	:	2 times
				1 time after sowing to cover seed sown
	2	Animal power	:	Double bullock with single operator
	*			Improved steel plough
II.	Plan	tina		
		The state of the s	:	Line planting
		Seed rate	•	25 kg / ha for maize
			-	30 kg / ha for soyabean
				Soyabean seed inoculated
	3	Spacing of maize	:	60 cm in rows
			•	20 cm in lines
	. 4	Spacing of soyabean	٠	20 cm in rows
		opacing of softsean	•	5 cm in lines
	5	Interval of maize maize	,	3 lines
	J			7 lines
		and soyabean Soyabea	•	, illes
TTT	Annl	ication of Fertilizer		•
111.		Basal dressing for F.M.Y.		4 000 kg now ha
	1	land preparation	•	4,000 kg per na
		Tand biebaracion		
IV.	Weed	ina		
TA.		Method		by manual or intertilling
	1			
		1st weeding	:	At 30 day after germination
	3	2nd weeding	•.	At 60 day after germination
ν.		icaation of Agro-chemicals		
		Application		Application
		Stem borar for maize		1 liter of Nuvacron or Thiodane
				25 kg of Thimet 10 granule
	4	Armyworm for maize	: .	25 kg of Thimet 10 granule
VI.	Harv	esting, Threshing		
1.0	1	Harvesting Maize	:	Removing cobs
				Picking up the plant
	2			By sun light in farm yard
		Soyabean	:	By sun light in field
	3			By maize shellar after drying
	_			By hitting with stick
		cojabean	•	ay maddang madn deadh

# Table IV.3.1 PROPOSED FARMING PRACTICE (3/5 WHEAT)

-		<u> Andrewski and Allender (1988) and Allender (1988) and an analysis (1988) and analysis </u>
I.	Land Preparation	
	1 Ploughing :	1 time after rain or
		application of irrigation water
		or just after havesting
		the previous crop
	2 Animal power :	Double bullock with single operator
		Improved steel plough
	3 After ploughing :	Planking by hand
II.	Planting	
		Broadcasting
	2 Amount of seed :	100 to 120 kg per ha
ETT.	Application of Fertilizer	经支撑 医精神 医海绵 医克勒氏 医皮肤 医皮肤
	1 Basal dressing for land prepa	ration
		4,000 kg per ha
	2 Top dressing at 30 days after	
		60 kg per ha (27.6 kg N)
	vrea .	(irrigated crop only)
v.	Weeding	(iiiigacea crop only)
٧.		Hand weeding
	and the second of the second o	
	2 Weeding :	At 30 day after germination
VI.		
	The state of the s	Seed treatment
	2 Loose Smut ;	lg of Vitavax for 2 kg seed
V.	Water Management	
	Irrigation water should be ap	
	because wheat is easy to get	
	Growing stage	Depth of water
		Moist soil by irrigation water
		Moist soil by irrigation water
		Moist soil by irrigation water
	4 Flowering :	Moist soil by irrigation water
	5 Milking stage :	Moist soil by irrigation water
VI.	Harvesting, Threshing	
		By cutting stem with sickle
		after full mature
	2 Threshing :	By pedal thresher in the field
	3 Drying :	By sun light in farm yard
	•	to reduce water content less than 1
		co reader water content ress than 1.

# Table IV.3.1 PROPOSED FARMING PRACTICE (4/5 MUATARD)

Ι.	Land Preparation	•	
	1 Ploughing		1 time after rain or
		:	application of irrigation water
			or just after havesting
		٠.	the previous crop
- :			
	2 Animal power	:	Double bullock with single operator
			Improved steel plough
1.1			
	3 After ploughing	:	Planking by hand
II.	Planting	٠.	
	1 Planting method		Broadcasting or line sowing
•			10 to 12 kg / ha
	3 Thining	:	Thinning 5 cm in lines and
			30 cm in rows during growth
			5 min 1 - 4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
111.	Application of Fertilizer (for i		70 kg of urea per ha (32.2 kg N)
			60 kg of TSP per ha (25.5 kg P205)
	before sowing 15r	•	bu kg of 15P per na (25.5 kg P205)
TV.	Weeding		Hand weeding
	1 Method		2 times
	2 Weeding time	•	2 dimes
	2 Weedling office		
ν.	Application of Agro-chemicals	:.	On the basis of obserbation
	1 Application	:	1 ml/1 lit. of Nuvacron
	2 Aphid		
VI.	Water Management	:	Moist soil when dry
	1 Application		
VII.	Harvesting, Threshing	:	By sickle
	1 Harvesting		after changing pod colour to yellow
			By beating with stick
	2 Threshing	:	By sun light in farm yard
	3 Drying		
	the contract of the contract o		

# Table IV.3.1 PROPOSED FARMING PRACTICE (5/5 CHILLI)

Ι.		
		Dry raise bed nursery
	2 Sowing method :	Line sowing
	3 Amount of seed :	1 to 2 kg / ha
	4 Duration of nursery :	5 to 7 weeks after planting
	5 Area of nursery :	5 to 10 % of transplanted area
T.T.	Tand Dispersion	
TT.	Land Preparation	1 times
	2 Animal power :	Double bullock with single operator
		Improved steel plough
		Planking by hand
	4 Type of field :	Raise bed with 40 cm width
III.	Transplanting	
		Line transplanting
	2 Planting density :	25 to 30 cm interval
IV.	Application of Fertilizer	연방을 가장하고 하는 것이 없다.
		F.M.Y.
		120 kg of urea per ha (50.4kg N)
		110 kg of TSP per ha (46.2 kg P205)
		4,000 kg of manure per ha
	3 Top dressing at one month aft	
	Urea :	100 kg per ha (42 kg N)
٧.	Weeding	
		Cultivating or intertilling
		At 10 to 15 days after transplanting
		At 20 to 30 days after transplanting
	4 3rd weeding :	At 30 to 45 days after transplanting
		(at least)
VI.	Application of Agro-chemicals	Burney Control of States the Control
		On the basis of obserbation
	2 Anthracnose :	2% copper fungicide solution
	3 Cutworm :	25 kg of Thimet 10 granule per ha
VII.	Harvesting, Threshing	and the second s
		By picking pods
		after changing color to red
	2 Drying :	By sun light in farm yard
	, <del>-</del>	

Table IV.3.2 FURURE LABOUR REQUIREMENTS IN THE MODEL PROJECT AREA (1.7).
(TANGMACHU MODEL PROJECT AREA)

1st   Zncl   3rd   1st   Znd   3rd   3rd	June         July         August         September         October         November         Docember           1st 2nd 3nd 1st 2nd 3rd 1st 2nd	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.58 0.58 0.48 0.32 0.28 0.28 0.57 0.57 0.57 0.57 0.57 0.57 0.00 0.00	2.35 2.35 1.37 1.37 1.37 4.04 4.04 2.74 2.74 2.74 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	.26 2.30 2.05 2.22 1.72 2.55 1.76 1.76 1.27 1.02 2.13 1.32 1.18 1.17 1.28 1.35 0.26 0.22 0.19 0.23 0.17  Peak Labour Requirement
1st 2nd 3rd 1st Echnary	2nd 3rd 1st 2nd 3rd 0.00 0.22 0.22 0.75 0.84 0.00 0.19 0.19 0.65 0.73	1.14 1.14 0.00 0.00 60.25 0.25 0.00 0.00 60.75 0.75 0.00 0.00	0.74 0.96 0.53 0.58	1.84 1.62 1.62 1.69	0.13 0.13 0.00 0.00 0.00	5 0.00 0.00 0.00 0.00 6	1.33 1.19 1.14 1.25
	February March 3rd 1 2nd 3rd 1 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	04 0.04 0.04 0.04 0.04 0.04 0 01 0.01 0.01 0.01 0.01 0.01 0 22 0.04 0.04 0.04 0.22 0.22 0 05 0.01 0.01 0.01 0.05 0.05 0	00 0.00 0.00 0.00 0.10 0.10 0	00 0.00 0.00 0.02 0.22 0.22 0	0.00 0.00 0.00 0.00 0.00	02 0.02 0.20 0.20 0.20 0.75 0	0.04 0.09 0.22 0.29
Crop ment *aday (wet land) (wet land) Aran-day/ha 179 Aran-day/ha 179 Aran-day/ha 58 Aran-day/ha 39 Aran-day/ha 37	1st 2nd 1st 2nd 0.00 0.00 he 0.00 0.00	Wheat (wet land)  Man-day/ha 58 0.34 0.04 0.04 0.0  Area Person/day/household 0.07 0.01 0.01 0.0  Mustard (wet land)  Man-day/ha 39 0.17 0.22 0.22 0.2  Area Person/day/household 0.04 0.05 0.05 0.05	83 23 ha	Chilli (dry land) Man-day/ha 291 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	Wheat (day land) Man-day/ha 53 0.00 0.00 0.00 0.0 Arra Person/day/houschold 0.00 0.00 0.00 0.0	Mustard (dry land) 37 0.20 0.20 0.02 0.04 0.05 Acra 0.12 ha 0.02 0.02 0.00 0.00 Person/day/nouschold 0.02 0.02 0.00 0.0	Total. Person/day/nousehold 0.14 0.08 0.06 0.0

Table IV.3.2, FURURE LABOUR REQUIREMENTS IN THE MODEL PROJECT AREA (2/2) (MASNGDAZA MODEL PROJECT AREA)

I ohour Demissers		7	T,	1	144	ļ		Massa			1507		ŀ	7,7			1		L	1	1		4::4		-	3		-	Č	1000	-	N		-	4		1
Man-day/Area/Day	181	2nd	E	181	2nd	1_	181	2nd	33	1st	2nd	3rd	151	2nd	3rd	151	2nd	3rd	181	2nd	3rd	181	2nd	3.4	131	1	nd 3rd	1st	-	d 3rd	d 1sr	-	333	- -	\$ 22	2nd 3	3,5
Paddy (wet land) Man-day/ha 169 Arra Person/day/household		0.00	0.00		0.00	0.00	0.00	00:00	00.0	0.00	0 0		0 0			0 -	2.08	1													5 5	- X			0 0		0.00
Wheat (wet land) Man-dayha 65 Area 0.20 ha Person/day/household	0.39	0.39 0.04	0.00	0.39 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.0	0.04	0.04	0.07	0.04	0.04	0.61 0	0.61	0.61	0.58	0.58	0.00	0.00	0.00	0.00	0.00	0.00	00.00	00.00	0 0.00	00.00	၂ ဝဝဝ		0.00 0.0	0.00 0.0	0.00 0.00	0.39 0.	0.39 0.	0.59 0.	0.59 0.	0.59 0.	0.59 0.	0.59 0.	0.39
Missard (wet land) Man-day/na 69 Area 0.20 ha Person/day/household		0.41	0.28	0.41 0.41 0.28 0.28 0.28 0.03 0.28 0.28 0.28 1.06 1	0.28	0.03	0.28	0.03 0.28 0.28 0.28	0.28	1.06	1.06	0.78	0.78	0.78	0.00	0.00	0.00	0.00	0.00	00.00	00.00	00.00	0 0.00	00	0 0	00 0.0	0.00 0.0	00	0.00 0.	0.00 0.	0.00 0.	0.00 0.	24	2 8	37	0.38 0	0.38
Maizofsoyabean (dry land) Man-dayha 83 Arta 0.38 ha Person/day/household		0.00	0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.34 0.34	0.00	0.00	0.00	0.34	0.34	0.56 0.	0.56	0.60	0.77	0.77	0.47	0.65	0.47	0.47	0.43	3 0.26	6 0.26	0 0	64 0.46	0 0	0.0		0.46 0.4	0.46 0.40 0.17	0.46 0.	0.00 0.00	0.000	0.00	0.00	0.00	0000	0.00	0.00
Wheat (dry land) Man-dayha 59 Area 0.09 ha Person/day/frousehold		0.00	00:0	0.00 0.00 0.00 0.00 0.00 0.72 0.72 0.72	0.00	0.72	0.72	0.72	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00	00.00	0 0.00	00.00	0.00	0 0	00 0.04	44 0.44		90	0.69 0.	0.25 0.	0.69.0	4 8	0.44	0.44 0.	8 8	8 8	0.00
Mustard (dry land) Man-dayha 59 Arra 0.09 Person/day/household	0.02	0.23 0.23 0.78	0.78	0.78	0.78	0.57	0.55	0.55	0.55 0.55	00.00	0.00	8.0	0.00	0.00	0.00	0.00	0.00	0.00	00.00	00.00	0 0	00 0.00	0 0.00	0 0	00 0.16		0.16 0.2	22	0.27 0.	0.27 0.	0.48 0.04 0.	0.04	0.31	0.31	0.23 0.02 0.02	23	0.23
Total Person/day/household	0.18	0.18	0.14	0.14	0.14	0.13	0.18	0.31	0.31	0.54 0.	\$2	o	0.80	8.0	- I	1.15 Pea		.82 1.84 Labour Rec	t 1.49	9 1.69	9 0.70 1	0,1.09	9 0.78	8 0.51	51 0.56	56 0.	0.32 0.3	0.35 1.0	1.61 1.	1.47 1.	1.44	1.46 0,	0.23 0.	0.23 0.	0.21 0.	0.21 0	0.17
Note: Average holding size of farm land in Masangdaza project area is wey land of 0.	g size of	farm	u puri	n Mas	angde	zi pro	icet ar	RE IS	wey 1	o pur	79	ha and	Š	land 0	0.38 ha	ن		:					:														

