List of Tables

Arsenic Poisoning: The Existing Information

Table 2.1: Arsenic Contamination and Manifestation of Toxicity in Six Districts of West Bengal (Till 1994) ................................................................. 19

The Social Context and Response to Arsenicosis in the Study Villages

Table 6.1: Distribution of Total Population, Households in Five Different Study Villages ................................................................. 81
Table 6.2: Occupation Wise Number of Households and Their Respective Socio Economic Status in the Study Villages ........................................... 84
Table 6.3: Religion Wise Distribution of Population in Study District, Block and Villages. ................................................................. 86
Table 6.4: Socio Economic Status Category by Religion ........................................ 88
Table 6.5: Occupation by Religion in the Study Villages ........................................ 88
Table 6.6: Socio Economic Status by Occupation Among Hindus and Muslims...... 89
Table 6.7: Population in West Bengal, Murshidabad District, Domkol Block and the Study Villages by Caste ........................................ 90
Table 6.8: General Caste, Scheduled Caste and OBC Households in the Study Villages by Socio-Economic Status ........................................ 91
Table 6.9: Population and Sex Ratio of West Bengal, Murshidabad, Domkol and Study Villages ................................................................. 92
Table 6.10: Religion and Gender Wise Annual Enrollment (from 1992 to 1997) of Students of 1997 Secondary Examination Batch. ........................................ 95

Impairment: Distribution and Determinants

Table 7.1: Manifestations, Prevalence and Conversion Rate of Chronic Arsenic Toxicity in the Five Study Villages .................................................. 108
Table 7.2: Nature of Clinical Manifestations in the Persons with Chronic Arsenic Toxicity ................................................................. 109
Table 7.3: Severity of pigmentation / de-pigmentation by Arsenic Exposure Level ................................................................. 111
Table 7.4: Distribution of Households by Socio Economic Status, Exposure of Arsenic in Water and Cases of Arsenicosis ........................................ 112
Table 7.5: Arsenic Exposure Level of Persons with Impairment by SES.............. 112
Table 7.6: Conversion Rate of Chronic Arsenicosis by SES. ................................ 113
Table 7.7: Severity of Pigmentation / De-pigmentation by SES. ....................... 113
Table 7.8: Severity of Keratosis by SES ................................................................. 113
Table 7.9: Age of Persons with Chronic Arsenicosis SES ................................. 114
Table 7.10: Impact of Changing to Arsenic Free Water for Domestic Purposes on Impairment by SES ................................................................. 115
Table 7.11: Mortality Due to Suspected Chronic Arsenic Toxicity by SES ........... 115
Table 7.12: Severity of Manifestation (Pigmentation / De-pigmentation) by Body Mass Index. ................................................................. 116
Table 7.13: Impact on Manifestation After Drinking Relatively Arsenic Free Water by BMI ................................................................. 117
Table 7.14: Body Mass Index by SES ................................................................. 117
Table 7.15: Consumption of Cereal (Kilo per Adult per Month) by SES ............. 118
Table 7.16: Consumption of Pulse (Kilo per Adult per Month) by SES .............. 118
Table 7.17: Severity of Impairment by SES Among the Cases with Subnormal Nutritional Status (CED I-III) ................................................................. 119
Table 7.18: Severity of Impairment by Subnormal Nutritional Status (CED I-III) in Each SES ................................................................. 120
Table 7.19: Severity of Impairment by SES with Normal Nutritional Status ........ 121
Table 7.20: Arsenic Exposure Level of Severe Impairments with Normal Nutritional Status ................................................................. 121
Table 7.21: Exposure, Prevalence and Conversion Rates by Gender .................. 122
Table 7.22: Arsenic Exposure Level by Gender ................................................ 123
Table 7.23: Age & Duration of Symptom by Gender ........................................ 123
Table 7.24: Severity of Pigmentation / De-pigmentation by Gender ................. 123
Table 7.25: Age of Persons with Impairment by Marital Background with Relation to Arsenic Exposure ................................................................. 125
Table 7.26: Duration of Impairment (in years) by Marital Background with Relation to Arsenic Exposure ................................................................. 125
Table 7.27: Marital Background with Relation to Arsenic Exposure by Severity of Impairment ................................................................. 126
Table 7.28: Severity of Impairment by Gender in Each BMI ................................ 127
Table 7.29: Severity of Impairment by Gender in Each BMI after Adjusting for Migration from Parental Home to Marital Home ......................... 128
Table 7.30: Arsenic Exposure Level by Occupation ........................................... 129
Table 7.31: Duration of Migration of Laborers in One Year ................................ 130
Table 7.32: Water Quality in the Area Where Migrating Laborers Go and Severity of Impairment ................................................................. 130
Table 7.33: Arsenic Exposure Rate, Conversion Rate and Prevalence Rate by Religion ................................................................. 131
Table 7.34: Arsenic Exposure Level by Religion .......................................................... 131
Table 7.35: Severity of Impairment by Religion .......................................................... 132
Table 7.36: Conversion rate in Each SES Categories by Religion .................................. 132
Table 7.37: Exposure Rate, Conversion Rate and Prevalence Rate of Chronic Arsenicosis by Caste ................................................................. 133
Table 7.38: Treatment Seeking of Persons with Impairment by SES ............................................ 135
Table 7.39: Occupation and SES of Persons with Impairment who Received Proper Treatment in Calcutta at IPGMER ................................................................. 136
Table 7.40: Sources of Expenditure on Treatment by SES .................................................. 137
Table 7.41: Treatment Seeking of Persons with Impairment by Gender .................................. 137
Table 7.42: Sources of Expenditure by Gender ...................................................................... 138
Table 7.43: Persons with Symptoms but Without any Treatment by SES, Caste, Religion and Gender ................................................................. 138

