

# Agricultural labor dynamics in Bangladesh

Humnath Bhandari<sup>1</sup>, Abdur Rouf Sarkar<sup>1</sup>, Samarendu Mohanty<sup>1</sup> and Alamgir Chowdhury<sup>2</sup>

<sup>1</sup>International Rice Research Institute and <sup>2</sup>Socioconsult Limited Bangladesh

## Introduction

Labor is a critical input in agricultural production. It accounts for more than half of rice's production cost. Rising scarcity and cost of agricultural labor threatens food production. This paper presents major changes in agricultural labor markets in Bangladesh.

## Data and Methodology

We used longitudinal survey data from rural households located in 12 villages across 11 districts of Bangladesh. Data were collected in five rounds: 1988, 2000, 2004, 2008, and 2009–2014. Previous rounds of data were collected at certain year intervals, while the latest rounds of data were collected several times per year under the Village Dynamics in South Asia (VDSA) Project. The sample size, that ranges from 240 to 510 households depending on the survey round, increased over time. We analyzed the data using descriptive statistics.

## Results

### A. Ageing of farming population

A typical farmer was 48 years in 2014 and ageing (Figure 1). Ageing of farmers reduces labor productivity, tightens the labor market, and tends to lower the adoption of new technologies.

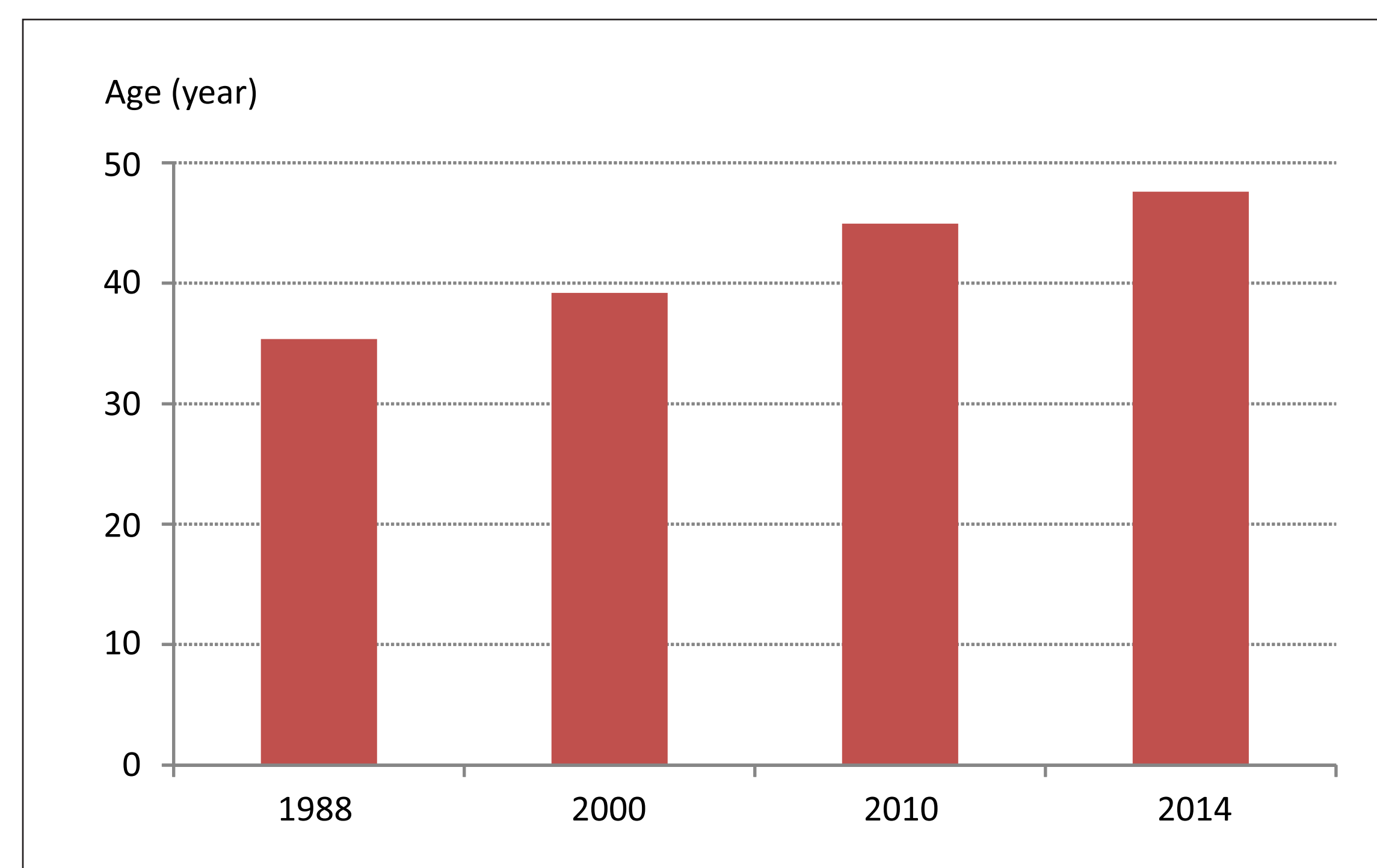


Figure 1. Trend in average age of farmers.

### B. Labor migration

Rural labor outmigration is rising (Figure 2). Migrants are mostly young males, leaving behind women and elderly to manage farms. This increases labor scarcity and cost, and women's involvement in farm management.

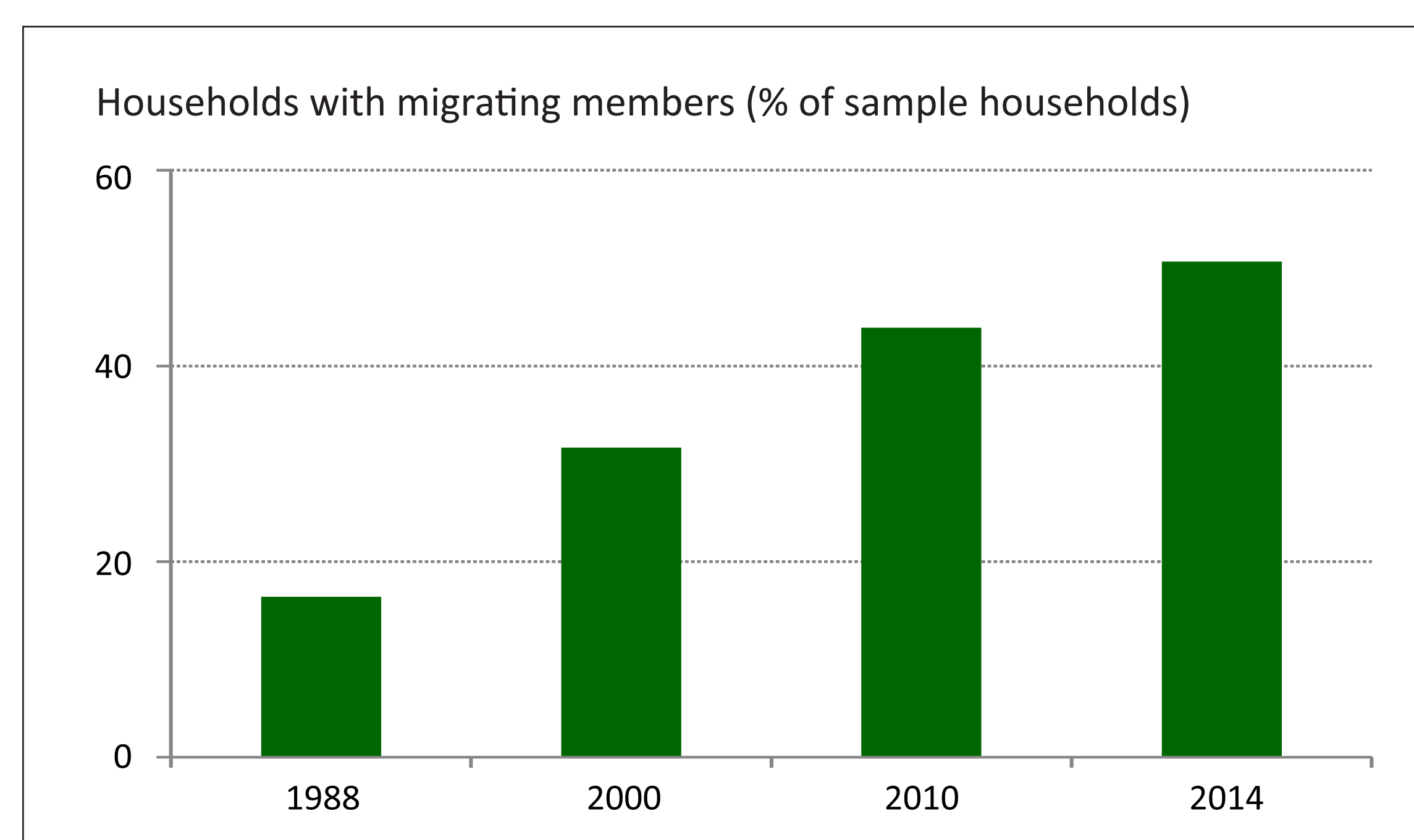


Figure 2. Trend in rural labor outmigration.

