

WAGES OF INEQUALITY

*Wage Discrimination and Underpayment
in Hybrid Seed Production in India*



Conducted by Glocal Research

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THIS STUDY WAS COMMISSIONED BY:



The India Committee of the Netherlands

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ICN closely co-operates with organizations in India, South Asia and elsewhere combating discrimination, poverty, exploitation, oppression and the often lacking right to education. In our work we are focussing on the on the role of policy makers (national, EU and UN) as well as the corporate sector.

ICN is an active member of coalition and networks like the Clean Clothes Campaign, the Stop Child labour Campaign, the International Dalit Solidarity Network and the Dutch CSR Platform. For more information visit: www.indianet.nl and www.dalits.nl



The Fair Labor Association

FLA is an 501(c)3 nonprofit organization combining the efforts of businesses, civil society organizations and colleges and universities to protect workers' rights and improve working conditions worldwide by promoting adherence to international labor standards. The FLA holds companies accountable for monitoring their own supply chains and conducts independent assessments to ensure that the FLA Code of Conduct is upheld where Participating Companies source their products. For more information, visit www.fairlabor.org.

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ACRONYMS AND ABBREVIATIONS

AP	Andhra Pradesh
AFW	Annual Farm Worker
BT	Bacillus Thuringiensis
FLA	Fair Labor Association
ICN	India Committee of the Netherlands
ILO	International Labor Organization
ILRF	International Labor Rights Forum
INR	Indian Rupee
MAHYCO	Maharashtra Hybrid Seed Company
MNCs	Multinational Companies
NCRL	National Commission on Rural Labor
NGO	Non Governmental Organization
NREGA	National Rural Employment Guarantee Act
SCs	Scheduled Castes
STs	Scheduled Tribes
UNICEF	United Nations Children's Fund
VDA	Variable Dearness Allowance

EXECUTIVE SUMMARY

The Minimum Wages Act 1948 in India guarantees payment of minimum wages to workers in different sectors, including the agriculture sector. In spite of the legal requirement, payment of minimum wages has long been an issue in the agriculture sector, especially in hybrid seed production. Studies conducted in the late 1990s and the early 2000s pointed towards lack of payment of government prescribed legal minimum wages. In recent years, data from various sources indicate a significant rise in wages for agricultural workers, some claiming payments that exceed minimum wages. In this context, the Fair Labor Association (FLA) and the India Committee of the Netherlands (ICN) jointly commissioned this study to examine the prevailing wage rates in hybrid cotton and vegetable seed sectors in India and to verify if they are at par with legal minimum wage requirements. Furthermore, the study also aims to identify differences in compensation based on worker's gender, caste, migratory status, type of production activity, employment through labor contractor, type of labor arrangement and regions.

The study results are based on primary data collected through field visits and interactions with farmers and various categories of workers in 200 sample seed farms in 36 selected villages in four Indian states where hybrid seed production is largely concentrated: Andhra Pradesh, Gujarat, Karnataka and Maharashtra. A total of 722 interviews were carried out with 486 workers, 198 growers and 38 independent sources, including civil society organizations, government officials and labor contractors. The study uses the 2011-12 financial year (April 2011–March 2012) as a reference point for collecting wages and other related data. The average wage rates by location are derived by dividing the sum of total wages of all the sample farms by actual number of farms reporting the wages (quotations). Calculation of weighted averages is restricted to those occupations where the number of quotations is three or more.

Wage data analysis for agricultural activities clearly indicate significant variation in wage rates based on different states, regions within a state, type of production activity, gender, location and nature of labor arrangement.

Andhra Pradesh and Karnataka have higher wage rate for all activities as compared to Gujarat and Maharashtra. Regional variations in wage rates in the same state are present in all four states. The wages are higher in regions that are relatively developed due to factors such as better agro-climatic conditions, infrastructure facilities, and the availability of alternative employment. The minimum wage rates for daily casual workers for agricultural activities prescribed by the respective state governments under the study varied between INR100-250. While Andhra Pradesh and Maharashtra follow a zonal system for fixing wage rates, a uniform wage rate system is followed in Karnataka and Gujarat. The current legal minimum daily wage rate in Karnataka and Gujarat is INR145.58 and INR120 respectively. In Andhra Pradesh, the legal minimum daily wage rate is INR150-250 in different zones, compared to INR100-120 in Maharashtra. The wages for overtime work varied between 1.5 and 2 times the ordinary wage rate in different states.

The average wages in all four states are substantially higher for tasks like ploughing, spraying pesticides and applying fertilizers than the wages for sowing, weeding, harvesting and cross-pollination. Overall, pesticide application is the highest paid task (INR155–220), whereas weeding is the least paid (INR80-147) across all states. Division of work based on gender in the areas studied was observed; this has earning implications for men and women engaged in various production activities. In particular, women are preferred for cross-pollination, weeding and harvesting, which are labor-intensive and lower paid, as compared to ploughing, spraying pesticides and applying fertilizers, which are less labor intensive, highly paid, and mostly done by

men. Therefore, on average, women workers earn less than men. Wage differences also exist in activities where both men and women participate. For example, in joint male and female activities such as fertilizer application, men are compensated 20%-60% more than women (wages paid to women vary between INR 97–150 in different states). During the study 44 children (below 14 years) working on the farms were interviewed. They are preferably employed in cross-pollination activities and paid 10%-20% less than adult women engaged for the same activities. The average daily wages paid to adult women vary between INR90-183 in different states.

Daily casual workers are paid more as compared to seasonal labor in all states for similar activities conducted. Within seasonal labor, the wage rate for migrant workers is lower compared to local workers. The difference in wage rate between seasonal and daily wage labor and between migrant labor and local labor varies from 5%-10% in different states.

Caste-based discrimination in wages was not reported in any of the locations. However, differential treatment of workers by the employers based on caste was reported in the Koppal area in Karnataka. Except in an AFW (Annual Farm Worker) type of labor arrangement, there is not a significant correlation between caste and overtime or other additional work.

About 37.5% of the sample farms were producing seeds for multinational companies. No significant differences in wages were found between the farms producing seeds for national and multinational seed companies.

A comparison of prevailing market wages in cotton and vegetable seed farms with the statutory minimum wages fixed by the respective state governments clearly indicates that the legal norms are not followed especially for certain categories of workers and activities. Variations in wage rates between vegetable and cottonseed crops are observed in the study locations. The wage rates for different operations vary; for example, cross-pollination activity in vegetable seed production is paid slightly higher (about 5%) than in cottonseed production. Male workers in general are paid higher than the legal minimum wages for most of the activities in which they are involved. Except in the Gadwal area of Andhra Pradesh, the average daily wages for ploughing and spraying pesticides, which are exclusively done by men, are 5%-65% higher than the legal minimum wages in different states.

Women are not paid legal minimum wages for most activities, except cross-pollination, in some locations. The average daily wage rate for women in sowing, weeding and harvesting activities is 5%-48% lower than the legal minimum wages in different states. The wage rates for children for all activities are below the legal minimum wages. Children earn 5%-50% less than the legal minimum wages in different states. Overall, there is non-compliance with regard to overtime compensation and paid rest days.

Despite the significant wage increase in recent years on account of the implementation of the National Rural Employment Guarantee Act (NREGA) and other factors in the locations studied, the prevailing wages for certain activities and categories of workers are still below minimum legal wages. In many states, the Minimum Wages Act is not implemented properly in the agricultural sector. Moreover, there is lack of awareness about the Minimum Wage Act among workers and farmers. None of the workers and most of the farmers interviewed in the study locations had any awareness about the Minimum Wage legislation and wages prescribed for different activities and categories of workers. The workers in cotton and vegetable seed production are not organized and there are no active worker organizations operating in the studied locations.

SECTION I: INTRODUCTION

Background

The Minimum Wages Act 1948 in India guarantees payment of minimum wages to workers in various sectors, including the agriculture sector. This act empowers state governments to fix and revise minimum wage rates for different agricultural activities. Once fixed, the wage rates are revised at an interval not exceeding five years. Wages are fixed for timework, known as a 'minimum time rate (daily wage rate),' or for piecework, known as a 'minimum piece rate.' The act also fixes hours for a working day.¹ In order to have a uniform wage structure and to reduce the disparity in minimum wages across the country, the concept of National Floor Level Minimum Wage was initiated on the basis of the recommendations of the National Commission on Rural Labor (NCRL) in 1991. The State Governments are persuaded to fix minimum wages such that in none of the scheduled employments, the minimum wage is less than the National Floor Level Minimum Wage. The current national floor level minimum wage for casual labor in agriculture is INR 115 per day.²

In spite of the legal requirements, payment of minimum wages is an issue in the agriculture sector. In many states, the act is not implemented properly. As a consequence of the lack of proper implementation or enforcement of the minimum wage laws, workers in the agricultural sector (who are not well organized) are unable to avail all benefits they are entitled to receive by legislation designed to protect them.

The wage rates and payment patterns differ widely across the country. Wage rates are different for men and women, with women paid less than men for the same work. Wages are negotiated between growers and workers either individually or as a group. In some cases a third-party labor contractor is involved in negotiating on behalf of migrant workers, receiving in lieu a service charge, which could be in the range of 5%-15% of actual wages paid to the workers.³

Rural areas in many parts of the country have recently witnessed an increase in wages. The National Rural Employment Guarantee Act (NREGA), introduced by the government of India in 2005, has significantly contributed to an increase in wage rates for agricultural workers. The official data on agricultural wages collected by the Labor Bureau,⁴ under the Ministry of Labor and Employment, indicates that in recent years there has been a significant increase in agricultural wages in different states. In the 36 months from January 2008 to December 2010, agricultural wages have gone up by 106.5% in Andhra Pradesh, 66% in Karnataka,

1 For details, see The Minimum Wages Act 1948. The act empowers state governments to frame rules for implementing its various provisions. All State Governments and Union Territories have framed their rules for the effective implementation of the Minimum Wages Act, 1948. These rules prescribe the constitution and procedures to be followed by the various Committees and Boards appointed under the act. Besides, it also indicates mode of computation of cash value of wages paid in kind, time and condition for payment of wages and the deductions permissible therefrom, daily hours of work constituting a normal day, weekly day of rest, form of registers and records to be maintained by the employers, power of inspectors appointed under the act, etc. The Minimum Wages (Central) Rules, 1950 framed by the Central Government for Central Sphere undertakings served as a model for the States/Union Territories in framing their rules.