Table IV.3.3 FUTURE CROP PRODUCTION
IN THE MODEL PROJECT AREA

ander in de la companya da de la compa Na companya da		Cropped	Unit	Total
Area	Crop	Area	yield	production
		(ha)	(ton/ha)	(ton)
I. Tangmachhu mod	del project are	ea .		
Wet land	Paddy	220	5.0	1,100
	Wheat	55	1.8	99
	Mustard	55	0.9	50
			1 5	0.6
Dry land	Maize	57	1.5	86
	Soyabean	57	0.5	29
	Chilli	57	2.0	114
•	Wheat	29	1.2	35
	Mustard	29	0.6	17
Total	Paddy	220	•	1,100
	Maize	57	_	86
	Wheat	84	_	134
	Mustard	. 84	· _	67
	Soyabean	. 57	_	29
	Chilli	57	<u> </u>	114
		•		
II. Masangdaza mo	odel project a	rea		
Man land	Paddy	80	5.0	400
Wet land	Wheat	20	1.8	. 36
	Mustard	20	0.9	18
	Muscaru	2.0	0.5	2.0
Dry land	Maize	31	1.5	47
-	Soyabean	31	0.5	16
	Wheat	8	1.2	10
	Mustard	.8	0.6	5
maka 1	D = 4d	0.0	:	400
Total	Paddy	80	_	47
	Maize	31 28		46
	Wheat			
	Mustard Soyabean	28 31		23 16

### I. Paddy

### Unit Import Item Patity Price 293 1) Projected 1995 price /_1 2) Ocean freight and insurance 3) Grade differencial /_2 US\$/ton 35 US\$/ton uss/con -44 284 4) CIF Calcutta price 5) Converted to Ngultrum (Nul4.0/US\$) US\$/ton Nu/ten 3,976 6) Port charges, handling and storage Nu/ton 300 500 7) Transport cost (Calcutta-Project Area) Nu/ton Nu/ton 8) Wholesale price in Project Area Nu/ten -180 9) Milling cost 10) Ex-mill price of paddy / 3 11) Transportation cost (farm-mill) 12) Farm gate price of paddy 2,987 Nu/ton Nu/ton 2,937 Nu/ton 2,900

- /_1 World Bank price projection for 5% broken rice (FOB Bangkok)
  /_2 Applied quality discount rate of 15% to 5% broken rice of Thailand
- /_3 Applied milling rate of 65%

### III. Wheat

Item	Unit	Import Patity Price
1) Projected 1995 price /1	US\$/ton	187
2) Ocean freight and insurance	US\$/ton	40
4) CIF Calcutta price	US\$/ton	227
5) Converted to Ngultrum (Nul4.0/US\$)	Nu/ton	3,178
6) Port charges, handling and storage	Nu/ton	300
7) Transport cost (Calcutta-Project Area)	Nu/ton	500
8) Wholesale price in Project Area	Nu/ton	3,978
9) Transportation cost (farm-market)	Nu/ton	-50
10) Farm gate price of wheat	Nu/ton	3,928
		: 3,900

### /_1 World Bank price projection for Canadian No. 1 Western Red Spring, Thunder Bay

### Y. Mustard

	Iten	Unit	Import Patity Price
1) 2	rojected 1995 price: / 1	US\$/ton	603
2) 0	cean freight and insurance	US\$/ton	40
3) C	IF Calcutta price	US\$/ton	643
4) C	onverted to Ngultrum (Nul4.0/US\$)	Nu/ton	9,002
5) P	ort charges, handling and storage	Nu/ton	300
6) R	lepackaging	Nu/ton	700
7) T	ransport cost (Calcutta-Project Area)	Nu/ton	500
8) W	holesale price in Project Area	Nu/ton	10,502
9) E	xtraction cost	Nu/ton	-500
10) V	alue of extracting by-product	Nu/ton	400
11) E	x-mill price of seed / 2	Nu/ton	3,640
12) T	ransportation cost (farm-mill)	Nu/ton	-50
13) P	arm gate price of seed	Nu/ton	3,590
			: 3,600

^{/ 1} World Bank price projection for Malaysian palm oil (CIF European ports)

	Item	Unit	Import Patity Price
11	Projected 1995 price / 1	US\$/ton	130
	Ocean freight and insurance	US\$/ton	40
*41	CIF Calcutta price .	US\$/ton	170
5)	Converted to Ngultrum (Nul4.0/US\$)	US\$/ton	2,380
. 6)	Port charges, handling and storage	Nu/ton	300
. 7)	Transport cost (Calcutta-Project Area)	Nu/ton	500
8)	Wholesale price in Project Area	Nu/ton	3,180
.9)	Transportation cost (farm-market)	Nu/ton	<b>¬50</b>
10)	Farm gate price of maize	Nu/ton	3,130
			: 3,100

⁽FOB US Gulf port)

	Item	Unit	Import Patity Price
		•	<del></del>
	(3) 医乳腺酶脂肪的 医抗原性 医肾经疗		
1)	Projected 1995 price / 1	US\$/ton	288
	Ocean freight and insurance	US\$/ton	40
	CIF Calcutta price	US\$/ton	328
5)	Converted to Ngultrum (Nul4.0/US\$)	US\$/ton	4,592
	Port charges, handling and storage	Nu/ton	300
	Transport cost (Calcutta-Project Area)	Nu/ton	500
	Wholesale price in Project Area	Nu/ton	5,392
	Transportation cost (farm-mill)	Nu/ton	-50
10)	Parm gate price of soyabean	Nu/ton	5,342
			: 5,300

[/]_1 World Bank price projection for US soyabean (CIF Rotterdam)

[/]_2 Applied extraction rate of 35%

# able IV.3.4 ECONOMIC PRICES FOR AGRICULTURAL OUTPUTS AND INPUTS 1995 (2/2)

OUTPUTS AND INPUTS, 1995 (2/2) (1988 CONSTANT PRICE)

	Unit	Import Parity Pr	; ice
Item	• • • • • • • • • • • • • • • • • • •	Urea T.S.P	KC1
		And the second of the second o	
1) Projected 1995 world market price / 1	US\$/ton	229 199	114
2) Ocean freight and insurance	US\$/ton	35 45	35
3) CIF Calcutta price	US\$/ton	264 244	149
4) Converted to Ngultrum (Nu14.0/US\$)	Nu/ton	3,696 3,416	2,086
5) Port charges, handling and storage	Nu/ton	260 260	260
6) Transportation cost (Calcutta-Project Area)	Nu/ton	500 500	500
7) Wholesale price in Project Area	Nu/ton	4,456 4,176	2,846
8) Transportation cost (store-farm)	Nu/ton	50 50	50
9) Farm gate price	Nu/ton	4,506 4,226	2,896
	-	(N:42%) (P205:46%) (	(K20:60%)
Price per nutrient	Nu/Kg	10.7 9.2	4.8

/ 1 World Bank price projection

Urea : FOB Europe T.S.P : FOB US Gulf KCl : FOB Vancouver

Table IV.3.5 SUMMARY OF FINANCIAL AND ECONOMIC PRICES FOR AGRICULTURAL OUTPUTS AND INPUTS

	A STATE OF THE PROPERTY OF THE			
		e te dipay	Financial	Economic
	Item	Unit	Price	$Price/_1$
			(1988)	(1995)
Output				
1)		(Nu/ton)	3,000	2,900
2)	Maize	(Nu/ton)	2,600	3,100
3)	Wheat	(Nu/ton)	2,400	3,900
4)	Soyabean	(Nu/ton)	2,700	5,300
5)	Mustard	(Nu/ton)	4,000	3,600
6)	Chilli (dry)	(Nu/ton)	10,000	9,000
7)	Buckwheat	(Nu/ton)	1,500	1,400
8)	Potato	(Nu/ton)	1,800	1,600
				the property of the second
Inputs		e de la companya del companya de la companya del companya de la co		to the second
1)	Seeds/_2		~ ^	r ^
	-Paddy	(Nu/Kg)	6.0	5.8
	-Maize	(Nu/Kg)	9.0	10.7
	-Wheat	(Nu/Kg)	4.0	6.5
	-Soyabean	(Nu/Kg)	5.0	9.8
	-Mustard	(Nu/Kg)	10.5	9.5
	-Chilli	(Nu/Kg)	200.0	180.0
	-Buckwheat	(Nu/Kg)	5.0	4.7
	-Potato	(Nu/Kg)	2.7	2.4
2)				A PART OF THE LOCAL
	N	(Nu/Kg)	2.3	10.7
	-P205	(Nu/Kg)	1.2	9.2
	-K2O	(Nu/Kg)	1.4	4.8
3)	Agro-chemicals/_3			
	-Liquid	(Nu/l)	72.2	100.1
	-Granular	(Nu/Kg)	11.8	16.4
4)	Labour	(Nu/day)	15.0	13.5
5)	Hired animal power/_4	(Nu/day)	60.0	54.0
		7		•

[/]_1 1988 constant price based on World Bank February 1988, commodity price projection. The other economic prices are converted from financial prices by SCF of 0.9.

Economic prices of agro-chemicals are estimated as follows:

EP = FP * SP * IR EP ; Economic price of agro-chemicals

FP; Financial price of agro-chemicals

SP; Standard conversion factor(0.9)

IR ; Average increasing rate of fertilizer
 price from 1988 to 1995 (1.54)

	1988 Const	ant Price	Average
	1988	1995	Increasing
	(US\$/ton)	(US\$/ton)	Rate
Urea	130	229	1.76
T.S.P	140	199	1.42
KC1	79	114	1.44
			1.54

Source : IBRD Price Projection

[/]_2 Economic prices of seeds are calculated applying the rates between the financial and economic prices of outputs.

[/]_3 Financial prices of agro-chemicals are calculated on the basis of the input quantities and prices of most prevailing goods in the project area.

[/]_4 Hired animal power comprises 2 heads of bulls with 2 operators.