### C. Agricultural wage rate

Agriculture wage rates of both male and female laborers increased by about 40% in the last three years (Figure 3). Wage gap between male and female laborers is large.

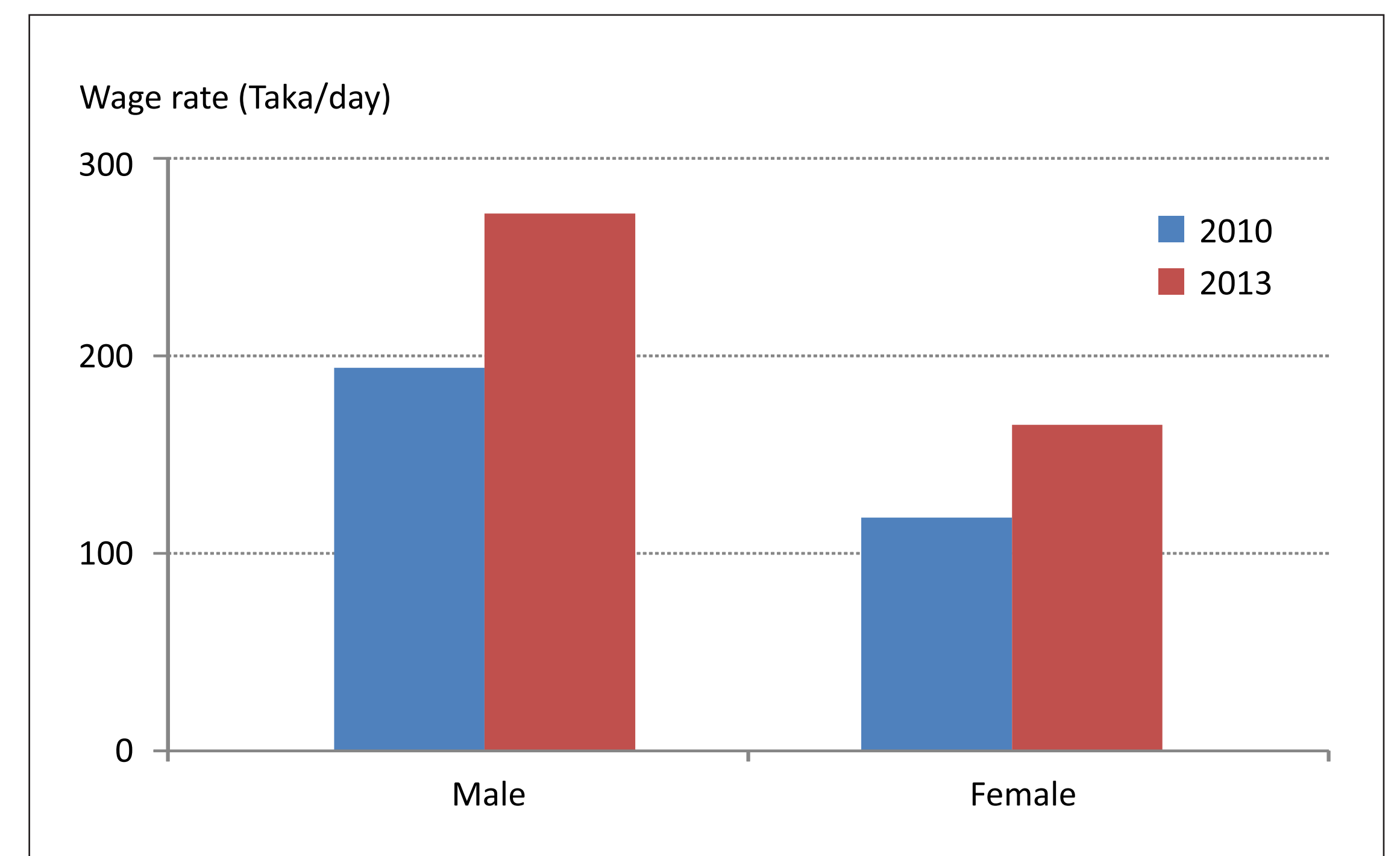


Figure 3. Agricultural wage rate of male and female laborers.