2 Currently the national floor level minimum wage for casual labor in agriculture is INR 115, but some states continue to have minimum wages in various industries that are below this rate. State Governments have recently (2011) agreed to a proposal by the Union Government to amend the Minimum Wages Act to make the national floor level minimum wage statutory.

3 The commission paid to labor contractors is generally deducted from the wages paid to workers. Source: Ashok Khandelwal, Katiar Sudhir and Madan Vashnav (2008) "Child Labor in Cottonseed Production: A case study of cottonseed farms in North Gujarat, Dhakhina Rajasthan Majdur Union." For full text see www.indianet.nl/pdf/drmureport.pdf.

4 The Labor Bureau working under the Ministry of Labor and Employment is responsible for compiling, maintaining, and disseminating State-wise as well as national average daily wage rates for 18 agricultural and non-agricultural occupations. These wage rates are compiled on the basis of the daily wage rates collected from 600 sample villages, spread over 66 NSS regions in 20 States. These wage rates are compiled and released every month through the "Indian Labor Journal" and the Labor Bureau's website <http://laborbureau.gov.in>.

62.7% in Maharashtra, 24.1% in Gujarat, 84.4% in Punjab, 74.7% in Haryana and 73.6% in Tamil Nadu.⁵ Among the poorer states, wages rose 58.3% in Bihar, 56.3% in Madhya Pradesh, 62.8% in Orissa and 62.3% in Uttar Pradesh. These wage increases have far outstripped inflation, as measured by the consumer price index for agricultural workers in India, which grew by 9.5% in 2008-09, 15.8% in 2009-10 and 9.1% in 2010-11.⁶ Data from other sources also indicates that there is upward trend in wages for agricultural laborers due to shortage of labor on account of NREGA and other factors such as availability employment opportunities outside agriculture, inflation, and increase in procurement and minimum support prices of commodities.⁷

Study Objectives

The Fair Labor Association (FLA) and the India Committee of the Netherlands (ICN) jointly commissioned this study on prevailing wages and benefits in the hybrid vegetable seeds and cottonseed sectors in India. The study was conducted in the following four states where there is highest concentration of hybrid seeds production: Karnataka, Maharashtra Andhra Pradesh and Gujarat. The study has the following objectives.

- a. To examine the prevailing wages and benefits existing among a cross section of farms and compare them with local legal minimum wage requirements.
- b. To map the payment structures and remuneration rates for regular and overtime hours.
- c. To identify differences in compensation exist based on
 - gender
 - caste
 - migratory status
 - type of production activity
 - employment through labor contractor
 - type of labor arrangement
 - geographical region
 - type of company sourcing seeds (multinational vs. national)

Methodology and Sample Distribution

The results of this study are based on analysis of primary data collected through field visits and interactions with farmers and various categories of workers in 200 seed farms in 36 selected villages in the following states: Andhra Pradesh, Gujarat, Karnataka and Maharashtra. Of the 200 sample farms, 100 farms (50%) each produce cottonseed and vegetable seeds (Table 1). As there are a number of vegetable seeds, the seeds were divided into large-seeds crops (okra and watermelon) and small-seeds crops (tomato, hot/sweet pepper) in order to capture any crop-wise variations. Additionally, the farms selected covered both types of seeds. Vegetable seed production is concentrated in Karnataka, Maharashtra, and Gujarat; there is negligible vegetable seed production in Andhra Pradesh. In Gujarat there is negligible small-seed crop vegetable seed production. Therefore, the distribution of large-seed vegetable crops is confined to three states

⁵ Swaminathan S Anklesaria Aiyar, "Agricultural Wages have Skyrocketed; Poor have benefited from GDP Growth," The Economic Times, July 07, 2011: http://articles.economictimes.indiatimes.com/2011-07-07/news/29747766_1_wage-rate-gdp-growth-monsoon

⁶ Consumer Price Index (CPI) numbers for agricultural workers for 2008-09, 2009-10 and 2010-11 from The Labor Bureau, Shimla.

⁷ Swaminathan S Anklesaria Aiyar, Op cit.

namely Karnataka, Maharashtra and Gujarat and small-seed vegetable crops are confined to Karnataka and Maharashtra. Karnataka is the locus for small-seed vegetable crops, accounting for more than 90% of tomato seeds, 70% of hot pepper seeds, and 42% of sweet pepper seeds production in the country.⁸ With this in mind, a higher number of farms were chosen from Karnataka (out of 52 farms, 32 farms are from Karnataka and 20 farms are from Maharashtra) within the small vegetable seed sample.

In order to capture any variations among the farms producing seed for local companies and multinational corporations (MNCs), the sample of farms is distributed among them proportionately to their share in production area. Nearly 25% of the cottonseed and more than 50% of the vegetable seed production area in the country is directly controlled by MNCs – Syngenta, Bayer, Monsanto, DuPont, Bejo Sheetal, US Agri, East West Seeds and Advanta.⁹ Twenty-five percent of the cottonseed (25 farms) and 50% of the vegetable seed sample farms (50 farms) were chosen from those producing seed for MNCs. The crop-wise and location-wise distribution of sample farms across different states is presented in Table 1.

Table 1: Crop-Wise and Location-Wise Distribution of Sample Farms across Different States

Location (District name)	Number of Villages	COTTONSEED			VEGETABLE SEEDS	
					Large-seeded crops (okra, watermelon)	Small-seeded crops (sweet/hot pepper, tomato)
Gujarat						
Idar (Sabarkantha)	4	14		12	0	
Bodeli (Vadodara)	4	14		12	0	
Andhra Pradesh						
Nandhyal (Kurnool)	4	12		0	0	
Gadwal (Mahabubnagar)	4	12		0	0	
Karnataka						
Koppal (Koppal)	4	12		6	16	
Ranibennur (Haveri)	4	0		6	16	
Chintamani (Kolar)	4	12		0	0	
Maharashtra						
Deulgaonraja (Buldhana)	4	12		6	10	
Lonar (Buldhana)	4	12		6	10	
Total	36	100		48	52	

Primary data on prevailing wage rates and other benefits and payment structures was collected through field visits and interactions with seed farmers and workers. A representative sample of workers was selected for interviews based on factors such as gender, caste, type of activity they are engaged in, migratory status, and religion. The tools used for data collection included individual interviews, focus group discussions and case studies.

The study is based on data obtained from a total of 722 interviews conducted by the research team; 198 individual interviews¹⁰ with farmers and 486 interviews with workers working on the sample farms were conducted across four states. Table 2 presents the state-wise and category-wise distribution of the workers

⁸ Venkateswarlu, Davuluri (2010a) "Growing up in the Danger Fields: Child and Adult Labor in Vegetable Seed Production in India," jointly published by ICN, ILRF and Stop Child Labor (full report can be downloaded from <http://www.indianet.nl/pdf/dangerfields.pdf>).

⁹ Ibid. See also Venkateswarlu, Davuluri (2010b) "Seeds of Child Labor--Signs of Hope: Child and Adult Labor in Cottonseed Production in India," jointly published by ICN, ILRF and Stop Child Labor (full report can be downloaded from <http://www.indianet.nl/pdf/signsofhope.pdf>).

¹⁰ Growers of all 200 sampled farms were interviewed. In four cases, two farms sampled (one vegetable and one cotton) were owned by the same farmers.

interviewed. Of the 486 workers interviewed, 136 are from Karnataka, 122 from Maharashtra, 104 from Andhra Pradesh, and 124 from Gujarat. Of the total workers, 92 (18.9%) were below 18 years, 236 (49%) were women and 156 (32.1%) were men. The caste composition of workers was 28.8% Dalits, officially called Scheduled Castes (SCs); 21.2% Adivasis, officially called Scheduled Tribes (STs); 39.9% Backward Castes (BCs); and the remaining 10.1% Other Castes (Upper Castes). Of the total 486 workers, 94 (19.3%) were migrant laborers and 392 (80.7%) were local workers. The presence of seasonal migrant labor was observed in Andhra Pradesh and Gujarat. Of the total 94 migrant workers interviewed, 58 (61.7%) are from Gujarat and the remaining 36 (38.3%) from Andhra Pradesh. In addition to individual interviews, 32 focus group discussions were conducted with the workers. A total of 38 individual interviews were also conducted with other stakeholders such as labor contractors, representatives of worker organizations, civil society organizations, and local government labor department officials at each location.

