

An Ergonomic Study on Human Drudgery and Musculoskeletal Disorders by Rice Transplanting

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ABSTRACT Manual rice transplanting is a task demanding high labour and directly associated with human drudgery. High labour demand during peak transplanting period adversely affects the timeliness of this operation, thereby reducing crop yield. The purpose of this study was to assess the level of human drudgery and musculoskeletal disorders of farm workers involved in mechanical and manual rice transplanting. This study was carried out in Kalinagar village of U.S. Nagar, District of Uttarakhand state in 2011. Experimental research design was used in this study. Total sample size was 20 in which 10 male and 10 female farm workers were selected randomly for experimental data. Mean, percentile values of musculoskeletal disorders through body map and NORDIC questionnaire were calculated during manual and mechanical rice transplanting and uprooting activity. Majority of respondents were suffering from pain in neck, both shoulder, upper back, lower back and thighs because they were compelled to adopt bending and sitting posture during manual uprooting and transplanting. To solve the problem of high physiological workload, human drudgery and musculoskeletal disorders mechanical rice transplanting could be considered as the most promising option.