### D. Labor use in rice production

Rice production requires about 90 laborers per hectare. Harvesting and threshing uses highest labors followed by crop care and crop establishment (Figure 4). Mechanization caused lowest labor use in land preparation. Mechanized transplanting and harvesting can greatly reduce labor use in rice production.

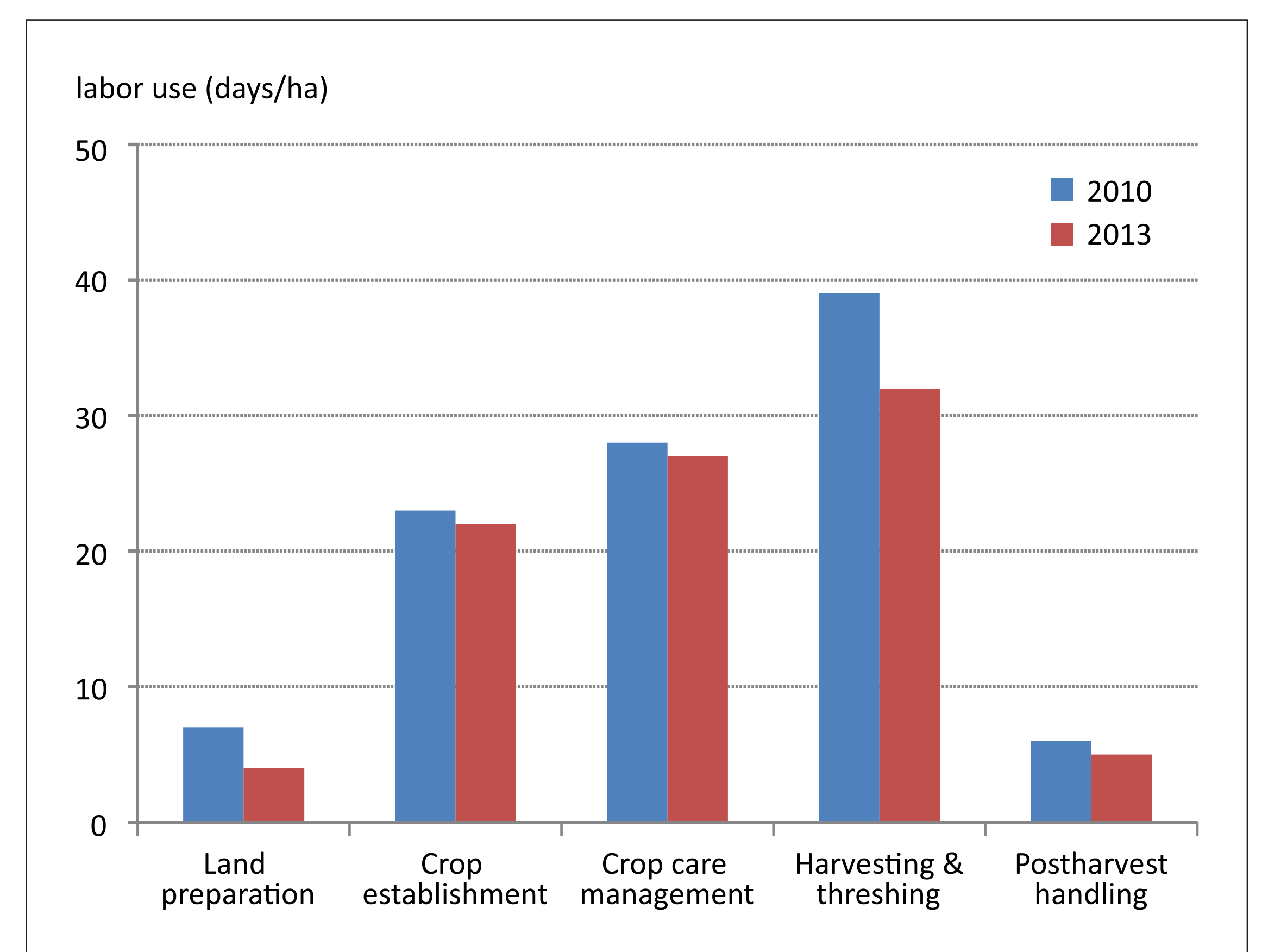


Figure 4. Labor use in boro rice production.

## Conclusions

Bangladesh's agricultural labor market is transforming rapidly. Ageing of farmers, increasing labor outmigration, and more jobs in the non-farm sector are adding to the agricultural labor crisis. Labor saving technologies including mechanization are pivotal to manage the labor crisis.

The VDSA Project provides unique evidences about evolving agricultural labor crisis. This information can serve as an entry point to promote labor-saving technologies.