Figure 1: Study Locations Selected for the Field Survey

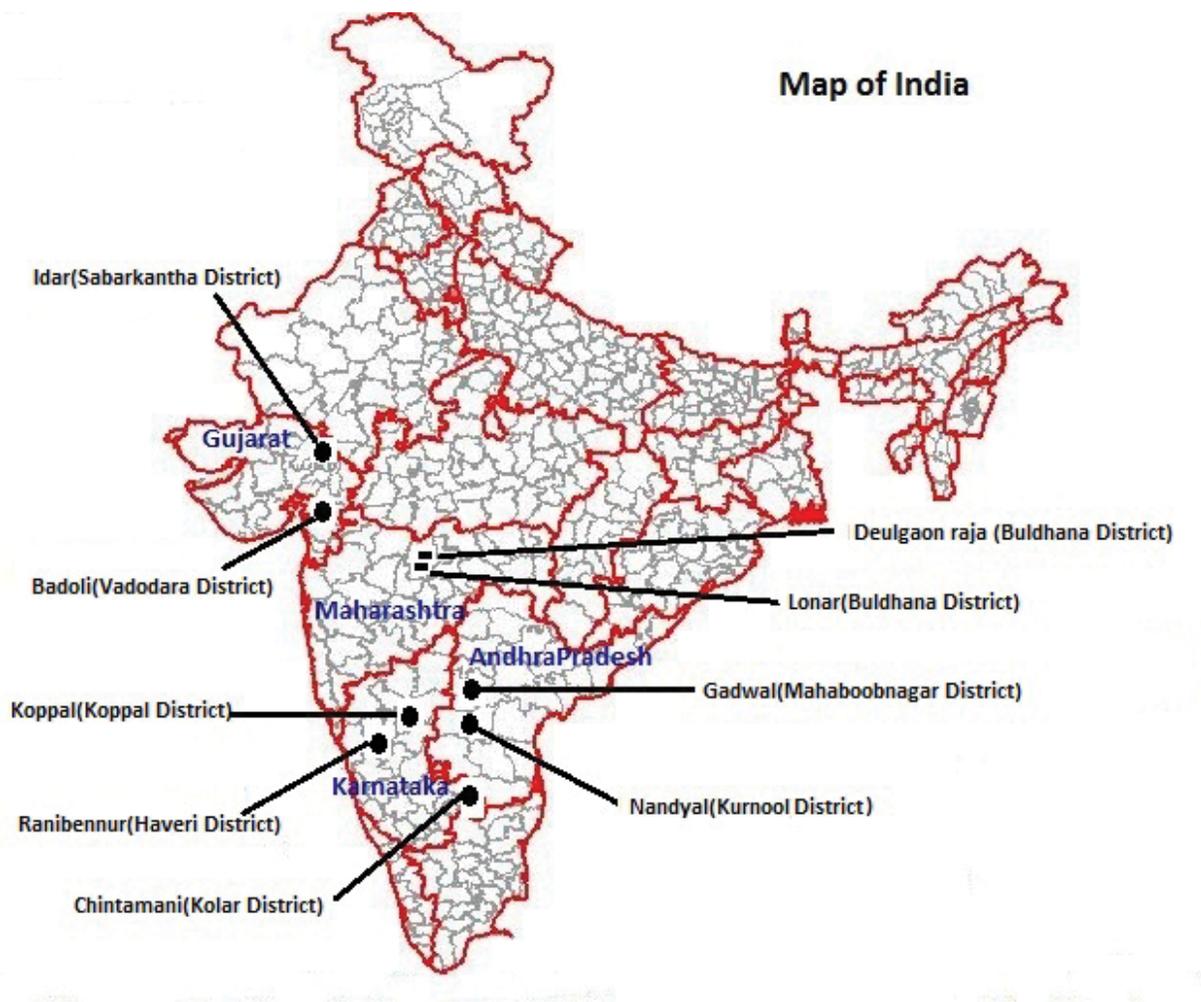


Table 2: State-Wise and Category-Wise Distribution of Sample of Workers Interviewed

CATEGORY	KARNATAKA (136)	MAHARASHTRA (122)	ANDHRA PRADESH (104)	GUJARAT (124)	TOTAL
Men	38 (27.9%)	42 (34.4%)	34 (32.7%)	42 (33.9%)	156 (32.1%)
Women	70 (51.5%)	58 (47.5%)	54 (51.9%)	56 (45.2%)	238 (49.0%)
Below 18 Years	28 (20.6%)	22 (18%)	16 (15.4%)	26 (21%)	92 (18.9%)
Local workers	136 (100%)	122 (100%)	68 (65.4%)	66 (53.2%)	392 (80.7%)
Migrant workers	0	0	36 (34.6%)	58 (46.8%)	94 (19.3%)
SC	45 (33.1%)	36 (29.5%)	37 (35.6%)	22 (17.7%)	140 (28.8%)
ST	16 (11.8%)	12 (9.8%)	12 (11.5%)	63 (50.8%)	103 (21.2%)
BC	62 (45.6%)	60 (49.2%)	44 (42.3%)	28 (22.6%)	194 (39.9%)
OC	13 (9.6%)	14 (11.5%)	11 (10.6%)	11 (8.9%)	49 (10.1%)

A questionnaire was developed for conducting individual interviews and group discussions. The study used the year 2011-12 as a reference point for collection of wages and other related data. In order to capture specific crop and seasonal (peak, lean, normal) variance in wages, data was collected in two field visits, the first in September/October 2011 covering okra and early sown cottonseed farms, and in November/December 2011 covering small-seeded crops like tomato, and hot and sweet pepper.¹¹

In some locations, wage payments are made in cash and/or in-kind. Payment in-kind, very common in rural areas, might include food grains, cooked food, tea, fuel, cigarettes, bidis,¹² fodder for animals, etc. Wages reported in-kind are evaluated at prevailing local retail prices. The average wage rate at the regional (location-wise) level is derived by dividing the sum total of wages of all sampled farms by the number farms reporting wages (quotations). Calculation of weighted averages are restricted only to those occupations where there are three or more quotations in order to avoid inconsistency in wages paid to different categories of workers on account of differences in the number of quotations.

SECTION II: FIELD SURVEY FINDINGS – PREVAILING WAGES AND BENEFITS

This section presents findings from the field survey carried out during the 2011-12 crop season in four states in India. The state-wise data is analyzed and compared with the local legal wage provisions to verify if the prevailing industry wages are at par with the legal requirements.

KARNATAKA

Overview of Cotton and Vegetable Seed Production

Karnataka is the number one producer of hybrid vegetable seeds in the country. Ranibennur and its surrounding areas in Karnataka are known for producing the best quality tomato and hot pepper seeds in India. Karnataka accounts for more than 90% of tomato seeds, 70% of hot pepper seeds, 42% of sweet pepper seeds, 30% of okra seeds and 46% of brinjal (eggplant) seed production in India. In all, Karnataka accounts for 40% of the total hybrid vegetable seed production in India.¹³ It is the third largest producer

11 Initially the field visits were planned between August and November 2011. However, they were delayed by over a month due to late sowings because of late arrival of monsoon (rains). Most farms are rain-fed and therefore the farmers wait for the rains to get the farms irrigated for sowing.

12 Local cigarettes.

13 Venkateswarlu, Davuluri (2010a) "Growing up in the Danger Fields," op.cit.

of cottonseed in India. Nearly 10% (10,000 acres) of the total cottonseed production in the country is concentrated in Karnataka.¹⁴

Cotton and vegetable seed production is largely concentrated in four districts of Karnataka, namely, Koppal, Gadag, Davanagiri and Haveri, which account for more than 80% of the total seed production area in the state. All the major seed companies – national and multinational – have their seed production farms in the state. The top ten companies, which control more than 80% of the vegetable and cottonseed production in the state, are Syngenta,¹⁵ Nunhems, Namdhari, BejoSheetal, Mahyco, Seminis, Advanta, Vibha, US Agri, Pioneer (Dupont) and Ankur Seeds.¹⁶ While Syngenta, Nunhems, BejoSheetal, Seminis, Advanta, Pioneer and US Agri are MNCs, Namdhari, Ankur, Vibha are leading Indian companies. Mahyco has a joint venture partnership with Monsanto.

Field Locations

In Karnataka, the field survey was conducted in 12 villages in three locations – Koppal, Ranibennur and Chintamani – where cotton and vegetable seed production is concentrated. These three locations were purposely selected as they represent regional variations in wage rates and labor arrangements in seed production. Four villages each were chosen from Koppal, Ranibennur and Chintamani. As compared to Koppal, the areas of Ranibennur and Chintamani: (a) were agriculturally developed regions with better irrigation and marketing facilities, (b) had higher literacy rates among farmers and agricultural laborers, and (c) reportedly had lower incidence of child labor in cotton and vegetable seed farms.¹⁷

Of the total 24 cottonseed farms visited for the survey, 12 are located in Koppal and the same number in Chintamani areas. The company-wise break up of sample farms is as follows: out of 24 farms, 10 were producing seeds for MNCs (Monsanto, Bayer, and DuPont) and 14 for Indian companies (Nuziveedu, Raasi, Ankur and JK seeds). A total of 44 vegetable seed farms (12 large-seeded okra and watermelon crops, and 32 small-seeded hot pepper and tomato crops) were visited for this study, with 22 each in Koppal and Ranibennur. Of the 44 farms visited, 24 were producing seeds for MNCs (Syngenta, Seminis, Nunhems, Bejoshetal, Advanta) and 20 for Indian companies (Namdhari, Vibha, Ankur, Mahyco and JK seeds).

A total of 64 individual interviews with farmers and 136 interviews with workers working on the sample farms were conducted. Out of 136 workers interviewed, 28 (20.6%) were children below 18 years, 70 (51.5%) were women and 38 (27.9%) were men. Seventy-two of them (53%) were working on a seasonal contract basis. All of the laborers interviewed were locals working in the same village or neighboring villages, commuting daily from their home to the work place. The caste composition of workers was: 33.1% Scheduled Castes (SCs), 11.8% Scheduled Tribes, 45.6% Backward Castes (BCs), and 9.6% Other Castes (Upper castes). In addition to individual interviews, 10 focus group discussions were conducted with the workers (for detailed break-up of workers interviewed in different states, refer to Table 2.

14 Venkateswarlu, Davuluri (2010b) "Seeds of Child Labor--Signs of Hope,"op.cit.

15 Syngenta Seeds in not involved in cottonseed production in India. It only produces hybrid vegetable seeds.

16 Venkateswarlu, Davuluri (2010b)

17 Venkateswarlu, Davuluri (2010b) and interviews with UNICEF Child Labor Project In-charge, Koppal District, and officials from Labor and Education Departments, Koppal and Haveri districts.

Minimum Legal Wages for the Agriculture Sector

For the purpose of fixing minimum wages for agricultural work, the State Government of Karnataka treats the entire state as a single zone. A common wage rate is fixed for all activities such as sowing, ploughing, weeding, spraying pesticides and fertilizers, staking and pruning of plants, harvesting, emasculation and pollination in hybrid seeds. Karnataka and Andhra Pradesh identify hybridization as a separate activity in the list of agricultural activities set out in the official notification.¹⁸ INR 145.58¹⁹ (INR100 basic + INR 45.58 VDA²⁰) is the current minimum daily wage rate applicable for all activities. This wage rate applies to men and women equally. The number of working hours for a normal working day is eight hours; for overtime work, the workers are entitled to wages at twice the minimum wage rate.²¹

FINDINGS

The findings regarding wages for important agricultural activities in vegetable and cottonseed crops collected from the sample farms is presented below.

Variation in Wage Rates by Activity

Tables 3 and 4 present task-wise and gender-wise average daily wage rates in cotton and vegetable seed farms. Task-wise variations in the wage rates are observed in both cotton and vegetable seed crops across all the study locations. The wage rates are higher for tasks such as ploughing and spraying pesticides compared to other activities such as sowing, weeding, and cross-pollination. While spraying pesticides fetched the highest wage, weeding activity received the lowest wages in both locations. The average daily wage rates for spraying pesticides activity in vegetable seed farms varied from INR211 in Ranibennur to INR184 in Koppal during 2011-12 (Table 3). The average daily wage rates for weeding activity for female workers varied from INR147.5 in Ranibennur to INR100 in Koppal.