Table IV.3.6

DEMAND AND SUPPLY OF AGRICULTURAL PRODUCTS IN THE MODEL PROJECT AREA, 1995

Production   Peace	Area/	Future				Local Consumption	tion				Marketable	φ
This capita (c) (kg) (c) (kg/ha) (kg/ha) (c) (c) (kg/ha) (c) (c) (c) (kg/ha) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c		Production	Food			Seed		Others		Total	Quantity	
(t) (kg) (t) (kh) (kg/hg) (t) (t) (t) (t) (t) (t) (t) (t) (t) (t			Per Capita	Total	Planted Area	Seed		Percent to Production	Total	Consumption	Quantity Per	ent to
1,100         250         697         220         60         13         5         55         765         335           an         23         2         10         2         10         9         86         0           an         23         64         84         125         11         10         13         88         46           an         29         0         0         84         13         1         10         3         5         24           400         0         0         84         13         1         0         0         6         24         10         3         5         24         6         108         46         10         0         0         0         6         108         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         6         108         <		(t)	(kg)	(£)	(ha)	(kg/ha)	ı	(\$)	(t)	1	- 1	(%)
1,100         250         69         13         5         55         765         765         335           134         27         75         30         2         10         9         66         0           1134         23         64         84         125         11         10         3         88         46           11         29         0         6         7         2         10         3         54         66         56         24         66         59         7         66         59         7         66         59         7         66         7         66         7         66         7         66         7         67         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7	nu											i . A
86         27         75         57         30         2         10         9         86         0           134         23         64         84         125         11         10         13         88         46           11         29         0         0         57         30         2         10         3         5         24           114         2         5         5         1.5         1         0         0         6         59           400         25         148         80         60         5         2         0         0         6         108           47         50         29         31         30         1         10         5         20         173         227           an         46         0         0         28         125         4         10         5         9         37           an         16         0         2         31         30         1         10         2         9         37           4         23         0         2         3         3         3         3         3           4<	Þŧ	1,100	250	697	220	09	13	រហ	55.	765	335	30
134         23         64         84         125         11         10         13         88         46           11         29         0         0         57         30         2         10         3         5         24           1         67         0         0         84         13         1         10         7         8         59           1         14         2         57         1.5         1         0         0         6         108         59           400         250         148         80         60         60         5         5         5         7         108           41         50         29         31         30         1         10         5         35         12           44         50         0         0         28         125         4         10         5         35         12           81         16         0         0         28         13         1         10         2         3         20           81         23         0         28         13         1         10         2         3 <t< td=""><td>υ.</td><td>99</td><td>27</td><td>75</td><td>57</td><td>30</td><td>2</td><td>10</td><td>on .</td><td>98</td><td>0</td><td>0</td></t<>	υ.	99	27	75	57	30	2	10	on .	98	0	0
in         29         0         0         84         13         1         10         7         8         59           in         67         0         0         84         13         1         10         7         8         59           114         2         5         5         1.5         1         0         0         6         108         108         108         108         108         108         108         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109         109	ŭ	134	23	64	84	125		O H	13	88	46	34
1 114 2 5 57 1.5 1 0 0 0 64 13 1 10 7 8 59 59 59 60 60 60 60 5 5 50 173 527 60 148 80 60 50 173 527 60 148 60 60 5 60 173 527 60 148 60 60 5 60 173 527 60 148 60 60 5 60 173 50 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12 60 12	Soyabean	29	<b>o</b>	0	5.7	30	7	10	m	<b>ທ</b>	24	00 (1)
114         2         5         1.5         1.5         1         0         0         6         108           400         250         148         80         60         5         5         20         173         227           47         50         29         31         30         1         10         5         35         12           an         46         0         0         28         125         4         10         5         9         37           an         16         0         0         31         30         1         10         5         3         13           an         23         0         0         28         13         1         10         2         3         13	pre	67	0	0	84	13	<b>н</b>	70	4	<b>co</b>	o, o,	88
400 250 148 80 60 5 5 20 173 227 47 50 29 31 30 1 10 5 35 12 an 16 0 0 28 125 4 10 5 9 37 a 23 0 0 28 13 1 10 2 3 20	6) Chilli	114	7	ហ	57	is.	ਜ	0	0	v	108	95
400         250         148         80         60         5         5         20         173         227           47         50         29         31         30         1         10         5         35         12           ean         16         0         0         31         30         1         10         5         9         37           rd         23         0         0         28         13         1         10         2         3         13           rd         23         0         0         28         13         1         10         2         3         20	e 2 e				-							
47 50 29 31 30 1 10 5 35 12 12 12 10 10 10 10 10 10 10 10 10 10 10 10 10	1) Paddy	400	250	148	80	09	ιΩ	ស	20	173	227	57
46 0 0 28 125 4 10 5 9 37 n 16 0 0 31 30 1 10 2 3 13 23 0 0 0 28 13 1 10 2 20	e e	47	ວ ທ	5	31	30	н	10	ហ	ю 6	12	26
n 16 0 0 31 30 1 10 2 3 13 13 23 0 0 0 28 13 1 10 2 3 20	3) Wheat	46	0	0	28	125	41"	10	ഗ	σı	37	80
23 0 0 28 13 1 10 2 3 20	abean	9 1	0	0	31	30	ผ	10	N	ഗ	13	t g
	tard	23	0	O	28	13	г·I	10	7	m	20	87

Note : Food demand is estimated on the basis of the future population in 1995 ; Tangmachiu of 2,788 and Masangdasa of 572 applying population growth rate of 2 % p.a.

Table IV.3.7 Di

DISTRIBUTION OF MARKETABLE AGRICULTURAL PRODUCTS FROM THE MODEL PROJECT AREA

	Item	Unit	Tang	Tangmachhu	Masangdaza	Total
•	Rice (paddy)  1. Marketable Quantity  - Paddy	. ب			227	ro e 60 / 71 /
• .	2. Deficit of Rice (1988) 3. Percentage of (1) to (2)	א נו ט		120 181	247 270 43	2 0 0 2 0 0 4 0 0
H	<pre>II. Maize 1. Marketable Quantity/District Consumption</pre>	<b>L</b>			12	12
HHH	<pre>III. Wheat 1. Marketable Quantity 2. Deficit (1988) 3. Transport Q'ty to Other Region</pre>	ע ע ע	î.	8 E E E	30 7	8 4 4 8 3 3 4 4 3 3 4 4 5 3 5 5 5 5 5 5 5 5 5 5
IQ.	<ul><li>IV. Soyabean</li><li>l. Marketable Quantity/Exportation</li><li>V. Mustard</li></ul>	ħ		2,	13	37
	<ol> <li>Marketable Quantity</li> <li>Seed</li> <li>Oil (Extraction rate of 35%)</li> <li>Deficit of Oil (1988)</li> <li>Transport Q'ty to Other Region</li> </ol>	th th		0 0 0 0 1 H D 0	1 H 70	2
VI.	VI. Chilli 1. Marketable Quantity/Exportation	ų		108	1	108

Table IV.3.8 ECONOMIC PRODUCTION COST UNDER WITHOUT PROJECT CONDITION (1/4)

Description	Unit	Price (Nu/unit)	Quantity (unit/ha)	Amount (NÚ/ha)
PADDY				
I Labour Cost				
(1) Nursery	man-day	13.5	16	216
(2) Manuring	man-day	13.5	4	. 54
(3) Land preparation	man-day	13.5	58	783
(4) Transplanting	man-day	13.5	45	608
(5) 1st Weeding	man-day	13.5	17	230
(6) 2nd Weeding	man-day	13.5	17	230
(7) Harvesting	man-day	13.5	26	351
(8) Drying	man-day	13.5	1	14
(9) Threashing	man-day	13.5	34	459
(10) Transportation	man-day	13.5	. 8	108
(11): Water management	man-day	13.5	6	81
Sub-total	man aaj	2000	232	3,132
II Bullock	pair-day	54.0	13	702
III Farm Input	bank and			
(1) Seed	ka	0.0	. 50	. 0
(2) Farm yard manure	kg	0.0	3,000	. 0
Sub-total	ĸg.	0.0	3,000	0
	[I+II+III]	5%	3,834	192
V Grand Total (I+II+III+IV		3 0	5,05.	4,026
A Gland local (1411411111)	<b>'</b> .			(4,030
		·		( - )
MAIZE/SOYABEAN			·	
I Labour Cost				
(1) Land preparation	man-day	13.5	23	311
(2) Manuring	man-day	13.5	4	54
(3) Sowing	man-day	13.5	10	135
(4) 1st Weeding	man-day	13.5	11	149
(5) 2nd Weeding	man-day	13.5	11	149
	man-day	13.5	15	203
(6) Harvesting	man-day	13.5	10	135
(7) Threashing		13.5	0	0
(8) Transportation	man-day	13.3	84	1,137
Sub-total		54.0	12	648
II Bullock	pair-day	34.0	12	040
III Farm Input	la ac	0.0	25	C
(8) Seed (maize)	kg	0.0	30	0
(soyabean)	kg	0.0		. 0
Farm yard manure	kg	0.0	3,000	. 0
Sub-total		<b>50</b>	1 206	89
IV Miscellaneous 5% of (		5%	1,785	
V Grand Total (I+II+III+IV	)			1,875
				(1,870

Table IV.3.8 ECONOMIC PRODUCTION COST UNDER WITHOUT PROJECT CONDITION (2/4)

	Description	Unit	Price (Nu/unit	Quantity ) (unit/ha)	Amount (Nu/ha)
MAIZ	Œ		٠		
I	Labour Cost				
	(1) Land preparation	man-day	13.5	23	311
	(2) Manuring	man-day	13.5		54
	(3) Sowing	man-day	13.5	10	135
	(4) 1st Weeding	man-day	13.5	11	149
	(5) 2nd Weeding	man-day	13.5	11	149
	(6) Harvesting	man-day	13.5	15	203
	(7) Threashing	man-day	13.5	10	135
	Sub-total		23	84	1,137
11	Bullock	pair-day	54.0	6	324
III	Farm Input			6 - 18 - 1 - 1 - 1 - 1 - 1	
	(1) Seed	kg .	0.0	30	0
.*.	(2) Farm yard manure	kg -	0.0	3,000	. 0
	Sub-total	-			0
$\mathbf{IV}$	Miscellaneous 5% of	(I+II+III)	5%	1,461	. 73
V	Grand Total (I+II+III+IV	<b>√</b> )	•		1,534
					(1,530)
	· ·				
VHEA	Labour Cost		•		· · · · · · · · · · · · · · · · · · ·
. I	(1) Land preparation		13.5	23	311
	(2) Manuring	man-day man-day	13.5	23 _. 4	54
	(3) Sowing	man-day man-day	13.5	4	54
	(4) 1st Weeding	man-day man-day	13.5	5	68
	(5) 2nd Weeding	man-day	13.5	5	68
	(6) Harvesting	man-day man-day	13.5	15	203
	(7) Drying	man-day	13.5	15	14
	(8) Threashing	man-day	13.5	20	: 270
			13.5	20	270
	(9) Transportation Sub-total	man-day	13.5	79	
тт			54.0	19	1,067 216
II	Bullock	pair-day	54.0	4	216
TTT	Farm Input	3		100	
	(1) Seed	kg	0.0	100	0
	(2) Farm yard manure Sub-total	kg	0.0	3,000	0
TII		/	. · E 0.	1 202	
IV		(I+II+III)	5%	1,283	1 247
V	Grand Total (I+II+III+IV	/) ·	7		1,347
					(1,3

Table IV.3.8 ECONOMIC PRODUCTION COST
UNDER WITHOUT PROJECT CONDITION (3/4)

Description	Unit	Price	Quantity	Amount
DOBOLIDELON	VIII C	(Nu/unit)	(unit/ha)	(Nu/ha)
		THUY WILLEY	(unito) naj	(Nu) Hay
MUSTARD				
I Labour Cost				
(1) Land preparation	man-day	13.5	10	135
(2) Sowing	man-day	13.5	5	68
(3) Harvesting	man-day	13.5	5	68
(4) Drying	man-day	13.5	3	41
(5) Threashing	man-day	13.5	7	95
(6) Transportation	man-day	13.5	1	1.4
Sub-total	man day	13.5	31	419
II Bullock	pair-day	54.0	3	162
III Farm Input	harr day	33.0	J	·
(1) Seed	kg	0.0	10	0
(2) Farm yard manure	kg	0.0	3,000	. 0
Sub-total	n y	V.0	3,000	Ô
	(I+II+III)	5%	581	29
V Grand Total (I+II+III+I)		. 50	. 301	610
V GIANG LOCAL (1:11:111:11	*/	•	•	(610)
	•			(010)
	•			
CHILLI				
I Labour Cost				
(1) Nursery	man-day	13.5	10	135
(2) Land preparation	man-day	13.5	30	405
(3) Manuring	man-day	13.5	. 6	81
(4) Transplantig	man-day	13.5	40	540
(5) 1st Weeding	man-day	13.5	20	270
(6) 2nd Weeding	man-day	13.5	20	270
(7) Harvesting	man-day	13.5	80	1,080
(8) Drying	man-day	13.5	50	675
(9) Transportation	man-day	13.5	10	135
Sub-total	man day	13.0	266	3,591
II Bullock	pair-day	54.0	10	540
	pair day	34.0		3.13
	leve	180.0	0	. 0
(1) Seed	kg ka	0.0	o ·	0
(2) Farm yard manure	kg	0.0	V	0
Sub-total	/T:TT:TT	5%	4,131	207
<del></del>	(I+II+III)	94	4,131	4,338
V Grand Total (I+II+III+I	V )		1.2	(4, 340)
		•		(4,540)

