LABOUR ABSORPTION IN ASIAN AGRICULTURE A REVIEW OF LITERATURE

A DISSERTATION
SUBMITTED TO THE
UNIVERSITY OF POONA
IN PARTIAL FULFILMENT
FOR THE DEGREE OF
MASTER OF PHILOSOPHY

BY
KIRAN PANDYA

GOKHALE INSTITUTE OF POLITICS AND ECONOMICS
PUNE 411 004

JUNE 1984

ACKNOWLEDGEMEN TS

I am grateful to my respected guide Professor N.
Rath, whose valuable guidance was available at every
stage of my work. His critical comments have significantly improved the quality of my work. I am indebted
to him. However, if there is any error in my work, I
am solely responsible for that.

I wish to thank to the staff of the Gokhale Institute Library who rendered timely and useful service, whenever it was sought.

I wish to thank Shri S. K. Athale for his neat typing. He deserves special mention for that.

Gokhale Institute of Politics & Economics Pune 411004

Kiran Pandya

June 1984

CONTENTS

		Page
ACKNOWLEDGEMB	n is	(1)
LIST OF TABLE	3	(111)
Chapter	*	*
I	PROFESSOR ISHIKAWA'S THESIS ON LABOUR ABSORPTION IN AGRICULTURE	1
II	REVIEW OF THE EXPERIENCE IN THE ASIATIC COUNTRIES	22
ııı	THE INDIAN EXPERIENCE	68
IA	CONCLUSIONS	132
BIBLIOGRAPHY		ገ ዜና

LIST OF TABLES

Table No.		Page No.
1.1	Structure of Labour Force in Some of the Asian Countries	2
1,2	Per Hectare Labour Input and its Relations with Per Hectare Yield of Paddy (Selected Asian Countries)	8
1.3	Per Hectare Labour Input and its Relation to Per Hectare Gross Agri- cultural Income and Per Hectare Capital Stock in Total Agricultural Production (Selected Asian Countries)	10
1.4	Number of Total Man-Days Per Hectare, Per Crop of Rice in Different Countries of Asia	19
2.1	Correlation Coefficients between Paddy Yield and Labour Input	24
2.2	Operationwise Distribution of Labour Input by Variety of Paddy, Southern Sri Lanka, Maha 1973-74	26
2.3	Labour Input by Farm of Draught Power (Sri Lanka)	28
2.4	Man-Days of Labour Input Per Crop Per Hectare in Various Operations	32
2.5	Number of Agricultural Workers, Arable Land and Productivity of Arable Land in Selected Asian Countries	36
2.6	Labour Input Per Hectare on 143 Un- irrigated Wheat Farms under HYV and Traditional Technology: Hazara District, Pakistan, 1969-70 Using Traditional Techniques	42

No.		Page No.
2.7	Labour Input Per Hectare on 140 Irri- gated Paddy Plots under HYV and Traditional Technology: Comilla Dis- trict, East Pakistan (Now Bangladesh) Winter Season 1967	43
2.8	Estimated Labour Input Per Cropped Hectare on Irrigated Rice Farms under Traditional and HYV Technology: Indonesia, 1971 (Traditional Techniques)	ph
2.9	Labour Input Per Hectare on 40 Rice Holdings under Traditional and Partly Mechanised Techniques: Minipe Region, Sri Lanka, 1969-70 (High Yield Technology)	47
2,10	Labour Requirements Per Hectare on Rice Farms under Traditional and Partly Mechanised Techniques : Singhburi Province, Thailand (Traditional Technology)	48
2.11	Farm Size, Yield, Wage Rate and Labour Input for Rice in Seven Low Land Irrigated Rice-growing Areas in Asia (Fujimoto, 1976)	51
2.12	Labour Input for Modern (MV) and Traditional (TV) Varieties of Rice in Rice Growing Areas in Asia	53
2.13	Breakdown of Family and Hired Labour by Task, 62 Laguna Farms, Philippines, 1966-75 Wet Season	55
2.14	Breakdown of Family and Hired Labour by Task, 63 Farms, Central Luzon- Laguna Survey, Philippines, 1966-74 Wet Season	56