Variations in Wage Rates by Region

To capture the regional variations in wage rates, the survey was conducted in Koppal, Ranibennur and Chintamani. Variations in wage rates for different tasks and categories of workers across the three locations were identified. The wage rate in cottonseed farms between Koppal and Chintamani were compared; for vegetable seed crops, Koppal and Ranibennur were compared. Ranibennur has 10%-40% higher wages for different categories of workers and tasks as compared to Koppal in vegetable seed farms. For instance, for sowing INR147 is paid to women workers in Ranibennur as opposed to INR110 for the same activity in Koppal. Similarly, for cross-pollination, INR163 is paid to women in Ranibennur as opposed to INR113 in Koppal (Table 3). As previously explained, compared to Koppal, Ranibennur and Chintamani are agriculturally developed regions with better irrigation, credit, and marketing facilities. Due to the heavy concentration of seed production farms, demand for labor is higher in these areas than supply, leading to higher wages. The literacy rate is higher among farmers and agricultural laborers, and the incidence of child labor in cotton and vegetable seed farms is found to be low.²²

18 The Minimum Wages Notification for Agriculture sector issued by the Labor Department, Government of Karnataka, in 2008 is at <http://labour.kar.nic.in/labour/notificationsonminimum.htm>

19 One US\$ = INR54 (2012 average conversion rate)

20 VDA: Variable Dearness Allowance. In order to protect minimum wages against inflation, the Government has made provision of VDA linked to the Consumer Price Index, which is revised twice a year effective from April and October.

21 The Minimum Wages Notification for Agriculture Sector, Government of Karnataka, Op.cit.

22 Venkateswarlu, Davuluri (2010a) "Growing up in the Danger Fields," op.cit.

Variations in Wage Rates by Gender and Age

There is a clear division of labor on gender lines in agriculture in general, and seed production activities in particular, in the visited areas.²³ This has implications for earnings of men and women engaged in various agricultural activities. Women are preferred for cross-pollination, weeding and harvesting activities, which are labor-intensive and paid at lower rates, whereas men are preferred for ploughing, spraying pesticides and applying fertilizer, which are less labor intensive and more highly paid.²⁴

Table 3: Activity-Wise and Gender-Wise Average Daily Wage Rates in Vegetable Seed Farms in Karnataka in 2011-12 (amount in INR)

TYPE OF ACTIVITY	KOPPAL			RANIBENNUR		
	Male	Female	Children	Male	Female	Children
Ploughing	165.6	#	#	178.3	#	#
Sowing/Transplanting	@	110	100	162	147.2	130
Weeding	#	100	90	#	147.5	133.3
Fertilizer Application	151.7	105	@	178.3	150	#
Spraying Pesticides	184	#	#	211.6	#	#
Harvesting	122.3	111.4	105	156	150	128
Cross-pollination						
Daily casual labor	116.4	113.2	103	163.4	162.5	142
Seasonal labor	108.6	106.4	95.3	158.5	151.6	133.3

Notes: Except for cross-pollination, the daily wage rates mentioned for other activities are for casual laborers who work on daily wage contracts. For cross-pollination, the wage rates are reported for both casual and seasonal workers. Seasonal labor is involved mainly in cross-pollination.

@ = Number of quotations is less than three. Averages are restricted only to those occupations where the number of quotations is three or more in order to avoid inconsistency in wages paid to different categories of workers on account of difference in number of quotations.

Indicates that the particular category of workers was not engaged in that operation.

Notes are the same for Table 4.

Table 4: Activity-Wise and Gender-Wise Average Daily Wage Rates in Cottonseed Farms in Karnataka in 2011-12 (amount in INR)

TYPE OF ACTIVITY	KOPPAL			CHINTAMANI (KOLAR)		
	Male	Female	Children	Male	Female	Children
Ploughing	161.6	#	#	178.3	#	#
Sowing/Transplanting	@	98.6	89.6	@	115	115
Weeding	#	98.3	90.3	#	112.5	105
Fertilizer Application	138.4	100	#	162.5	110	#
Spraying pesticides	174.3	#	#	185.6	#	#
Harvesting	118.6	99.3	91.3	115	115	110
Cross-pollination						
Daily casual labor	107.3	104.6	96.1	120	120	110
Seasonal labor	104.2	101.3	94.3	@	110	110

23 Division of labor along gender lines in Indian agriculture in general and particularly in seed production activities is well documented. For details see, e.g., Aggarwal, B. (1994) *A Field of One's Own: Gender and Land Rights in South Asia*. Cambridge, 1997; Janet Henshall Momsen (1991) *Women and Development in the Third World*. Routledge; Lucia da Corta and Venkateswarlu, Davuluri (1998) "Unfree Relations and the Feminisation of Agricultural Labor in Andhra Pradesh," *Journal of Peasant Studies*, January & April 1999, Pp 70-140; Venkateswarlu, Davuluri (2001), "Seeds of Bondage: Female Child Bonded Labor in Hybrid Cottonseed Production in Andhra Pradesh," Business and Community Foundation and Plan International, India Chapter, New Delhi, 2001; full report available at <http://www.indianet.nl/sob.html>

24 Interviews with growers and workers.

Daily wage rates for ploughing and spraying pesticides, which are exclusively done by men, were INR150-250 across crops and locations. Daily wage rates for weeding, sowing and harvesting, which are mostly done by women, were INR85-150 across locations. Wage differences also existed in the activities where both men and women participated; for instance in fertilizer application, although men and women equally participate in mixing and spreading fertilizers (with the exception that men sometimes carry fertilizer bags from the storage point to the worksite), men are paid INR30-60 more than women. The average daily wage paid to men for fertilizer application in cottonseed farms is INR151.7 in Koppal and INR162.5 in Chintamani; for the same activity, women received INR100 in Koppal and INR110 in Chintamani (Table 4).

Male workers tend not to work in low paying activities, which are mostly carried out by women. Thus, the participation of men in activities such as cross-pollination is insignificant; in most cases, younger boys and older men work along with women. In such instances, they are paid at par with the women. For example, in vegetable seed farms the average daily wage rate for male and female daily casual workers is INR116.5 and INR113.4, respectively, for cross-pollination in Koppal. The difference in the amounts for men and women is mainly due to variation in the number of quotations (number of sample farms reporting), as the difference in wages based on gender was not significant at the sample farm level.²⁵

Workers (below 14 years) are involved in all activities except ploughing, spraying pesticides, and fertilizer applications. Recent studies conducted in 2010 in Karnataka²⁶ estimated the proportion of children (below 14 years) to the total work force employed at 39% on cottonseed farms; 26.8% in hot pepper farms; 11.6% in tomato farms; 22.2% in sweet pepper farms; and 20.6% in okra farms. The average daily wage rates paid to children are 5%-10% lower compared to those paid to women across activities, crops, and locations. Though children are involved in many activities, they are preferred for cross-pollination.²⁷ For cross-pollination, children with some work experience are generally paid at par with adult labor. But children who are new recruits and those who work during school vacations are paid less. The average daily wage rate for children for cross-pollination in cottonseed in Koppal is INR96, compared to INR104.6 for adults (Table 4).

Variation in Wage Rates by Crop

The wage rate paid to workers in the studied farms for different agriculture activities in vegetable seed crops are slightly higher compared to the cottonseed crop. Vegetable seed production is relatively more labor-intensive than cottonseed; for one acre of cottonseed cultivation, nearly 1,000 labor days are required, compared to 1,080 labor days for tomato seed cultivation and 2,570 labor days for hot pepper cultivation.²⁸ The cross-pollination period in vegetable seed crops generally coincides with the harvesting of other commercial crops in the region. Thus, the demand for labor increases and the wage rates go up during this period. The average daily wage rate for female workers in cottonseed in Koppal is INR104.6, whereas in vegetable seed crops it is INR116 (Table 4).

²⁵ In Koppal, the same daily wage rates were reported for men and women for cross-pollination in vegetable seed farms. However, when the average wage rates were calculated for men and women, the average rate for men was a bit higher than for women workers. This is mainly due to differential wages rates reported for this activity across farms and also the presence of men in this activity is relatively lower when compared with women, thereby the fewer number of quotations for men. Let us take an example: suppose we want to calculate the average daily wage rates for men and women for cross-pollination activity from 5 farms where the presence of men was observed only in two farms. Let us assume that average wage rates in the five farms A, B, C, D, and E are as INR100, INR110, INR100, INR120 and INR110, respectively, and the presence of men was observed in the farms D and E. Then, the average daily wage rate for men would be INR115 ($(120+110)/2 = 230/2$), whereas the average daily wage rate for women would be INR108 ($(100+110+100+120+110)/5 = 540/5$).

²⁶ Venkateswarlu, Davuluri "Growing up in the Danger Fields" and "Seeds of Child Labor: Signs of Hope," op.cit.

²⁷ Ibid.

²⁸ Venkateswarlu Davuluri (2010) "Growing up in the Danger Fields: Child and Adult Labor in Vegetable Seed Production in India," op.cit.

Variation in Wage Rates Based on Labor Arrangements

Three types of labor arrangements exist in cotton and vegetable seed farms:

- daily wage
- piece rate
- seasonal contracts

Cross-pollination, the most labor-intensive activity in seed production, is mostly carried out through seasonal agreements. As seed farmers require assured labor supply during this time, they prefer to enter into seasonal agreements with the laborers by paying advances to them. This advance varies from INR1000 to INR4000,²⁹ depending upon the contract length. The daily wage rate is fixed well in advance at the time of agreements. The employers use advances as a means to bind workers. Daily wage arrangements are prevalent in other activities as well, such as sowing, weeding, and harvesting. Hiring labor for job work/piece rate work is also common for activities like constructing net-houses and seedbed preparation for vegetable seeds and for ploughing and plucking of cotton plants in the case of cottonseed.