Table IV.3.8 ECONOMIC PRODUCTION COST UNDER WITHOUT PROJECT CONDITION (4/4)

Description	Unit	Price	Quantity (unit/ha)	Amount (Nu/ha)
		(NU/UNIC)	(unic/na)	(wu)na)
BUCKWHEAT				40,549
I Labour Cost				
(1) Land preparation	man-day	13.5	10	135
(2) Sowing	man-day	13.5	2	27
(3) Harvesting	man-day	13.5	5	68
(4) Drying	man-day	13.5	2	27
(5) Threashing	man-day	13.5	6	81
(6) Transportation	man-day	13.5	3	41
Sub-total	i de la compania de	* * * * * * * * * * * * * * * * * * *	28	378
II Bullock	pair-day	54.0	2	108
III Farm Input				
(1) Seed	kq		50	0
(2) Farm yard manure	kg	0.0	0	0
Sub-total				0
	(I+II+III)	5%	486	24
V Grand Total (I+II+III+		j 1 - 1,141.		510
•	•			(510)
				•
POTATO				1.5
I Labour Cost			*	
(1) Land preparation	man-day	13.5	15	203
(2) Manuring	man-day	13.5	· • • • • • • • • • • • • • • • • • • •	54
(3) Sowing	man-day	13.5	5	68
(4) Harvesting	man-day	13.5	16	216
(5) Transportation	man-day	13.5	5	68
Sub-total		2 1 2 2 2 2 C	45	608
II Bullock	pair-day	54.0	4	216
III Farm Input		talanta di	the second	garante de
(1) Seed	kg	2.4	900	2,160
(2) Farm yard manure	kg	0.0	<u>.</u> <b>0</b> ,	0
Sub-total		a egi		2,160
IV Miscellaneous 5% of	(I+II+III)	5%	2,984	149
V Grand Total (I+II+III+	•	•		3,133
•	-	1.7	1	(3,130)
		**		

Table IV.3.9 ECONOMIC PRODUCTION COST UNDER WITH PROJECT CONDITION (1/4)

				·
Description	Unit	Price (Nu/unit)	Quantity (unit/ha)	Amount (NU/ha)
PADDY				
I Labour Cost				e de la companya de La companya de la co
(1) Nursery	man-day	13.5	10	135
(2) Manuring	man-day	13.5	4	54
(3) Land preparation	man-day	13.5	20	270
(4) Transplanting	man-day	13.5	45	608
(5) 1st Weeding	man-day	13.5	10	135
(6) 1st Fertilizer	man-day	13.5	11	149
(7) 2nd Weeding	man-day	13.5	10	135
(8) Pest Control	man-day	13.5	3	41
(9) Harvesting	man-day	13.5	35	473
(10) Drying	man-day	13.5	1	14
(11) Threashing	man-day	13.5	10	135
(12) Transportation	man-day	13.5	10	135
(13) Water management	man-day	13.5	10	135
Sub-total	-		179	2,417
II Bullock	pair-day	54.0	. 8	432
III Farm Input				
(1) Seed (25% every ye		5.4	12.5	68
(2) Urea	N/kg	10.7	71.1	761
(3) TSP	P205/kg	9.2	29.4	270
(4) Farm yard manure	kg	0.0	4,000	0
(5) Hinosan	lit.	100.1	0.1	10
(6) Thimet 10 granule	kg	16.4	25	410
(7) Nuvacron	lit.	100.1	0.1	10
Sub-total				1,529
IV Miscellaneous	5% of I+II+II	5%	4,377	219
V Grand Total (I+II+III+I	LV)			4,596
MAIZE/SOYABEAN				
I Labour Cost		•	Service Agency	
(1) Land preparation	man-day	13.5	15	203
(2) Manuring	man-day	13.5	5	68
(3) Sowing	man-day	13.5	10	135
(4) 1st Weeding	man-day	13,5	10	135
(5) 2nd Weeding	man-day	13.5	10	135
(6) Pest Control	man-day	13.5	5 '	68
(7) Harvesting	man-day	13.5	10	135
(8) Drying	man-day	13.5	3	41
(9) Threashing	man-day	13.5	10	135
(10) Transportation	man-day	13.5	. 5	68
Sub-total			83	1,124
II Bullock	pair-day	54.0	8	432
III Farm Input				
(1) Seed (25% every ye	ar)			
(maize)	kg	10.4	6.3	65
(soyabean)	kg	9,6	7.5	72
(2) Urea	N/kg	10.7	0.0	0
(3) TSP	P205/kg	9.2	0.0	C
(4) Farm yard manure	kg	0.0	4,000	1.0
(5) Nuvacrion	lit.	100.1	0.1	10
(6) Thimet 10 granule	kg-	16.4	25	410
Sub-total			0 440	557
		5%	2,113	106
IV Miscellaneous 5%	of I+II+III	70	-,	
		J.	_/	2,218 (2,220

Tabla IV.3.9 ECONOMIC PRODUCTION COST UNDER WITH PROJECT CONDITION (2/4)

	Description	Unit	price (Nu/unit)	Quantity (unit/ha)	Amount (Nu/ha)
RAIN	FED WHEAT				1
ı	Labour Cost				
	(1) Land preparation	man-day	13.5	10	135
	(2) Manuring	man-day	13.5	4	54
	(3) Sowing	man-day	13.5	5	68
	(4) 1st Weeding	man-day	13.5	5	68
	(5) Pest Control	man-day	13.5	1	14
	(6) Harvesting	man-day	13.5	15	203
	(7) Drying	man-day	13.5	3	41
	(8) Threashing	man-day	13.5	7	95
	(9) Transportation	man-day	13.5	3	41
	Sub-total	·		53	716
II.	Bullock	pair-day	54.0	3	162
III	Farm Input				
	(1) Seed (25% every yea	r) kg	6.3	25	158
	(2) Farm yard manure	kg	0.0	4,000	. 0
	(3) Vitavax	kg	16.4	0.1	1
	Sub-total	·	* .	e de la companya de	158
ΙV	Miscellaneous 5% of	(I+II+III)	5%	1,036	52
V	Grand Total (I+II+III+IV	")			1,088
				. *	(1,090
	**				
RRI	GATED WHEAT				
I	Labour Cost	1	4.514		
	(1) Land preparation	man-day	13.5	10	135
	(2) Manuring	man-day	13.5	4	54
	(3) Sowing	man-day	13.5	5	68
	(4) 1st Weeding	man-day	13.5	5	68
:	(5) 1st Fertilizer	man-day	13.5	2	27
	(6) Pest Control	man-day	13.5	1	14
	(7) Harvesting	man-day	13.5	15	203
	(8) Drying	man-day	13.5	1	14
	(9) Threashing	man-day	13.5	7	95
	(10) Transportation	man-day	13.5	3	41
	(11) Water management	man-day	13.5	5	- 68
	Sub-total			58	783
		pair-day	54.0	2	108
II	Bullock				•
	Farm Input				
			6.3	25	158
	Farm Input		6.3 10.7	27.6	295
	Farm Input (1) Seed (25% every yea (2) Urea (3) Farm yard manure	r) kg			295
	Farm Input (1) Seed (25% every yea (2) Urea	r) kg N/kg	10.7	27.6	295 0
	Farm Input (1) Seed (25% every yea (2) Urea (3) Farm yard manure	r) kg N/kg kg	10.7 0.0	27.6 4,000 0.1	295 0 1
	Farm Input (1) Seed (25% every yea (2) Urea (3) Farm yard manure (4) Vitavax Sub-total	r) kg N/kg kg	10.7 0.0	27.6 4,000	
III	Farm Input (1) Seed (25% every yea (2) Urea (3) Farm yard manure (4) Vitavax Sub-total	r) kg N/kg kg kg (I+II+III)	10.7 0.0 16.4	27.6 4,000 0.1	295 0 1 454

Table IV.3.9 ECONOMIC PRODUCTION COST UNDER WITH PROJECT CONDITION (3/4)

Description	Unit	price (Nu/unit)	Quantity (unit/ha)	
RAINFED MUSTARD				
I Labour Cost			•	
(1) Land preparation	man-day	13.5	7	95
(2) Sowing	man-day	13.5	3	41
(3) 1st Weeding	man-day	13.5	4	54
(4) 2nd Weeding	man-day	13.5	4	54
(5) Pest Control	man-day	13.5	2	27
(6) Harvesting	man-day	13.5	7	95
(7) Drying	man-day	13.5	1	14
(8) Threashing	man-day	13.5	7	95
(9) Transportation	man-day	13.5	2	27
Sub-total			37	500
II Bullock	pair-day	54.0	3	162
III Farm Input	F		* - ⁷⁴	
(1) Seed (25% every year	ar) kg	9.2	2.5	23
(2) Aphid	lit.	100.1	0.1	10
Sub-total				33
	(I+II+III)	5%	695	35
V Grand Total (I+II+III+IV	•			729
				(730)
IRRIGATED MUSTARD	4		•	
I Labour Cost				
(1) Land preparation	man-day	13.5	7	95
(2) Sowing	man-day	13.5	3	.41
(3) 1st Weeding	man-day	13.5	4	54
(4) 2nd Weeding	man-day	13.5	4	54
(5) Pest Control	man-day	13.5	2	27
(6) Harvesting	man-day	13.5	7	95
(7) Drying	man-day	13.5	1	14
(8) Threashing	man-day	13.5	7	95
(9) Transportation	man-day	13.5	2	27
(10) Water management	man-day	13.5	2	27
Sub-total	•		39	527
II Bullock	pair-day	54.0	2	108
III Farm Input	- "			
(1) Seed (25% every year	ar) kg	9.2	2.5	23
(2) Urea	N/kg	10.7	32.2	345
(3) TSP	P205/kg	9.2	25.5	235
Aphid	lit.	100.1	0.1	10
Sub-total				612
	(1+11+111)	5%	1,247	62
V Grand Total (I+II+III+IV				1,309
	•			

Table IV.3.9 ECONOMIC PRODUCTION COST UNDER WITH PROJECT CONDITION (4/4)

	Description	Unit	price (Nu/unit)	Quantity (unit/ha)	Amount (Nu)
	• • •			en e	in the second second
HIL	Labour Cost				
1		man-day	13.5	10	135
	(1) Nursery	man-day	13.5	<b>2</b> 5	338
	(2) Land preparation	man-day	13.5	25	54
	(3) Manuring	man-day	13.5	45	608
	(4) Transplantig (5) 1st Weeding	man-day	13.5	30	405
	(6) 1st Weeding (6) 1st Fertilizer	man-day	13.5	3	41
	(7) 2nd Weeding	man-day	13.5	25	338
	(8) 3rd Weeding	man-day	13.5	20	270
	(9) Pest Control	man-day	13.5	4	54
	(10) Harvesting	man-day	13.5	70	945
	(11) Drying	man-day	13.5	40	540
	(12) Transportation	man-day	13.5	15	203
	Sub-total	man day	13.3	291	3.929
ΙΙ		pair-day	54.0	9	486
II	Farm Input	parr-day	34.0		100
. 1 1	(1) Seed (25% every year)	kg	180.0	1.0	180
	(2) Urea	N/kg	10.7	92.4	989
	(3) TSP	P205/kg	9.2	46.2	425
	(4) Farm yard manure	kg	0.0	4,000	0
	(5) Thimet 10 granule	kq	16.4	25	410
	(6) Copper fungicide	lit.	100.1	0.1	10
	Sub-total				2,014
IV	Miscellaneous 5% of (I	+11+111)	5%	6,428	321
v	Grand Total (I+II+III+IV)	,		.,	6,750
•	02414 10041 (1.22.211)17/				(6,750)