Table No.		Page No.
2.15	Percent of Farms by Technology Adopt- ed Tenure Class and Labour Contract; 62 Laguna Farms and 63 Central Luzon Farms, Philippines, 1966-75 Wet and Dry Season	58
2.16	Estimates of Labour Use Per Hectare, Based on 20 Townships Data, 1977-78 to 1980-81, Burma	62
2.17	Labour Input in Man-Days Per Hectare of Rice Production in Three Villages of Donchedi, Suphari Buri, Thailand, 1971, Wet Season	64
3.1	Changes in Yield, Male Worker Productivity and Land-Man Ratio between 1962-65 and 1970-73 (Districts Classified According to Growth Rate of Output)	71
3.2	Data about Labour Use in Unirrigated and Irrigated Area	76
3.3	Farm Operations and Labour Use on Wheat Farms - Jind (Haryana)	77
3.4	Labour Use in HYV and Local Varieties in Different Regions	78
3.5	Operationwise Use of Human Labour in Jind and Vaishali for Different Varieties, Irrigated Areas	80
3.6	Labour Days in Mono-Cropped and Double Cropped Areas (Per Acre)	81
3.7	Labour Use Per Hectare in Man-Days in High Yielding, Improved and Desi Varieties of Wheat in Different Farm Size Groups, Barara Village, Agra District	4 83

No.		Page No.
3.8	Labour Use Per Hectare in Man-Days in High Yielding Improved and Desi Varieties of Paddy in Different Farm Size Groups, Barara Village, Agra District	84
3.9	Utilisation of Human Labour Days Per Hectare for HYV and Local Varieties of Maize, Paddy and Wheat (1970-71) Kalyanpur, Kanpur (U.P.)	87
3.10	Operationwise Employment of Human Labour Per Hectare (8-hour days per acre) of Single Crop Paddy	89
3.11	Labour Requirements for Improved and Local Groundnut Per Hectare: Saurashtra, 1968-69	91
3 .12 i	Labour Requirement for Hybrid and Local Bajari Per Hectare : Saurashtra, 1968-69	92
3.13	Labour Requirement for Improved and Local Cotton Per Hectare: Saurashtra, 1968-69	93
3.14	Labour Requirement for Improved and Local Wheat Per Hectare: Saurashtra, 1968-69	94
3.15	Gropping Intensity and Labour Input on Bullock and Tractor Operated Farms: Alipur Block Union Territory of Delhi, India, 1968-69 (Assumed Same Technology)	97
3.16	Annual Labour Input under Changing Technology and Techniques, Hypothetical Four Hectare Farm : Indian Punjab	98
3.17	Labour Use in Modern and Local Varieties of Paddy Per Hectare of Land (West Godavari, A.P.)	100

No.		Page No.
3.18	Extent to which Modern Varieties Used More Labour in Cultivation and Harvest- ing than Improved Local Varieties in the Year 1972, Dry Season	102
3.19	Labour Required for Modern and Local Varieties of Rice and Wheat	10+
3.20	Total Human Labour Days for Modern- Varieties and Improved Local Varie- ties (Cuttack, Orissa)	105
3.21	Operationwise Distribution of Human Labour Days, Bullock Pair Days and Yield Per Hectare of Irrigated Paddy in Different Regions (Average of 3 Years)	108
3,22	Operationwise Distribution of Human Labour Days, Bullock Pair Days and Yield Per Hectare of Unirrigated Paddy in Different Regions (Average of 3 Years)	109
3.23	Operationwise Distribution of Human Labour Days, Bullock Pair Days and Yield Per Hectare of Paddy (1968-69)	111
3.24	Operationwise Use of Human Labour Days and Yield Per Hectare of Irri- gated Wheat in Different Regions (Average of Three Years)	113
3.25	Operationwise Human Labour Days and Yield Per Hectare of Unirrigated Wheat in Different Regions (Average of Three Years (1961-62 - 1963-64)	114
3.26	Operationwise Use of Human Labour and Yield Per Hectare of Irrigated Wheat	117
3.27	Operationwise Distribution of Human Labour Days and Yield Per Hectare of Unirrigated Bajra in Maharashtra, Rajasthan and Haryana (Average of 3	••-
	years)	119

(viii)

No.		Page No.
3.28	Operationwise Distribution of Human Labour Days and Yield Per Hectare of Irrigated and Unirrigated Bajra in Cuddapah, and Ahmednagar in 1967-68 and 1969-70	121
3.29	Operationwise Distribution of Human and Labour Days and Yield Per Hectare of Irrigated Jowar in Different Regions (Average of 3 years)	123
3 .3 0	Operationwise Distribution of Human Labour Days and Yield Per Hectare of Unirrigated Jowar in Different Regions	124