Daily wage and seasonal contract workers are drawn from the village or neighboring villages within the radius of 15 kms. Unlike in Gujarat and Andhra Pradesh, in Karnataka there is no practice of employing migrant labor from faraway places that temporarily reside at worksites. The average daily wage rate for casual labor is slightly higher than for workers who enter into seasonal agreements with the employers. For instance, in vegetable seeds production, the average daily wage rate for women in cross-pollination activities in Koppal is INR113.1 for daily casual workers, whereas the wage rate is INR106.4 for seasonal workers (Table 3).

Variation in Wage Rates Based on Caste

Most laborers working on cotton and vegetable seed farms are poor, belonging to Scheduled Castes (SCs), Scheduled Tribes (STs) and Backward Castes (BCs).³⁰ Caste-based discrimination in wages was not reported in any of the study locations. However, differential treatment and verbal harassment of workers by the employers based on their caste was reported in Koppal. During the focus group discussions, the Dalit workers reported that some of the upper-caste farmers allow the workers from the upper/backward castes to take breaks during working hours and do not reprimand them coming late. However, the Dalit women are scolded for taking breaks or coming late.

Variation in Wage Rates Based on MNC and Local Seed Farms

Of the 68 sample farms selected for the survey, 50% (10 cottonseed and 24 vegetable seed farms) were producing for MNCs – Monsanto, Syngenta, Bayer, DuPont, Bejosheetal and Advanta. Comparison of wage data between farms producing for MNCs and for local companies do not show significant variations in wage rates for different tasks paid to different categories of workers. For instance, the average daily wage rates for ploughing and spraying pesticides in Koppal varied from INR162.5 to INR184.5 on MNC farms, and from INR160.8 to INR184 on farms producing for local companies. Similarly for other activities, the difference in average wage rate between MNCs and local companies was marginal.

²⁹ The advance amounts account for 10%-50% of the total amount the workers will earn for the entire contract period.

³⁰ In addition to the various religions present in India, there also exists a caste system. Historically the profession they conducted determined the caste a person. Although India abolished the caste-based discrimination such as “untouchability,” many decades back, caste-based discrimination is still prevalent in many parts of the country, especially rural areas.

Impact of NREGA on Wages

The National Rural Employment Guarantee Act (NREGA), introduced by the government of India in 2005, has significantly contributed to an increase in wage rates for rural workers. Most growers interviewed reported that the implementation of NREGA has led to scarcity of labor in seed production activities, and has led to an upward trend in wages. It has created new employment opportunities for rural workers and empowered them to bargain for better wages.

Overtime Compensation

In general, a normal working day is 8 hours for all activities except cross-pollination; the normal working day starts at 9:00 a.m. and finishes at 5:00 p.m. In the case of cross-pollination, a normal working day is 9-10 hours long. Cross-pollination consists of two main tasks: emasculation³¹ and pollination.³² According to plant breeding procedure, emasculation has to be done in the late afternoon/early evenings and pollination in the early morning hours, hence the workers have to put in 1-2 additional hours of work as compared to other activities. During the peak cross-pollination period, work hours need to be extended by an additional 1-2 hours, or else there is a danger of losing pollen.

Overtime is usually not compensated at the legally-prescribed premium of double the wage rate. However, it is normally compensated through incentives such as providing tea and snacks during overtime work or some small gifts – new clothes, utensils, bottles of local liquor (for men), and so on – given at the end of the season. Interviews with workers and growers indicate that this happens informally with mutual consent. Most growers in the studied locations engage seasonal workers for cross-pollination activity. As seasonal workers have long-term contracts with the growers, they feel obliged to work overtime during peak periods. The interviews and focus group discussions with workers indicate that there is insignificant correlation between overtime and caste or gender of workers.

Comparison with Legal Minimum Wages

The Karnataka State Government has fixed a common minimum daily wage rate applicable to all types of activities in the agriculture sector throughout the state. For the purpose of fixing minimum wages for agricultural workers, the entire state is treated as a single zone. The current minimum daily wage rate for casual laborers commonly applicable for all the activities – such as sowing, ploughing, weeding, spraying pesticides and fertilizer application, staking and pruning of plants, harvesting, emasculation and pollination in hybrid seeds – is INR145.58 (INR100 basic + INR45.58 VDA).

A comparison of prevailing market wages in cotton and vegetable seed farms with the statutory minimum wages fixed by the government indicates that for certain activities and categories of workers, the legal norms are not being followed.

- For ploughing and spraying pesticides, which are exclusively done by men, the prevailing wages are higher than minimum legal wages across all study locations and crops, 10%-45% higher than the minimum legal wages. Male workers in general receive higher wages than the minimum legal wages for most activities in which they are involved both in cotton and vegetable seed crops. The average daily

31 Emasculation is the process of removing anthers from bisexual flowers without affecting the female reproductive part (pistil); emasculation is part of various plant hybridization techniques.

32 Pollination is the transfer of pollen from an anther to a stigma. When the anther is mature, it splits open and discharges the pollen. In plant breeding, pollination is carefully controlled by humans.

wage rate for ploughing ranged from INR161 to INR178, and for spraying pesticides from INR174 to INR211, whereas the legal minimum wage is INR145.58.

- Women and workers below 14 years in general are not paid the legal minimum wages in Koppal and Chintamani. The average prevailing daily wage rate for children is 20%-38% lower and for women 17%-30% lower compared to the minimum legal wage.
- In the Ranibennur region, the prevailing daily wage rates for both men and women are higher than the minimum legal wages. The average prevailing daily wage rate for women in this region varied between INR147.5 and INR163.4, and for men between INR162 and INR211.6.
- The prevailing wage rate for children across locations and crops is lower compared to the legal minimum wages. The average prevailing daily wages for children varied between INR90 - INR142 depending upon the tasks.

It is important to note that neither employers nor workers in the study locations have any awareness about minimum wage legislation and wage rates prescribed for different activities and categories of workers in agriculture. The government has not made any effort to create awareness about the law and its implementation in the field.

MAHARASHTRA

Overview of Cotton and Vegetable Seed Production

The State of Maharashtra is the second largest producer hybrid vegetable seeds in India. In 2009-10, it produced nearly 28.9% of hot pepper seeds, 53.3% of sweet pepper seeds, 50.8% of brinjal seeds and 33% of okra seeds in India.³³ In the case of hybrid cotton seeds, it is the fourth largest producer in India and accounts for nearly 6% of the country's³⁴ production. Both national and multinational seed companies conduct contract seed farming in Maharashtra. Seed production in the state is mainly concentrated in two districts, Buldhana and Jalna.

Field Locations

In Maharashtra, the field survey was conducted in eight villages in two different locations, Devalgoanraja and Lonar in the Buldhana district. These two locations were selected as they represent regional variations in wage rates and labor arrangements in seed production. The Devalgoanraja region has a larger production area compared with Lonar. Devalgoanraja and its surrounding villages are well known for seed cultivation. Around 50 seed companies have their seed production farms here. Meanwhile, the Lonar region is relatively new as a seed production area and various companies including MNCs are slowly expanding their seed production here. Data was collected from 56 sample farms in eight villages in two locations (28 farms in each location). Out of the 56 sample farms, 32 are vegetable farms (okra 12, tomato 8, sweet/hot pepper 12) and 24 are cottonseed farms.

A total of 54 individual interviews with farmers and 122 interviews with the workers were conducted. Of the 122 workers interviewed, 22 (18.0%) were children below 18 years, 58 (47.5%) were women and 42 (34.4%) were men. Fifty-four workers (44.2%) were working on seasonal contract basis and six workers (4.9%) were annual farm workers (locally called 'Saldars') working on a yearly contract basis. Except two migrants,³⁵ all

33 Venkateswarlu, Davuluri (2010a) "Growing up in the Danger Fields," op.cit.

34 Venkateswarlu, Davuluri (2010b) "Seeds of Child Labor: Signs of Hope," op.cit.

35 Two annual farm workers interviewed are migrant laborers from same district who temporarily migrated for work.

interviewed workers were locals either from the same village or daily commuters from neighboring villages. The caste composition of workers was 29.5% Scheduled Castes (SCs), 9.8% Scheduled Tribes, 49.2% Backward Castes (BCs), and 11.5% Other Castes (upper castes). In addition to individual interviews, eight focus group discussions were conducted with workers (for a detailed break-up of workers interviewed in different states, see Table 2).

Minimum Legal Wages in the Agriculture Sector

Maharashtra has been divided into four zones for the purpose of fixing legal minimum wages for different agriculture activities (Table 5). The daily minimum wage rate prescribed by the state government for daily casual labor doing manual work varies between INR100 - INR120 across the four zones (Zone I: INR120, Zone II: INR110, Zone III: INR105 and Zone IV: INR100). The two surveyed locations are in Zone III. For workers who work on a monthly or annual contract basis, the wage rates varied from INR2600 to INR3120 and from INR31200 to INR37440, respectively, across different zones. The wage rates are higher for workers who operate machinery (INR145 – 160). A uniform wage rate is fixed for all agriculture activities within the zone. The wages fixed for annual farm workers are exclusive of in-kind benefits provided to them customarily by the employers, such as food, clothing or tobacco. The wage rates apply to both men and women equally. The number of working hours for a normal working day is eight hours.

Table 5: Maharashtra: Zone-Wise Minimum Wage Rates in Agriculture*

	CATEGORIES OF WORKERS		ZONES			
			I	II	III**	IV
Manual Labor	Daily wage workers	Per day (INR)	120	110	105	100
	Mahinedar or monthly waged workers	Per month (INR)	3120	2860	2730	2600
	Saldar or workers working on yearly basis	Per year (INR)	37440	34320	32760	31200
Operating Machinery	Daily wage workers	Per day (INR)	160	155	150	145
	Mahinedar or monthly wages workers	Per month (INR)	4160	4030	3900	3770
	Saldar or workers working on yearly basis	Per year (INR)	49920	48360	46800	45240

* Revised on 13-8-2009

** The study locations for the study are in Zone III

Zone I comprises areas falling within the limits of all Municipal Corporations;

Zone II comprises areas falling within the limits of all "A" and "B" grade Municipal

Zone III comprises all other areas in the State, not included in Zone I and II;

Zone IV comprises areas in Jalgaon, Dhule, Nashik, Pune, Solapur.

FINDINGS

The analysis of data on wages for important agricultural activities in cotton and vegetable seed crops collected from study locations revealed variations in wage rates based on activity, gender, location and type of labor arrangement. No significant differences in wage rates were found between the farms producing seeds for national and multinational companies. Caste-based wage discrimination was not reported.