IRRIGATION DEVELOPMENT BENEFIT IN THE MODEL PROJECT AREA Table IV.3.10

								-
			Total		Gross	Unit	Total	Net
		Unit	produc-	Unit	production	production	production	production
Crop	Area	vield	tion	Price	value	cost	COST	value
	(ha)	(ton/ha)	(ton)	(Nu/kg)	(Nu)	(Nu/ha)	(Nu)	(nn)
	Æ	m [°]	C=AxB	Ω.	E-Dx1000xE	Бų	G=AXF	H=E-G
Tangmachhu								
Without project			٠					
Paddey	170	2.2	374	2.9	1,084,600	4,030	685,100	399,500
Wheat	8	1.0		ტ ტ	7,800	1,350	2,700	5,100
Potato	8	2.1	4	1.6	6,700	3,130	6,300	400
Total	1	ı	ı	1	1,099,100	1	694,100	405,000
With project								
Paddy	220	0.2	1,100	. 6.2	3,190,000	4,600	1,012,000	2,178,000
Wheat	55	8.4	66	6 °E	386,100	1,410	77,600	308,500
Mustard	s S	6.0	50	9.0	178,200	1,310	72,100	106,100
Total	•	ı		1	3,754,300	ì	1,161,700	2,592,600
Net Incremental { (W:	{ (With projec	st) - (Without	ut project)	· ·				2,187,600
Masangdaza								
Without project					:			
Paddey	30	1.5	45	20.0	130,500	4,030	120,900	009 6
Maize (1st)	20	7,1	22	ਜ <b>਼</b> ਲ	68,200	1,870	37,400	30,800
Maize (2nd)	ιΩ ·	1.1	φ	ტ.	17,100	1,530	7,700	9,400
Buckwheat	ທ	0.4	8	1.4	2,800	510	2,600	200
Mustard	ਜ : :	e, 0		9.8	1,100	610	009	200
Total	ı	1	ı	1	219,700	1	169,200	50,500
With project								
Paddy	80	5.0	400	5.9	1,160,000	4,600	368,000	792,000
Wheat	20	1.8	36	თ. ო	140,400	1,410	28,200	112,200
Mustard	20	6.0	8 H	9 8	64,800	1,310	26,200	38,600
Total	ţ	i	ı	1	1,365,200	1	422,400	942,800
Net Incremental { (With project) - (Without	With proje	ct) - (Witho	ut project)	:)}				892,300
						-		

Table IV.3.11 MANN BUDGET AMBLYSIS IN THE MODEL PROJECT AMEA (1/8)

Table IV.3.11 FREE BUDGET AMBLESTS IN THE MODEL PROJECT AREA (2/8)

	With Project Condition	Without Project Condition		With Project Condition	Without Project Condition
1. Farm Size (ha) Wet Land Dry Land Total	0.25 0.16 0.41	0.25 0.16 0.41	1. Farm Size (ha) Wet Land Dry Land Total	0.64 0.19 0.83	0 49 0 10 0
Z. Family Size	6.4	6.4	2. Family size	7.3	7.3
3. Crop Production (t)	Yield Pro (t/ha) tion 5.0	a Xield Pro ) (t/ha) tion 5 3.5	3. Crop Production (t) Paddy	Xield Pro (t/ha) tion 5.0	Yield Pro (t/ha) tion 2.8
Maize (Soyaboan) Whest/Buckwhest Chilii Mustard	0.08 1.5 0.12 0.08 0.5 0.04 0.10 1.8/1.2 0.16 0.08 2.0 0.16	0.18 1.4 0.25 0.18 0.3 0.05 0.03 0.4 0.01 0 0.2 0	Malze (Soyabean) Wheat Guckwheat Chilii Mustard	0.10 1.5 0.15 0.15 0.15 0.15 0.15 0.15 0	0.19 1.4 0.27 0.15 0.3 0.05 0.01 1.0 0.01 0.01 0.2 0.01
4. Disposal of Product (t) Raddy	Sold Ot (kg) 50	Sold Othe (kg) (k	4. Disposal of Product (t) Raddy	Sold O: (kg) 1177	Sold Or (kq) 248
fate (Soyabean) Wheat/Buckwheat Chilli Mustard	150 0 5 13 147 1 1 0 0 13 10 0 0 0 0 0 0 0 0 0 0 0 0 0	9	Matard (Soyabean) Wheat/Buckwheat Chilli Mustard	132 0 18 233 56 61 14 185 1	25 20 35 70 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
5. Farm Income (Nu) Paddy Malze (Soyabean) Wheat/Buckwheat Chilli	Sold Price Amount  Q'ty(t) (NU/t) (NU)  50 3.0 150  0 2.6 0  2.7 0  2.7 0  147 10.0 1,470  71 4.0 284	Sold Price Amount Q'ty(kq) (Nu/kq) (Nu) 40 3.0 120 0 2.6 0 2.5 0 2.7 25 0 2.7 25 0 10.0 0	5. Farm Income (Nu) Paddy Maise (Soyabean) Whosat/Buckwheat Chillit Mustard	Sold Price Amount Q'ty(t) (Nu/t) (Nu) 1,177 3.0 3,531 0 2.6 113 56 2.4 134 185 10.0 1,850	\$01d Price Amount 248 3.0 745 0 0 0 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Others Total 6. Non-Farm Income (Nu)	160 2,064 1,590	305 305 1,590	Others Total 6. Non-Farm Income (Nu)	160 6,392 2,020	96
7. Total Income (Nu)	3,654	1,895	7. Total Income (Nu)	8,412	2,915
8. Production Cost (Nu) Paddy Maize (Soybean) Whest	Nu /ha) Total (Nu) 288 72 98 8	- Try	8. Production Cost (Nu) Paddy Maize (Soyabean) Whear	10.00	Tochioded fo
Chilli Mustard Total		living expenses-	Chilli Mustard Total	491 137/28 343	living expenses-
9. Living Expenses (Nu) 10. Net Reserve (Nu)	2,944	1,840	9. Living Expenses (Nu) 10. Net Reserve (Nu)	3,358	2,520

Table IV.3.11 FARM BUDGET ANALYEIS IN THE MODEL PROJECT AREA (3/6)

Table IV.3.11 FARM SUDGET MEMINETS IN THE MODEL PROJECT AMEN (4/8)

Table IV.3.11 FARE BUDGET AMALYSIS IN THE MODEL PROJUCT AREA (5/8)

Table XV.3.11 FANN BUDGET ANALYSIS IN THE MODEL PROJECT AFEA (6/8)

MASANGDARA (Ferm Sire :	Below 6.80 ha)		MARAHGDASA (Ferm Sire :	0,80 - 1.20 ha)	- American
	With Project Condition	Mithous Project Condition		With Project Condition	Without Project Condition
1. Farm Size (ha)			1. Farm Size (ha)		
Wet Land	0 0	0.14	Wet Land	19.0	0.17
ury Land Total	95.0	0.56	Dry Land Total	0.85	0.85
2. Family Size	7-7	T.* F	2. Family Size	5.2	8.2
	Yield Prod	a Yield Pro		Yield	Yield Prod
3. Crop Production (t)	(ha) (t/ha) tion (t)	(ha) (t/ha) tion (t)	3. Crop Production (t)	(ha) (t/ha) tion (t)	(ha) (t/ha) tion (t)
Maize	S-1	€*T.	Maize	다. 라.	1.3
(Soyabean)	0.16 0.5 0.08	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(Soyabean)	0,24 0.5 0,12	0 0
Mustard	9.0/6.0	o 173	Mustard		r m 0
	Road Sold Others	Rood Orberts		Bood Acod	ood oo oo
4. Disposal of Product (t)	(kg)	(kg)	4. Disposal of Product (t)	(kg)	(kg)
Paddy	851	0		1,511	4
Maize	210 30	69ri	Maize	270 47 43	1,058 30 212
Ebeat Est			(Noy abean) Wheat		
Mustard	86		Mustard	. :	
		7		4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	i c
5. Farm Income (Nu)	(kq) (kq) (Nu)	Q'ty(kq) (Nu/kq). (Nu)	5. Farm Income (Nu)	(Nu/kq)	O'ty (kg) (Nu/kg) (Nu)
Paddy	3.0 2,5	3.0		3.0. 4,	O * M
Matze	0 7.6		Matra	2.6	
(Soyabean) Wheat	2.7	200	(Soyabean) Wheat	289 2.4 693	2.4
Mustard	0.4	0.4	Mustard	4.0	
Others Total	3,744	290	Others Total	160	125
6. Non-Farm Income (Nu)	366	395	6. Non-Farm Income (Nu)	670	670
7. Total Income (Nu)	6.139	685	7. Total Income (Nu)	7,054	\$28
	מל דפס			מיזינו הא	
8. Production Cost (Nu)			8. Production Cost (Nu)		
Paddy			Paddy		
Marze (Sovabean)	77		Manze (Sovebeen)	50-T	
Wheat	172/105	- Included in	Wheat		- Included in
Mustard Total	137/28	living expenses-	Mustard Total	137/28 23	living expenses-
9. Living Expenses (Nu)	1,886	069	9. Living Expenses (Nu)	2,484	088
10. Net Reserve (Nu)	2,024	51	10. Net Reserve (Nu)	4,220	5

: Over 1.20 hs)	With Project Without Project Condition Condition	1.26 0.59 1.38 1.76	6.00 mm	Area Yield Production (ha) (t/ha) tion (t) (ha) (t/ha) tion (t) (ha) (t/ha) tion (t) (ha) (t/ha) tion (t) (1.26 5.0 6.30 0.39 1.8 0.70 0.50 0.50 0.50 0.50 0.44 0.9/0.6 0.36 0.03 0.4 0.01	(t) (kq) (kq) (kq) (kq) (kq) (kc) (kc) (kc) (kc) (kc) (kc) (kc) (kc	Sold Price Amount Sold Price Amount (kg) (Nu/kg) (Nu/k	375 375 375 16,358 1,670	Per ha Total (Nu) 303 303 302 226 172/105 67 - Included in 137/28 47
MASANGDARA (Farm Sire		1. Farm Size (ha) Wet Land Dry Land Total	2. Family Size	3. Crop Production (t) Paddy Maize (Soyabean) Wheat/Buckwheat	4. Disposal of Product (t) Paddy Maize (Soyabean) Wheat/Buckwheat Mustard	5. Farm Income (Nu) Paddy Malze (Soyabean) Wheat/Buckheat Mustard Cthers Total	6. Non-Farm Income (Nu) 7. Total Income (Nu)	8. Production Cost (Nu) Paddy Maize (Soyabean) Wheat Mustard
	Without Project Condition	0.11 1.09 1.20	5.7	Area Yield Produc- (ha) (t/ha) tion (t) 0.11 1.8 0.20 1.38 1.3 1.80 0 0.25 0.4 0.10 0.03 0.3 0.01	Food Sold Others (kg) (kg) (kg) 180 0 20 1,558 0 242 0 55 0 45 0 0 0	Sold Price Amount Q'ty(kg) (Nu/kg) (Nu) 0 2.6 0 0 2.6 0 0 2.7 0 0 2.4 0 0 4.0 280	225	- Included in
1.20 hm)	With Project Condition	0.86 0.34 1.20	5.7	Area Yield Produc- (ha) (t/ha) tion (t) 0.86 5.0 4.30 0.34 0.51 0.30 1.8/1.2 0.49 0.30 0.9/0.6 0.24	Food Sold Others (kg) (kg) (kg) (kg) 266 285 0 61 0 61 0 61 0 61 0 61 0 61 0 61 0 6	Sold Price Amount (kg) (Nu/kg) (Nu) 2,609 3,0 7,827 0 2.6 0 0 143 2.7 386 404 2.4 969 213 4.0 852 1150	225	Nu/ha
MASANGDAZA (Fern Sixe :		1. Farm Size (ha) Wer Land Dry Land Total	2. Family size	3. Crop Production (t) Paddy Maize (Soyabean) Wheat/Buckwheat Mustard	#REF: Paddy #REF: Maize #REF: (Soyabean) #REF: Wheat/Buckwheat Mustard	5. Farm Income (Nu) Paddy Maze (Soyabean) Wheat/Buckwheat Musrard Others Total	6. Non-Farm Income (Nu) 7. Total Income (Nu)	8. Production Cost (Nu) Paddy Maire (Soyabean) Wheat Mustard

Table IV.3.12 LAND

LAND AND LABOUR PRODUCTIVITY IN THE MODEL PROJECT AREA (1/2) (WITHOUT PROJECT CONDITION)

								Net	Flanted	Net	Labour		
	Land / Crop	Yield	Yield Financial Price	l Production Production		Production	>	Production Value per ha	Area	Production	Requirement	Requirement Labour	1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	4	(t/ha)	(Nu/kg)	N)	-	(Nu/ha)	-	(Nu/ha)		(Nu)	(Man-day/ha)		T 🕏
		Н	II	II*I=II I	I.	Ī	ıv	VI-II=V	VI	IV*V=IIV	IIIA	XI/IIA=X IA*IIIA=XI	lă
			:										
H H	Irrigated Land	ړو ا							-				
							٠.						
3	(1) Tangmachhu						:						
	Paddy	2.2	0.0 0.0	6, 600	0	100	00	6,500	0.77	5,005	232	179	28
	Wheat	1.0	2.4	2,400	00	v	90	2,340	0.01	23	42	.2.	23
	Potato	₽.1	1.8	2,52	ő	122	22	2,398	0.01	24	45	0	0
	Total									5,052		180 23	28
							. •						
(2)	(2) Masangdaza												
	Paddy	ເກ	O.E	4,500	0.	100	. 00	4,400	1.00	4,400	232	232	۵ ج
Ļ	ליים ד			1				٠					
						٠.							
τ)	(1) Tangmachhu												
	Malze	1.4	2.6	3,640	Ö		50	3,590	1.00	4,214	<b>8</b>	84	50
	(Soyabean)	(0.3)	(2.7)	(810)	6	(20)	<b>€</b>	(190)	(0.79)			:	
	Mustard	0.5	4.0	800	0	u)	50	750	90.0	45	31		23
•	Chilli Chilli	0.2	10.0	2,000	90		70	1,930	0.02	68	264	ហ	œ
	Total						. v			4,298		. <del>4</del>	47
		7											
(2)	(2) Masangdaza												
٠.,	Maize	다. H	5.6	2,860	. 09	м, 	50	2,810	1.25	3,513	84	105	33
	Buckwheat	9.0	1.5	009	00	*	40	560	0.25	140	53	13	단
	Mustard	e 0	0.4	1,200	00		50	1,150	0.08	92	31	.2.	46
	Total							•		3,745		120	31
		٠.											
					7	1		· · · · · · · · · · · · · · · · · · ·					

/ 1 : Including the net production value of soyabean.