Disability: Distribution and Determinants

Table 8.1: The Sequence of Impairments, Primary and Secondary Disabilities Along with Frequency and Severity Scale Categories ................................................................. 145
Table 8.2: Scale of Walking Disability by Severity of Keratosis ............................................. 149
Table 8.3: Scale of Climbing Disability by Severity of Keratosis ............................................ 150
Table 8.4: Scale of Running Disability by Severity of Respiratory Impairment .......................... 151
Table 8.5: Scale of Cycling Disability by Severity of Respiratory Impairment .......................... 152
Table 8.6: Scale of Cycling Disability by Severity of Neuropathy .......................................... 152
Table 8.7: Scale of Confining & Transfer Disability by Severity of Neuropathy .................. 153
Table 8.8: Scale of Lifting & Carrying Disability by Severity of Respiratory Impairment......... 154
Table 8.9: Scale of Lifting & Carrying Disability by Severity of Neuropathy .......................... 155
Table 8.10: Scale of Gripping Disability by Severity of Neuropathy ........................................ 157
Table 8.11: Scale of Gripping Disability by Severity of Keratosis ........................................... 157
Table 8.12: Scale of Environmental Disability by Severity of Neuropathy ............................. 158
Table 8.13: Scale of Water Contact Disability by Severity of Pigmentation / De-pigmentation ................................................................................................................................. 161
Table 8.14: Scale of Lifting and Carrying Disability by Severity of Neuropathy .................. 161
Table 8.15: Scale of Walking Disability by Severity of Respiratory Impairment...... 162
Table 8.16: Scale of Confining & Transfer Disability by Severity of Neuropathy...... 164
Table 8.17: Scale of Gripping Disability by Severity Keratosis............................. 165
Table 8.18: Scale of Confining & Transfer Disability by Severity of Neuropathy...... 166
Table 8.19: Scale of Environment Disability by Severity of Neuropathy.................. 167
Table 8.20: Scale of Hands and Feet Care Disability by Severity of Keratosis... ... .. 167
Table 8.21: Proportion of Disabilities Caused by Multiple Impairment in Each Category of Combination of Impairments Present Among the Cases................. 169

Handicap: The Social Consequences of Chronic Arsenicosis

Table 9.1: Distribution of Impairments and Their Consequent Primary and Secondary Disabilities and Handicaps................................................................. 174
Table 9.2: Grade of Physical Independence Handicap Due to Bathing Disability..... 177
Table 9.3: Grade of Physical Independence Handicap Due to Excretion Disability... 178
Table 9.4: Grade of Physical Independence Handicap Due to Feeding Disability..... 180
Table 9.5: Grade of Physical Independence Handicap Due to Hands and Feet Care Disability ................................................................. 181
Table 9.6: Grade of Occupational Handicap Due to Walking Disability............... 183
Table 9.7: Grade of Occupational Handicap Due to Climbing and Running Disability.. 184
Table 9.8: Grade of Occupational Handicap Due to Confining & Transfer Disability.. 185
Table 9.9: Grade of Occupational Handicap Due to Cycling Disability............... 186
Table 9.10: Grade of Occupational Handicap Due to Lifting & Carrying Disability..... 187
Table 9.11: Grade of Occupational Handicap Due to Gripping Disability............... 188
Table 9.12: Grade of Occupational Handicap Due to Environmental Disability...... 188
Table 9.13: Grade of Social Integration Handicap by Severity of Keratosis........... 190
Table 9.14: Grade of Social Integration Handicap by Severity of Pigmentation / De-pigmentation. ................................................................. 190
Table 9.15: Grade of Social Integration Handicap Due to Walking Disability...... 191
Table 9.16: Grade of Social Integration Handicap Due to Cycling Disability......... 191
Table 9.17: Grade of Physical Independence Handicap and Rate of Conversion from Feeding Disability Due to Keratosis by SES................................................... 192
Table 9.18: Grade of Occupational Handicap and Rate of Conversion from Walking Disability Due to Keratosis by SES ................................................................. 193
List of Figures

Impairments: Distribution and Determinants

Figure 1: Schematic Depiction of Factors and Processes influencing Arsenic Contamination of Ground Water, Its Entry into the Human Body, Metabolism, Accumulation and Manifestation ........................................ 141

Disability: Distribution and Determinants

Figure 1: Extent of Impairments and Primary Disabilities Resulting in Locomotor Disability ................................................................. 147

Figure 2: Extent of Neuropathy and Keratosis Resulting in Gripping Disability ..... 156

Figure 3: Extent of Neuropathy Resulting in Environmental Disability .......... 157

Figure 4: Extent of Impairments and Primary and Secondary Disabilities Resulting in Personal Care Disability ........................................ 159

Discussion

Figure 1: Progression of Consequences of Prolonged Intake of Arsenic Contaminated Water ................................................................. 211

List of Maps

Methodology of This Study

Map 1: Map of West Bengal Showing Location of Murshidabad District ........ between 61 -62

Map 2: Map of Murshidabad District Showing Location of Domkol Block ........ between 61 - 62

Map 3: Map of Domkol Block Showing Location of Study Villages ................ between 62 - 63