Variation in Wage Rates by Activity

Date in Tables 6 and 7 show variation in wage rates based on tasks or activities performed. The average wage rates are higher for tasks like ploughing, spraying pesticides and fertilizer application compared with sowing, weeding, harvesting and cross-pollination. Among all activities, spraying pesticides is the highest paid, whereas weeding is the least paid. For instance, the daily wage rate for spraying pesticides varied between INR140 and INR200 in Lonar and between INR150 and INR250 in Devalgoanraja. Meanwhile, the daily wage rates for weeding ranged between INR80 to INR100 in Lonar and between INR90 and INR100 in Devalgoanraja.

Table 6: Activity-Wise and Gender-Wise Average Daily Wage Rates in Vegetable Seed Farms in Maharashtra in 2011-12 (amount in INR)

S.NO.	ACTIVITIES	LONAR			DEVALGOANRAJA		
		Male	Female	Children	Male	Female	Children
1	Ploughing	155	#	#	166.3	#	#
2	Sowing/Transplantation	@	98.3	90	@	103.28	@
3	Weeding	#	95	83	#	97.5	87
4	Fertilizer application	136.3	100	#	144.3	@	#
5	Spraying pesticides	157.5	#	#	173.8	#	#
6	Harvesting	104.5	102.3	88.4	106.5	104.4	99.6
7	Cross-pollination						
A	Daily Casual Labor	106.4	104.3	89.7	113.6	111.4	102.1
B	Seasonal Labor	103.6	102	87.6	109.3	108.3	99.4

Notes: Except for cross-pollination the daily wage rates mentioned for other activities are for casual workers who work on daily wage contracts. For cross-pollination, the wage rates are reported for both casual and seasonal workers. Seasonal labor is involved mainly in cross-pollination activity.

@ = number of quotations is less than three. Averages are restricted only to those occupations where the number of quotations is three or more in order to avoid inconsistency in wages paid to different categories of workers on account of difference in number of quotations.

= Indicates that the particular category of workers was not engaged in that operation.

Notes are the same for Table 7.

Table 7: Activity-Wise and Gender-Wise Average Daily Wage Rate in Cottonseed

S.NO.	ACTIVITIES	LONAR			DEVALGOANRAJA		
		Male	Female	Children	Male	Female	Children
1	Ploughing	156.2	#	#	165.3	#	#
2	Sowing/Transplantation	@	97.5	85		102.2	87
3	Weeding	#	94.4	82.3	#	97	86.4
4	Fertilizer application	135.5	101	@	142.5	104.7	@
5	Spraying pesticides	156.5	#	#	171.5	#	#
6	Harvesting	103.5	99.5	85.6	105.5	103.5	95
7	Cross-pollination						
A	Daily Casual Labor	105.6	102	86.5	111.6	105.4	97.6
B	Seasonal Labor	102.4	100	87	106.3	103.7	92.5

Variations in Wage Rates by Gender and Age

As in other states, gender and age variations in wage rates are also prevalent in Maharashtra (see Tables 6 and 7). The division of labor on gender lines has serious implications for earnings of men and women. Men mostly perform higher paid activities (spraying pesticides, ploughing and fertilizer application, paying INR100 to INR250 across crops and locations). The daily wages varied between INR80 to INR120 for activities like sowing, weeding, cross-pollination and harvesting that are mostly done by women.

In the case of cottonseed (Table 7), the lowest average daily wage rate for male dominant activities is INR135.5 in Lonar (for fertilizer application) and the highest average daily wage rate is INR171.5 in Devalgoanraja (for spraying pesticides). In the same manner, the lowest and highest average daily wage rates in case of female dominant activities are INR94.4 in Lonar (for weeding) and INR105.4 in Devalgaonraja (for cross-pollination). Male participation in joint activities like cross-pollination and harvesting is insignificant and in most cases, younger boys and older men work alongside women in these activities. In such cases, they are paid almost on par with women. For instance (see Table 6), the average daily wage rate for women in Lonar for cross-pollination activity in vegetable seed is INR104.3 and INR106.4 for men. We can see a similar pattern in cottonseed as well.

Of the 56 sample farms surveyed, the presence of children (below 14 years) was reported in 19 farms. Children were observed performing all activities in which women are involved, except fertilizer application. A study conducted in 2010³⁶ in Buldana and Jalna districts in Maharashtra estimated the proportion of children (below 14 years) to the total workforce employed on hot pepper farms at 16.0%, tomato farms 14.6%, sweet pepper farms at 17.7% and okra farms at 17.4%. The average wage paid to children is lower across activities, crops and locations. The variation is mainly due to the fact that the growers pay lower wages to children who are newly recruited, and to those who work during school holidays. Experienced children, however, are paid at par with women. For example (Table 6), the average wage rate for children (below 14 years) in Devalgoanraja is INR99.6 for harvesting and INR105.4 for women. As a whole, in most activities in which predominantly women/children are engaged, the average wage rates are less than the minimum legal wages prescribed in the state, which is INR105.

Variations in Wage Rates Based on Labor Arrangements

Four types of labor arrangements exist in the study locations, namely:

- Daily wages (casual workers)
- Seasonal contracts
- Annual farm worker (AFW)
- Piece rate

Farmers generally hire daily casual labor for all activities in the study locations. But in case of cross-pollination, most farmers hired seasonal labor, as this activity needs assured labor supply. Cross-pollination requires around 70% of the total labor days in vegetable seeds and 90% of labor days in cottonseed. Growers prefer to have seasonal agreements with laborers by extending wage advances ranging from INR1000 to INR5000. The annual farm worker system is prevalent in two study locations. It was also observed that farmers engaged workers on job work/piece rate for certain activities, such as constructing net-houses, seed-bed preparation in the case of vegetable seeds; and ploughing and harvesting in cotton.

³⁶ Venkateswarlu, Davuluri (2010a) "Growing up in the Danger Fields", Op. cit

Different types of labor arrangements also contribute to variations in wage rates for different agricultural activities. The average wage rates for daily casual labor are slightly higher than for seasonal labor in the study locations. For instance, in vegetable seed crops the average wage rate for cross-pollination activity in Lonar is INR102 for seasonal women workers and INR104.3 for daily casual women workers (Table 6). Similarly, in the case of cottonseed, the average daily wage rate for seasonal women workers in Devalgoanraja is INR 103.7 and INR105.4 (Table 7) for daily casual women workers.

Annual Farm Workers (Saldar System)

Four of the 44 farms visited employed annual farm workers (AFWs). All AFWs are male and are paid a yearly salary, wholly or in part in the form of advances. There is a correlation between caste and the AFW system; AFWs are largely drawn from the Scheduled Castes (SCs) and Scheduled Tribes (ST).

With regard to working conditions, AFWs are always at the disposal of the employer and do not have fixed working hours. They normally work 12 hours a day. The working schedule of an AFW is largely based on the grower's requirements. When a farmer has dairy livestock, the work schedule of AFWs begins at around 5 a.m. with cleaning and feeding the live-stock, and finishes at around 7 p.m. with 2-3 hours of break for breakfast, lunch and rest. One of the important tasks of the AFWs is irrigation. For irrigating the crops, sometimes, they may have to work during the night hours also to run the pumps due to insufficient electricity supply during the day time. The other main activities include weeding, fertilizer application, spraying pesticides, cross-pollination, ploughing, harvesting, cleaning, attending to grazing by live-stock, taking the harvested crop to the market, delivering milk to the local dairy, etc. The grower does not charge any interest on the amount given to the AFW as an advance. The workers take the balance amount either on a monthly basis or at other intervals, depending upon their need. Of the 6 workers, two hail from village located within a 30 km radius and live in the grower's farmhouse with their families. The remaining four workers hail from the same village. Local workers sleep in the farmhouse for at least 6 months, especially during key activities like cross-pollination, harvesting and post harvesting.

The wages for AFWs are relatively higher in Devalgoanraja compared with Lonar region. Wages for AFWs are paid both in cash and in-kind. The in-kind payment is in the form of food grains (like wheat and jowar). The average annual wage rate for AFWs in the areas studied is INR40000 (INR34000 cash + five quintals of wheat per year which is equal to INR 6000³⁷).

Variations in Wage Rates by Region

Regional variations also influence the wages for different agricultural tasks in rural Maharashtra. Devalgoanraja is an agriculturally developed and a well-established region for seed production as compared to Lonar. The factors that influence the wage rates are agro-climatic conditions, cropping patterns, availability of alternative employment, availability of skilled labor, implementation of NREGA, and local market conditions. The average wage rates for different activities in Devalgoanraja are relatively higher than in Lonar. For instance, with regard to vegetable seed crops, the average daily wage rate for ploughing is INR155 in Lonar and INR166.3 in Devalgoanraja. In the case of cottonseeds, the average daily wage rate for women engaged in weeding activities in Lonar is INR94.4 and INR97 in Devalgoanraja.

³⁷ The local market price of wheat per 100 kilograms is INR1200

Variations in Wage Rates by Crops

Vegetable seed crop production pays wage rates that are 5-10% higher than those paid in cottonseed production. Vegetable seed crop production is relatively more labor intensive than cottonseed. The cross-pollination period in vegetable seed crops generally coincides with the harvesting of the other commercial crops in the region; the duration of the cross-pollination period in cottonseed is long compared with vegetable seed crops. Another distinction is that while vegetable seed growers tend to be relatively well-off, resource rich, and able to hire labor for various agriculture tasks, cottonseed growers are small, poor farmers who mostly engage family labor for various agriculture tasks.

Overtime Compensation

According to local practice, the normal working day is eight hours for daily wage workers and workers on seasonal contracts. During the peak cross-pollination period, there is a need to extend the working hours by 1-2 hours to accommodate pollination activities (conducted in the early morning hours) and emasculation activities (which occur in the late afternoon and evening). There is no practice of paying for overtime for agricultural activities in the region. But it was observed that overtime is normally compensated with some in-kind benefits, either by providing tea and snacks during overtime work or presenting some small gifts at the end of the season. As noted above, AFWs work for 12 hours in a normal working day; the very nature of the labor arrangement in the AFWs system involves overtime and additional chores. Since the majority of the AFWs are from SC and STs, there is a caste dimension in labor arrangements and a correlation between caste and overtime or additional chores.