Table IV.3.12

LAND AND LABOUR PRODUCTIVITY IN THE MODEL PROJECT AREA (2/2)
(WITH PROJECT CONDITION)

Value per ha Ratio Value per Area per ha of Area Productivity  (Nu/ha)  (Nu	Gross Yield Financial Production
V=II-IV VI VII=V*VI VIII IX=VIII*VI  14,712	Cost (Nu/ha)
14,712     1.00     14,712     179     179       4,148     0.25     1,037     58     15       3,463     0.25     866     39     10       2,152     0.25     694     53     42       2,775     0.25     694     53     13       2,372     0.25     593     37     9       19,509     0.50     9,755     291     146       19,509     0.50     5,152     83     83       2,775     0.25     694     53     13       2,775     0.25     694     53     13       2,775     0.25     694     53     13       2,372     0.25     6,439     37     9	AI II×I=II
14,712     1.00     14,712     179     179       4,148     0.25     1,037     58     15       3,463     0.25     866     39     10       2,152     0.25     694     53     13       2,372     0.25     694     53     13       2,372     0.50     9,755     291     146       19,509     0.50     13,618     210       5,152     1.00     5,152     83     83       2,372     0.25     694     53     13       2,372     0.25     694     53     13       2,372     0.25     694     53     13       2,372     0.25     694     53     13       2,372     0.25     6,439     37     9	
14,712     1.00     14,712     179     179       4,148     0.25     1,037     58     15       3,463     0.25     866     39     10       2,463     0.25     16,615     83     42       2,75     0.25     694     53     13       2,775     0.25     694     53     146       19,509     0.50     9,755     291     146       19,509     0.50     13,618     210       5,152     1.00     5,152     83     83       2,775     0.25     694     53     13       2,775     0.25     694     53     13       2,775     0.25     694     53     13       2,775     0.25     694     53     13       2,775     0.25     694     53     13       2,372     0.25     694     53     105	
4,148       0.25       1,037       58       15         3,463       0.25       866       39       10         16,615       266       39       204         2,775       0.25       694       53       13         2,372       0.25       593       37       9         19,509       0.50       9,755       291       146         19,509       0.50       9,755       291       210         5,152       1.00       5,152       83       83         2,775       0.25       694       53       13         2,372       0.25       694       53       13         2,372       0.25       694       53       105	00 15,000 288
3,463       0.25       866       39       10         5,152       0.50       2,576       83       42         2,775       0.25       694       53       13         2,372       0.25       9,755       291       146         19,509       0.50       9,755       291       146         19,509       0.50       13,618       210         5,152       1.00       5,152       83       83         2,775       0.25       694       53       13         2,372       0.25       593       37       9         6,439       105	
5,152 0.50 2,576 83 42 2,775 0.25 694 53 13 2,372 0.25 9,755 291 146 19,509 0.50 13,618 210 5,152 1.00 5,152 83 83 2,775 0.25 694 53 13 2,775 0.25 694 53 37 19 2,775 0.25 694 53 13	
5,152       0.50       2,576       83       42         2,775       0.25       694       53       13         2,372       0.25       9,755       291       146         19,509       0.50       13,618       291       210         5,152       1.00       5,152       83       83         2,775       0.25       694       53       13         2,372       0.25       694       53       13         2,372       0.25       6,439       105	
5,152       0.50       2,576       83       42         2,775       0.25       694       53       13         2,372       0.25       9,755       291       146         19,509       0.50       9,755       291       146         13,618       210       210         5,152       1.00       5,152       83       83         2,775       0.25       694       53       13         2,372       0.25       694       53       105         6,439       105	
5,152 0.50 2,576 83 42 2,775 0.25 694 53 13 2,372 0.25 9,755 291 146 19,509 0.50 9,755 291 210 2,372 0.25 694 53 13 2,775 0.25 694 53 13 2,775 0.25 694 53 13 2,372 0.25 694 53 105	
0.25 694 53 13 0.25 593 37 9 0.50 9,755 291 146 13,618 210 1.00 5,152 83 83 0.25 694 53 13 0.25 6,439 105	3,900
0.25 694 53 13 0.25 593 37 9 0.50 9,755 291 146 13,618 210 1.00 5,152 83 83 0.25 694 53 13 6,439 105	
0.25 593 37 9 0.50 9,755 291 146 13,618 210 1.00 5,152 83 83 0.25 694 53 13 6,439 105	2,880
0.50 9,755 291 146 13,618 210 210 210 5,152 83 83 0.25 694 53 13 6,439 105	2,400
13,618  1.00 5,152 83 83 0.25 694 53 13 0.25 6,439 105	0 20,000 491
1.00 5,152 83 83 0.25 694 53 13 0.25 593 37 9	
1.00 5,152 83 83 83 0.25 694 53 13 9 9 105	
0.25 694 53 13 0.25 593 37 9 6,439 105	96 006,2
0.25 694 53 13 0.25 593 37 9 6,439 105	(2.7) (1,350)
0.25 593 37 9 6,439 105	2,4 2,880 105
105	4.0 2,400 28

/_1 : Including the production cost of soyabean.

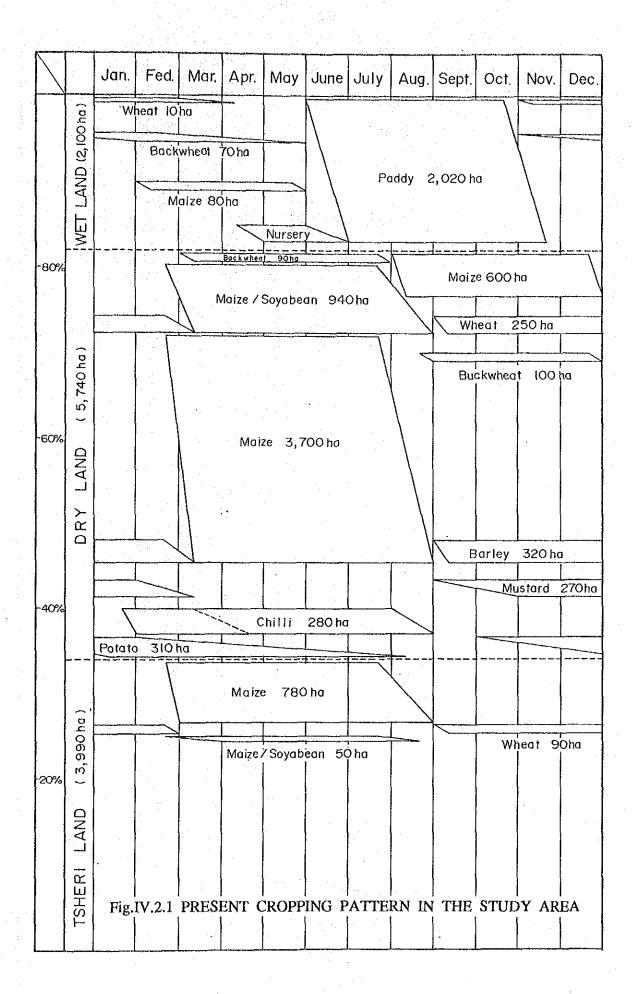
AGRICULTURAL CREDIT PROGRAM IN BEUTAN Table IV.3.13

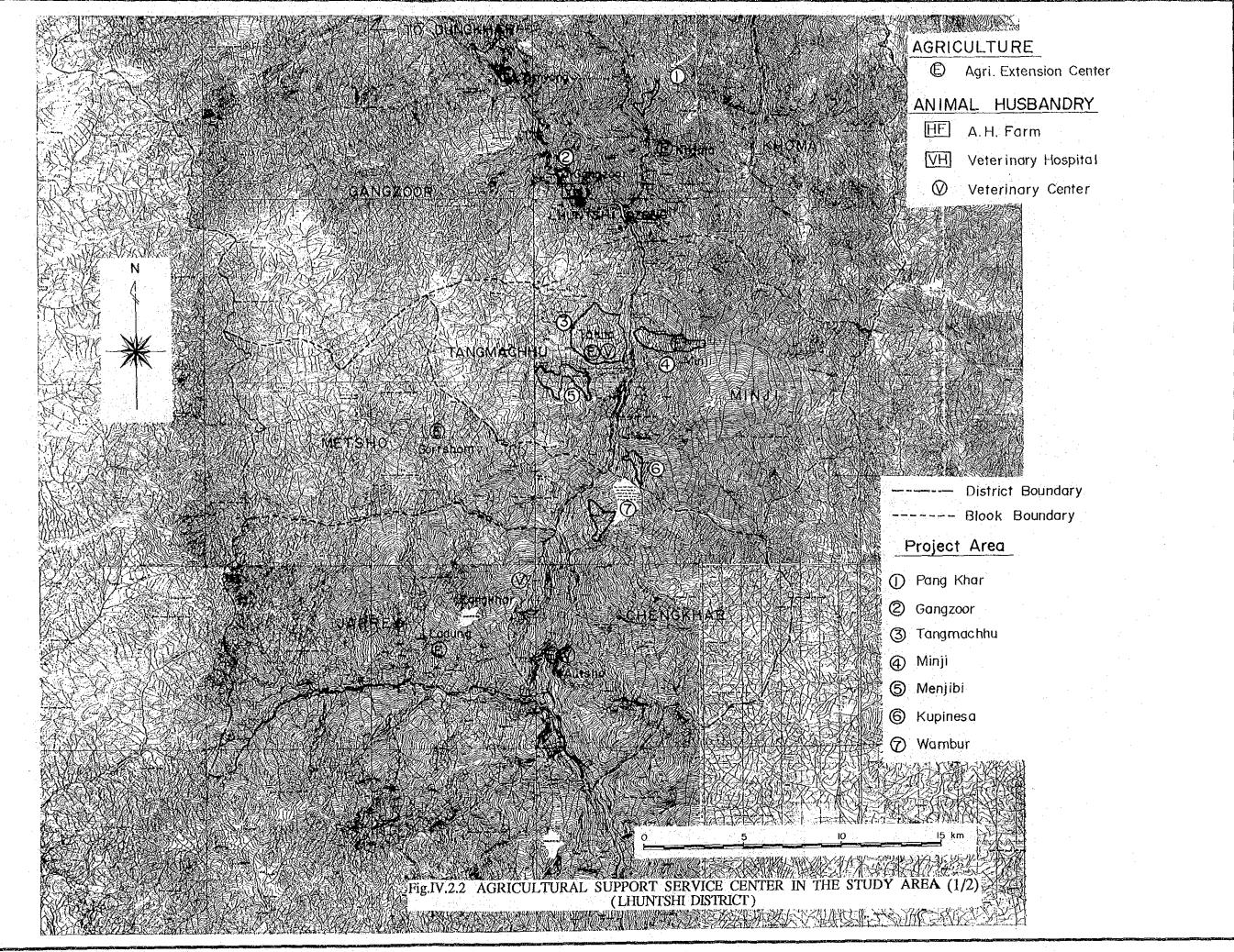
	Loan	Loan Guidel	delines	Interest	Loan		
Activity	Type	Minimum	Maximum	Rate	Term	Security	Comments
Seed/Seedlings		:			1 Year	100-200	Disbursement as far as possible
					or Less	Nil	'in kind' from DOA Godown Stores
Fertilizer	Seasonal	Nu 200	Nu 5,000		(1 season)	2001-5000	
		٠.				Surety	
Pesticides					:		
		:					
Tools/Implements							
					3 years	Machinery	DAO report on feasibility required;
Machinery							
1				-		4	cultivation machinery
7.00to 01.1		-		* C			
(S)0300 FT				9 H			
	-	•	٠.				Improved dairy preeds except
Dairy Cows				(plus 5%		Livestock	with written approval of DOAH
				penalty on		and	
Transport/Traction Animals					. *	Land	DAHO feasibility report read.
				-		(Surety if	
Pigs			-			required)	
						. •	
Poultry	Term	Nu 500	Nu 10,000	Past due	2-5 years		
			(Dzongkhag	amounts)			
Fencing			Approval)		:		
			,			:	
Land Development			Nu 20,000		•	Land	DAO feasibility report required.
			(BDFC H/D			and	
Irrigation			Approval)			Surety	
			:			भूत	No 'new' large scale developments
Terracing/Bunding						rednired	without support from some other
							reliable income to support loan
Orchard/Tree Crops							repayments, DAO report required.