Comparison with Legal Minimum Wages

Procedures and regulations issued by the State of Maharashtra concerning legal wages and benefits are not followed, especially for women and children (see below). It was observed that neither growers nor hired laborers were aware of the minimum legal wages for agricultural activities in the state. The two study locations fall under Zone III, where the minimum legal wage has been fixed at INR105 per day for casual daily labor and INR32600 per annum for annual farm workers.

- The wage rate for activities such as ploughing, spraying pesticides and fertilizer application, mostly done by men, is 22%-65% higher than the legal minimum wage. Amongst the above-mentioned tasks, the lowest average wage rate is INR135.5 in Lonar for fertilizer application in the cotton crop, whereas the highest average wage is INR173.8 in Devalgaonraja for spraying pesticides in vegetable crops.
- The daily wage rate for activities mostly done by women, except cross-pollination and harvesting, is 5-10% below the legal minimum wage. For cross-pollination and harvesting, the wages are closer to the minimum wage (i.e., INR105). For cross-pollination, the lowest average wage paid was INR100 for cottonseed in Lonar and the highest average wage rate was INR111.4 for vegetable seed crops in Devalgaonraja. In other activities such as sowing and weeding, the lowest average wage reported was INR 94.4 for weeding in Lonar for cotton crop and the highest was INR98.3 for sowing in Devalgaonraja for vegetable seed crop.
- The prevailing wages for children for various tasks are 5-10% lower than the wages paid to women. The average prevailing daily wages for children varied between INR85 and INR102 in different locations.

- In the case of AFWs, the prevailing average wage rate per annum is INR40,000 (34,000 cash + 6,000 in-kind) compared to the legal minimum wage in Zone III of INR32,760. However, taking the total hours of work into consideration, the prevailing wage rate is lower than the legal minimum wage. The legal normal working day is 8 hours per day, but in practice AFWs work for 10-12 hours per day. The legal provisions regarding overtime payment and weekly holidays are not being followed; AFWs are entitled to a weekly rest day and overtime compensation at the rate of one and one-half times the normal rate, but none of the growers follow these norms.

ANDHRA PRADESH

Overview of Cottonseed Production

Andhra Pradesh (AP) is the second largest producer of hybrid cottonseeds in India.³⁸ Until the 1990s, Andhra Pradesh was the state with largest production of hybrid cottonseed in India. However, after the introduction of BT cotton in the early 2000s, Gujarat overtook AP as the largest producer of cottonseeds as well as cotton in India. During 2011-12, cottonseed was produced in nearly 24,000 acres in the state, which account for 25% of the total production area in India.³⁹ Out of these 24,000 acres, nearly 6,000 acres (25%) are under the direct control of MNCs – Monsanto, Bayer and DuPont – while several Indian companies control the remaining area.⁴⁰ Among Indian seed companies, the major companies are Nuziveedu, Tulasi, Raasi, Krishidhan, and Ankur. In AP, cottonseed production is largely concentrated in two districts, Kurnool and Mahaboobnagar, which account for nearly 90% of the total production.⁴¹

Field Locations

In Andhra Pradesh, a field survey was conducted in 8 villages in four mandals⁴² in two districts, Mahaboobnagar and Kurnool, where cottonseed production is concentrated. The mandals selected for the survey are Gattu and Maldakal around Gadwal in Mahaboobnagar district, and Uyyalawada and Dornipadu near the Nandyal region in Kurnool district. These two locations were selected as they represent regional variations in wage rates and labor arrangements in seed production. Compared to Mahaboobnagar, Kurnool is a relatively developed agricultural region, with better irrigation and marketing facilities for the farmers to sell their products. The demand for labor is greater in this region. Due to scarcity of local labor, farmers depend on seasonal migrant workers from other parts of the state.⁴³ The incidence of child labor in cottonseed farms is low in Nandyal compared to Gadwal. This is largely due to proactive interventions undertaken by various NGOs and other agencies in this region to address the problem of child labor.⁴⁴ The low incidence of child

38 Venkateswarlu, Davuluri (2010b) "Seeds of Child Labor: Signs of Hope," op. cit.

39 No official data are available on the total extent of area under cottonseed production and the area covered by individual seed companies in the state. Based on the information gathered from the representatives of seed companies and key informants in seed industry circles, the authors have made these estimates.

40 Ibid.

41 Venkateswarlu, Davuluri (2010b) "Seeds of Child Labor: Signs of Hope," op. cit.

42 Mandal is a middle-level local administrative unit. Each district is divided into 40-50 mandals. Each mandal, in turn, consists of 20-30 villages.

43 MujeebaTarannumand M Gopinath Reddy, 2006 "A Study of Girl Child Labor in Hybrid Cottonseed Production in Kurnool District of Andhra Pradesh," The ICFIA Journal of Public Administration, ICFIA Press, vol. 0(2), pages 60-79, April; Venkateswarlu, Davuluri (2001) "Seeds of Bondage: Female Child Bonded Labor in Hybrid Cottonseed Production in Andhra Pradesh," published by Business and Community Foundation and Plan International (India Chapter) New Delhi (full text is at <http://www.indianet.nl/sob.html>).

44 Venkateswarlu, Davuluri (2007), "Child Bondage Continues in Indian Cotton Supply Chain," study commissioned by India Committee of the Netherlands, ILRF, DWHH, OECD Watch (full report available at www.indianet.nl/pdf/childbondagecotton.pdf).

labor has implications for the adult wage rates. The removal of children from the workforce led to the creation of additional employment opportunities and demand for adult workers; this in turn led to improvements in the bargaining power of adults for better wages and working conditions.⁴⁵

Of the 24 sample cottonseed farms selected for the survey in AP, 12 each are located in Kurnool and Mahaboobnagar districts. Company-wise break up of sample farms indicate that out of 24 farms, 10 were producing seeds for MNCs (Monsanto and Bayer) and the remaining 14 farms were producing seeds for Indian companies (Nuziveedu, Raasi, Tulasi, Ankur, Krishidhan, JK seeds, etc.).

A total of 104 interviews with the workers on sample farms were conducted. Of the 104 workers interviewed, 16 (15.4%) were children below 18 years, 54 (51.9%) were women, and 34 (32.7%) were men. The caste composition of workers was: 37 (35.6%) Scheduled Castes (SCs), 12 (11.5%) Scheduled Tribes, 44 (42.3%) Backward Castes (BCs), and 11 (10.6%) from Other Castes (upper castes). Of the 104 workers interviewed, 36 were migrant workers and 68 were locals. Fifty-eight workers interviewed (55.8%) were working on a seasonal contract basis. In addition to individual interviews, eight focus group discussions were conducted with the workers (for a detailed break-up of workers interviewed in different states, see Table 2 under Methodology and Sample Distribution in Section I).

Legal Minimum Wages in the Agriculture Sector

Table 8 presents the legal minimum wages set by the Andhra Pradesh government. For the purpose of setting wages the State is divided into three zones. The locations selected for the study fall under Zone II. The minimum daily wage rate for daily casual labor in Zone II varied between INR150 to INR220 depending upon the type of activity.⁴⁶ The highest wage rate of INR220 is for cross-pollination and spraying pesticides, and the lowest (INR165) for ploughing and thrashing. In the case of annual farm workers, the annual salary is fixed at INR52,800.⁴⁷ The wages fixed for AFW are exclusive of the benefits customarily given to them by employers, such as food, clothing, tobacco, etc. The wage rates apply to men and women equally. To arrive at a daily rate, the monthly rate shall be divided by 26, which includes the rest-day wages.⁴⁸ The normal working day is 6 hours for all activities except ploughing, which is fixed at five hours. Overtime work is calculated at one and half time the ordinary rate of wages.⁴⁹

45 Venkateswarlu, Davuluri and RVSS Ramakrishna (2010) "No Child Labor – Better Wages: Impact of elimination of child labor on wages and labor conditions of adult labor - Case Study of cottonseed sector in Andhra Pradesh," jointly published by LIW/FNV Mondiaal, November 2010. <http://www.indianet.nl/pdf/NoChildLabourBetterWages.pdf>

46 Minimum Wages Notification for Agriculture Sector issued by the Government of Andhra Pradesh, G.O.Rt.No.328, LET&F (Lab.II) Dept., dt: 23-02-2011 and published in Gazette No.216, dated 7-05-2011

47 Ibid.

48 For certain activities like driving tractors, the legal minimum wages are fixed on a monthly basis. In such cases, to arrive at a daily wage, the monthly wage shall be divided by 26, which includes the rest day wages also. For example, the monthly legal minimum wages for tractor driver in Andhra Pradesh state is fixed as INR6750 under Zone I. In this case if we need to calculate the wages for 12 days, the monthly wages shall be divided by 26, i.e. $6750/26 = \text{INR}259.6$ per day and salary for 12 days is $\text{INR}3115.2$ (259.6×12).

49 Ibid.

Table 8: Minimum Wages Prescribed by AP Government for Agricultural Activities*

S.NO.	NAME OF THE CATEGORY	MINIMUM WAGE (INR)		
		Zone-I	Zone-II	Zone-III
1	Adult farm servants for attached workers (Per Annum)	52,800.00	52,800.00	52,800.00
II	Casual laborers (per day)			
1	Ploughing	190.00	165.00	150.00
2	Threshing	190.00	165.00	150.00
3	Sowing, transplanting, harvesting, weeding, grass cutting, or any other unskilled manual labor	180.00	175.00	150.00
4	Digging, stacking or pruning	180.00	175.00	150.00
5	Sprayer of Pesticides	250.00	220.00	200.00
6	Tobacco plucker, cotton plucking, cross pollination operation, sugarcane plantation dressing and other planting operations in fields not classified elsewhere	250.00	220.00	200.00
7	Loading and unloading activities	190.00	165.00	150.00
III	Tractor driver (per month)	6750	5940	5400

* Revised on 23-02-2011.

Note: 1) The wages fixed for adult farm workers are exclusive of the benefits given to them customarily by employers, such as food, clothing, tobacco, etc.; 2) wage rates are applicable to men and women equally; 3) for ploughing, five hours of work per day, for other activities 6 hours of work per day; 4) to arrive at a daily rate, the monthly rate shall be divided by 26, which included the rest day wages.