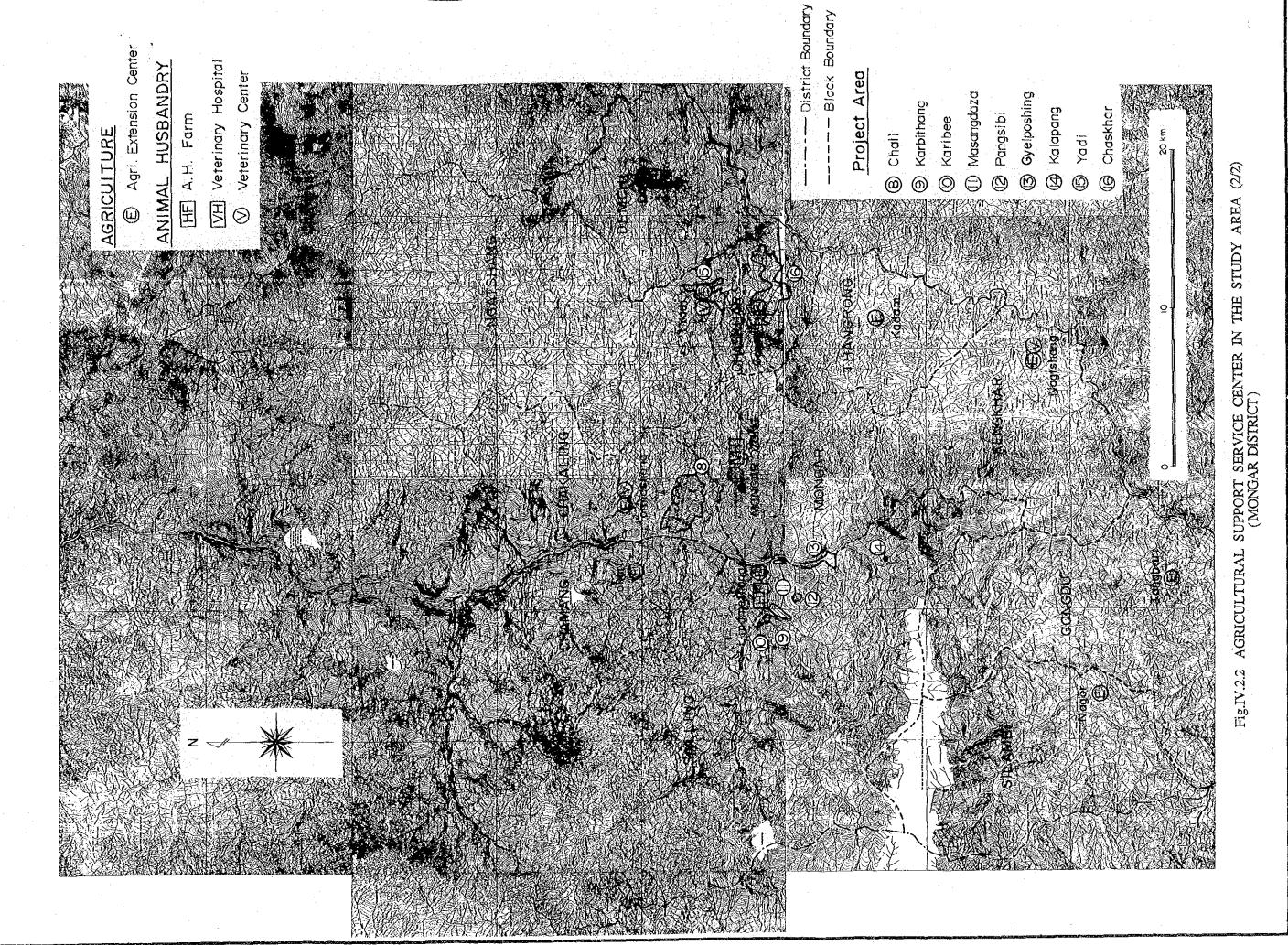
Bhutan Development Finance Corporation, Ministry of Finance Note: BDEC; DOA; DOAE; DAO;

Department of Agriculture

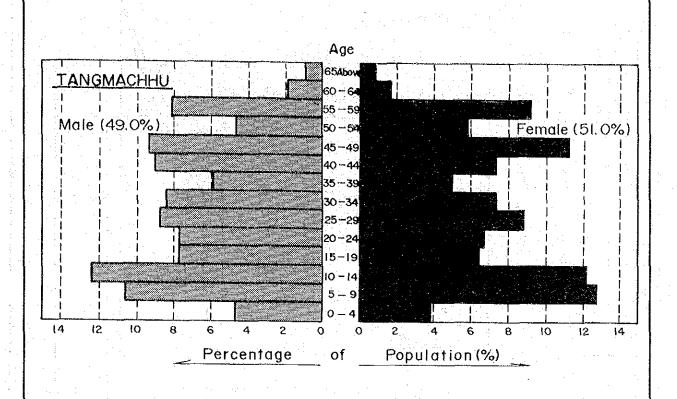
Department of Animal Husbandry District Agriculture Officer







IV - 109



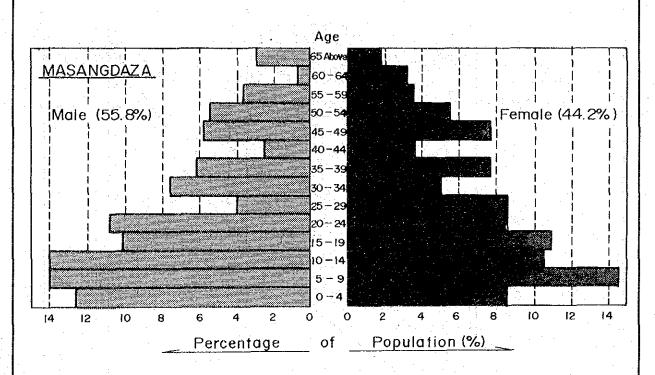
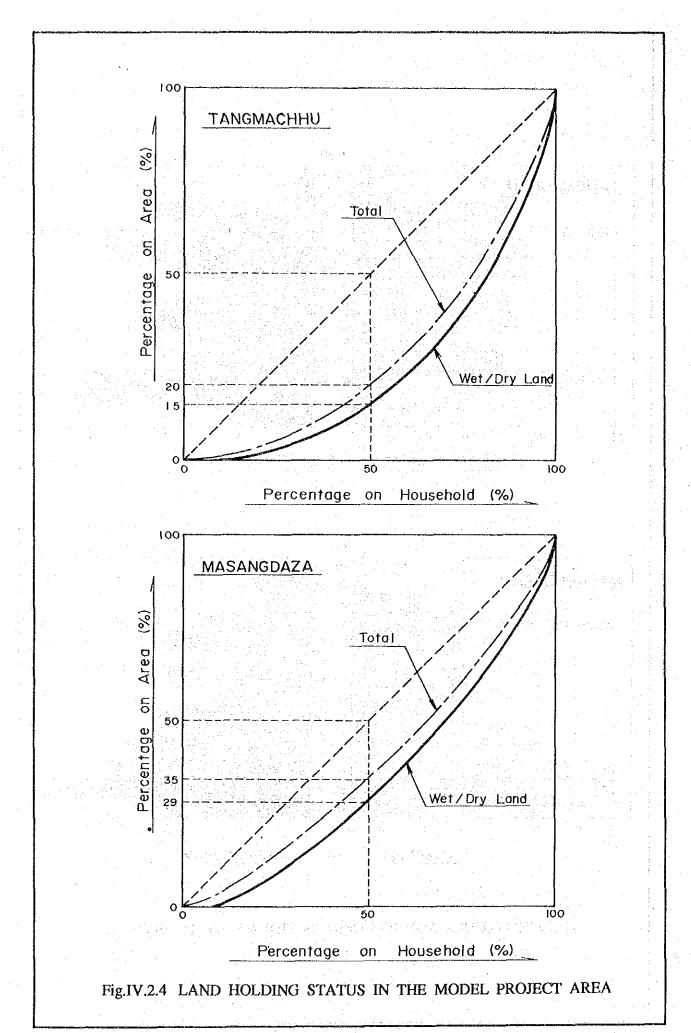


Fig.IV.2.3 POPULATION PYRAMID IN THE MODEL PROJECT AREA



IV - 112

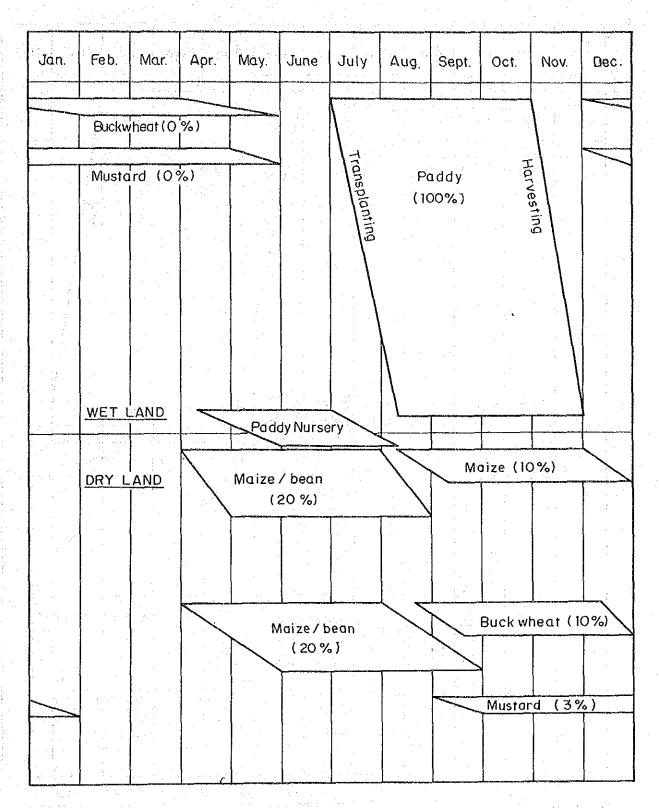


Fig.IV.2.5 PRESENT CROPPING PATTERN IN THE MODEL PROJECT AREA (1/2) (TANGMACHIU)

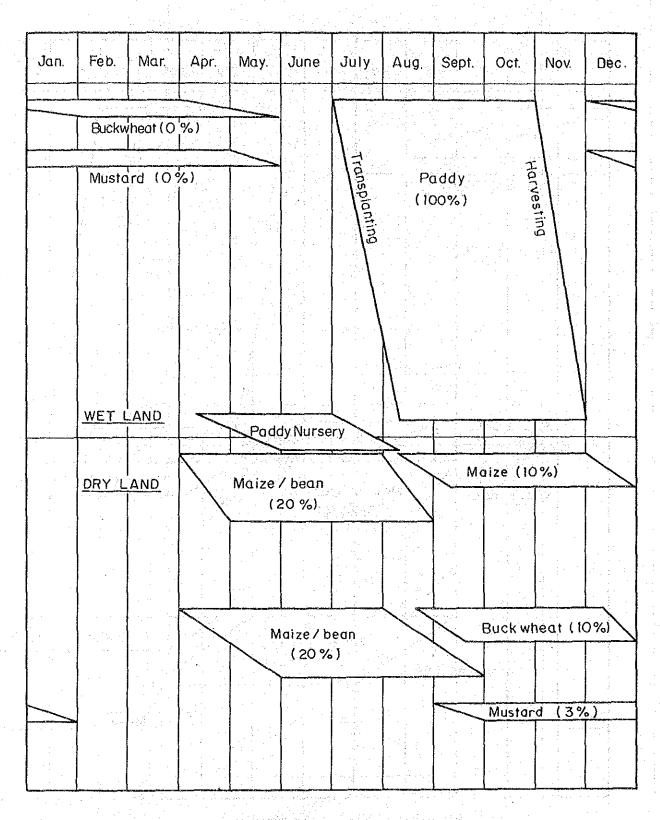
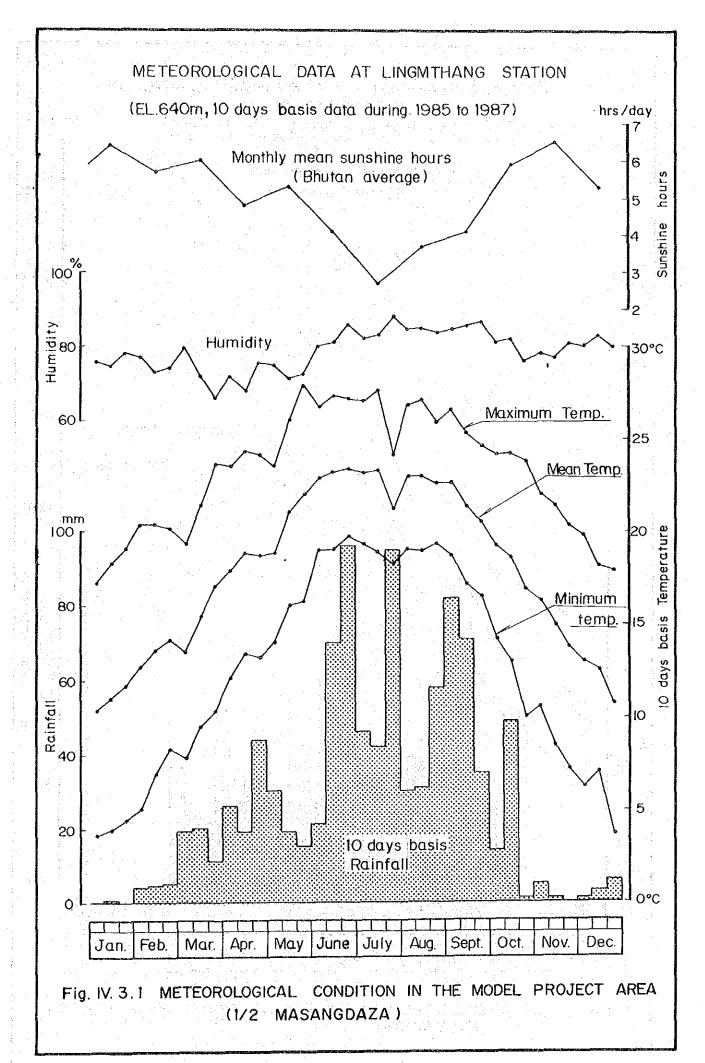
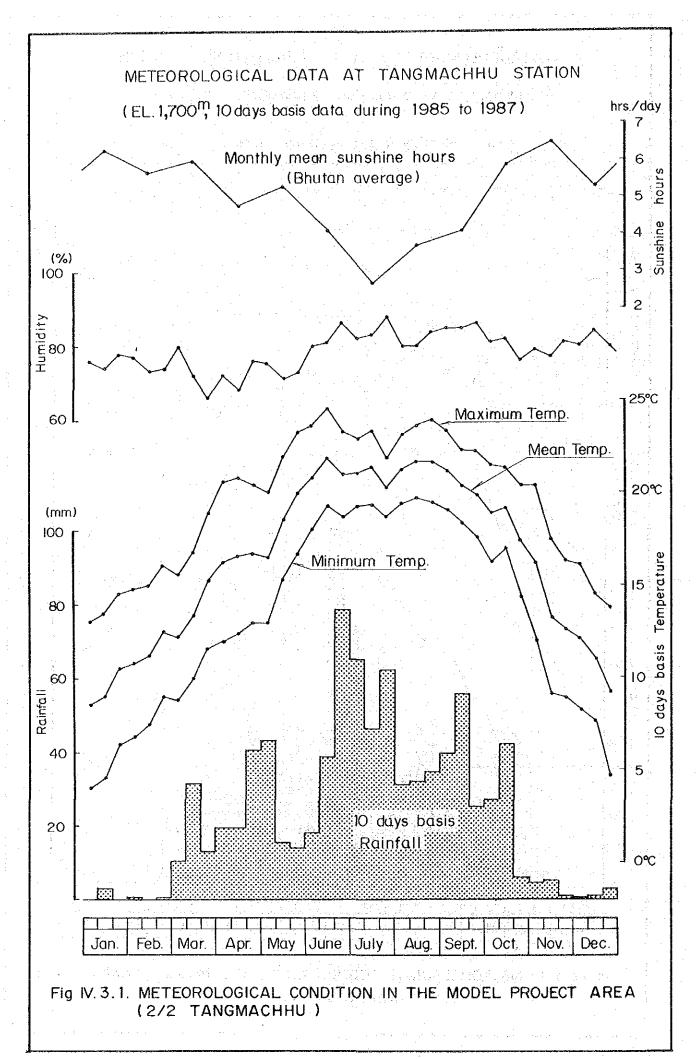
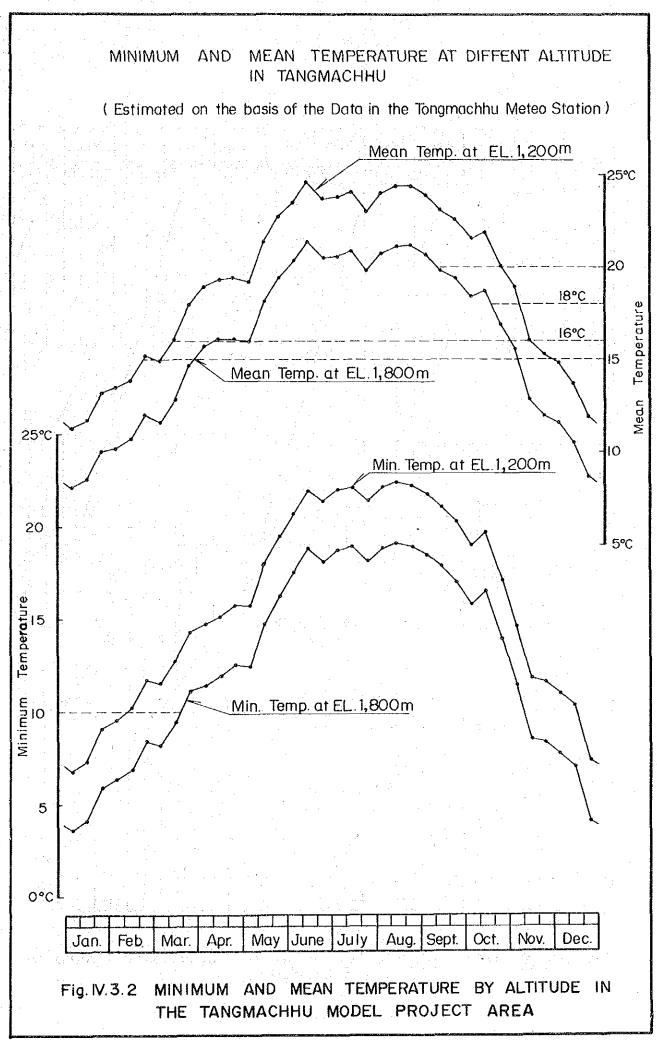


Fig.IV.2.5 PRESENT CROPPING PATTERN IN THE MODEL PROJECT AREA (2/2) (MASANGDAZA)





IV - 116



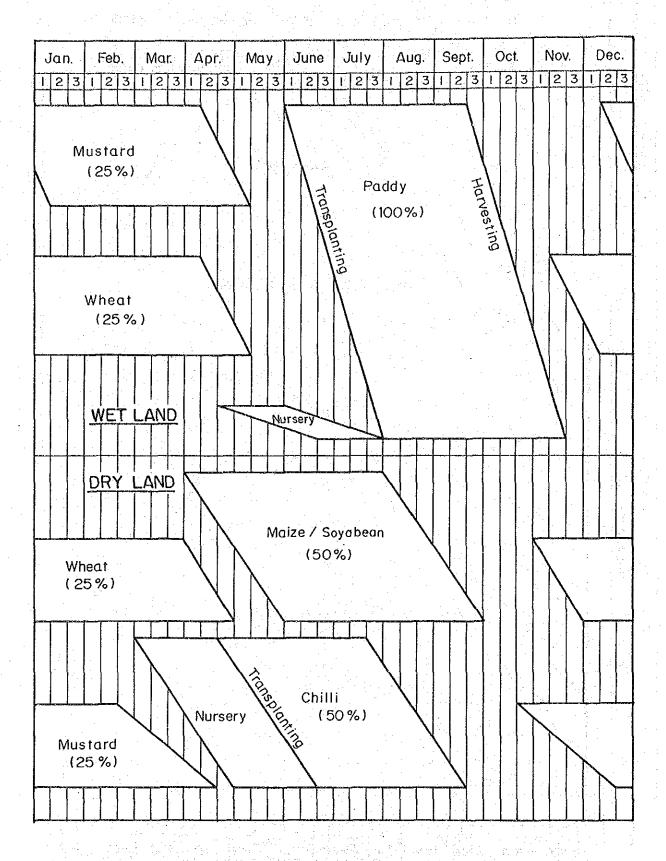


Fig.IV.3.3 PROPOSED CROPPING PATTERN IN THE MODEL PROJECT AREA (1/2) (TANGMACHHU)

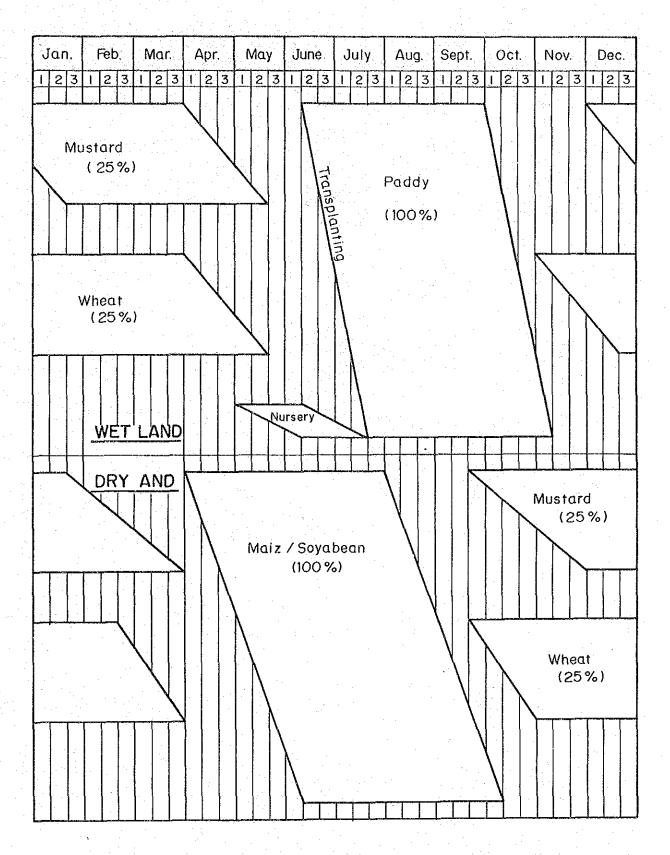


Fig.IV.3.3 PROPOSED CROPPING PATTERN IN THE MODEL PROJECT AREA (2/2) (MASANGDAZA)