Source: Government of Andhra Pradesh. Notification issued vide G.O.Ms.No.328, LET&F (Lab.II) Dept., dt:23-02-2011 and published in Gazette No.216, dated 07-05-2011

FINDINGS

The analysis of data on wage rates (Table 9) in cottonseed farms collected from sample farms indicates significant variations in wage rates based on the type of task, gender, location and type of labor arrangements. Like in Karnataka and Maharashtra, no significant differences in wage rates were found between the farms producing seeds for national and multinational companies.

Variations in Wage Rates by Activity

Table 9 shows that average wage rates are substantially higher for tasks like ploughing, spraying pesticides and applying fertilizers as compared to sowing, weeding, harvesting and cross-pollination. Among all the tasks, spraying pesticides is the highest paid, whereas weeding is the least paid activity in the study locations. For instance, the daily wage rate for spraying pesticides varies between INR200 to INR250 in Nandyal and it is between INR180 and INR200 in Gadwal, while the wage rates for weeding range between INR100 and INR120 in Nandyal and between INR90 and INR100 in Gadwal.

Table 9: Activity and Gender-Wise Average Daily Wage Rates in Cottonseed Farms in Andhra Pradesh in 2011 – 12 (amount in INR)

TYPE OF ACTIVITY	NANDYAL			GADWAL		
	Male	Female	Children	Male	Female	Children
Ploughing	204.5	#	#	175	#	#
Sowing	@	115	100	@	100	80
Weeding	#	111.7	105.3	#	99.6	93.1
Applying fertilizers	183.3	115	#	158.3	104.6	@
Spraying pesticides	220.8	#	#	191.6	#	#
Harvesting	120	120	110	100	100	100
Cross-pollination						
Daily casual labor	@	191.6	175	120	116.6	96.6
Seasonal labor (local)	183.3	183.3	183.3	100	100	90
Seasonal labor (migrant)**	175	175	175	#	#	#

@ = number of quotations is less than three. Averages are restricted only to those occupations where the number of quotations is three or more in order to avoid inconsistency in wages paid to different categories of workers on account of difference in number of quotations.

= indicates that the particular category of workers was not engaged in that operation

**The wage rates for seasonal migrant labor is exclusive of in-kind benefits provided by the employer in the form of free food and accommodations. The migrant workers are provided with three meals and one time tea in a day (the approximate cash value is INR25 a day. If we include this amount, the actual daily wage would be INR 200. Migrant seasonal workers are mainly hired for cross-pollination activity. The normal working day for migrant labor is different from the local labor. For migrant labor the normal working day is 12 hours, whereas for local labor the normal working day is 10 hours, which includes one hour, break time. The length of the normal working day for cross-pollination is slightly different between Nandyal and Gadwal. In Nandyal the normal working day for local labor is 10 hours, whereas it is 9 hours in Gadwal.

Notes: Except for cross-pollination, the daily wage rates mentioned for other activities are for casual laborers, who work on daily wage contracts. For cross-pollination the wage rates are mentioned for both casual and seasonal laborers. Seasonal laborers are involved mainly in cross-pollination activity.

Variation in Wage Rates by Gender and Age

As in other states, in AP there is a clear division of labor based on gender. Wage differences are substantial between cross-pollination, weeding and harvesting activities, which are largely carried out by female laborers, and ploughing and spraying pesticides, which are exclusively done by men. The daily wage rates for activities like spraying pesticides, ploughing and applying fertilizers varied between INR150 to INR250 across locations. Similarly, the wage rates varied between INR100 and INR191.6 for activities like sowing, weeding, cross-pollination and harvesting. For example, in the case of male-dominant activities, the lowest average daily wage rate is INR158.3 in Gadwal for applying fertilizers and the highest average daily wage is INR173.8 in Nandyal for spraying pesticides. In contrast, in female-dominant activities, the lowest average daily wage rate is INR99.6 in Gadwal for weeding and the highest average rate is INR191.6 in Nandyal for cross-pollination. Participation of men in joint activities like cross-pollination is insignificant, and in most of the cases older men work with women. In such cases, men are paid at par with women. For instance (Table 9), the average wage rate for women seasonal workers for cross-pollination activity in Nandyal is INR183.3, the same as for men; we observed a similar pattern in Gadwal.

Except in applying fertilizers, the presence of children was reported in all activities in which women are involved. The average daily wage rate for children is 10-20% lower than the wage rate for women, except in cross-pollination. For example (Table 9), the average daily wage rate for children in Nandyal is INR110 for harvesting and INR120 for women. Growers are willing to pay children who have work experience the same wages as women.

Variation in Wage Rates Based on Labor Arrangements

Type of labor arrangement is a factor determining variations in wage rates for different agricultural tasks. There are three main types of labor arrangements in cottonseed farms:⁵⁰

- Daily wage
- Piece rate
- Seasonal contracts

Daily wage arrangements are prevalent in activities such as sowing, weeding and harvesting. Ploughing is normally done on a piece rate basis. Cross-pollination – a vital activity in seed production – is mostly carried out through seasonal agreements. The Nandyal region largely depends on seasonal migrant workers for this purpose. The advance amounts paid by growers to secure labor varied from INR2000 to INR6000, which is roughly equivalent to 10-50% of the total amount the workers earn during the entire contract period.⁵¹ The seasonal migrant workers are recruited from within the district and also from the neighboring districts, namely Prakasam and Cuddapah.⁵² Migrant labor accounts for nearly 40% of the labor force in sample farms.⁵³ In Nandyal, wages are paid on a monthly basis, especially for the cross-pollination period. The monthly wage rate for seasonal workers in 2011-12 varied between INR5000 to INR6000 in the Nandyal region. In Gadwal, seasonal contract workers are recruited from within the same/neighboring villages. They are paid on a daily basis.⁵⁴

Farmers generally depend on middlemen for making agreements with migrant workers. The recruitment relies on an extensive network of agents, locally called ‘mesthries.’ Even though the ‘mesthries’ do not work in the farms, they receive wages from the growers as compensation for arranging for the workers (one person’s wage for arranging for about 10-15 workers). The caste composition of seasonal migrant workers indicates that they are mainly from Scheduled and Backward Castes.⁵⁵

The wages for daily casual workers are slightly higher than for workers engaged on seasonal agreements. For instance, the average daily wages for women in cross-pollination in Nandyal is INR191 for daily casual labor and INR175 for migrant seasonal laborers. The mentioned payment for seasonal migrant workers is exclusive of in-kind benefits such as free accommodations and food (three meals and one time tea in a day) provided by the employers.

Variation in Wages by Region

Regional differences also influence the wage rates for different agricultural tasks in rural Andhra Pradesh. Over the years, wages have substantially risen in both locations studied. Nandyal, an agricultural developed

50 The system of Annual Farm Workers is not prevalent in the study locations.

51 Interviews with workers and growers. See also MujeebaTarannum and M Gopinath Reddy (2006) and Venkateswarlu, Davuluri (2001) op. cit.

52 Migrant laborers are mostly engaged in cross-pollination activity, which is vital in cottonseed production. As in Gujarat, AP seed farmers are dependent upon on middlemen/agents (labor contractors) for recruiting migrant labor. Before the season starts, seed farmers approach labor contractors, place their demand for laborers, and pay advances. The advances include travel costs of the laborers from their home to work and some advance equivalent to 15 to 30 days’ worth of wage payment. The wages are paid on a monthly basis and rates are fixed in advance. Advance amounts range from INR 2000 to INR6000 per worker. It is the responsibility of farmers to provide accommodation for the migrant workers

53 Interviews with growers.

54 Like migrant workers, local workers employed on seasonal contract basis are also paid wage advances at the beginning of the season. In Gadwal, wages are paid on a daily rate basis and rates are fixed in advance.

55 Interviews with workers.

region with intensive agriculture witnessed higher wage growth.⁵⁶ Farmers in this region have sizable land holdings.⁵⁷ As the labor scarcity is high in this region, farmers depend heavily upon seasonal migrant workers from within and also from neighboring districts Prakasam and Cuddapah. In contrast, the Gadwal region is less developed, lacking in proper irrigation, credit and marketing facilities. The incidence of child labor is lower in the Nandyal region compared to Gadwal. A study conducted in 2009-10 estimated the proportion of child labor to the total workforce at 15%-20 % in Nandyal and 30%-45% in the Gadwal areas.⁵⁸

The average daily wage rates for different activities in the Nandyal area are relatively higher compared to Gadwal. For instance, the average daily wage rate for ploughing is INR 204.5 in Nandyal and INR175 in Gadwal. Similarly, the average wage rate for women in harvesting activity is INR120 in Nandyal and INR100 in Gadwal.

Impact of NREGA and Other Factors on Wages

The rural areas of Andhra Pradesh have recently witnessed an upward trend in wages, which have increased by more than 100% since 2005. The National Rural Employment Guarantee Act (NREGA), introduced by the government of India in 2005, has significantly contributed to increases in wage rates for rural workers. NREGA provides a legal guarantee of 100 days of wage employment per year to every rural household. Most of the growers interviewed have reported that the implementation of NREGA has led to scarcity of labor for seed production activities and indirectly increased wages.⁵⁹

There was a sharp increase in wage rates for cottonseed activities in 2011-12. Compared to 2010-11, wages in 2011-12 for different activities, particularly cross-pollination, increased by 25-35%. One of the reasons for this sharp increase in wages was the rise in procurement prices for cottonseeds by the seed companies by 30-35%.⁶⁰ In 2011-12, seed companies increased the cottonseed procurement price from about INR300 to INR400 per 750 gram packet. Due to significant increases in input costs, particularly labor costs after the introduction of NREGA in 2005, the seed companies were under tremendous pressure from farmers for increases of procurement prices; the pressure was intensified in 2011 after the government allowed seed companies to increase their maximum sale price of BT cottonseed in the open market by 30%.⁶¹

Overtime Compensation

For all agricultural activities related to cottonseed production, except cross-pollination, the normal working day is 7-8 hours. For cross-pollination the normal working day is 8-10 hours (excluding break time), depending upon the type of workers (local or migrant) engaged in the activity. For migrant workers, the normal working day is 10 hours and for local labor it is 8 hours. During the peak cross-pollination period, there is a need to extend the working hours by 1-2 hours to accommodate pollination activities – conducted in the early

56 Venkateswarlu, Davuluri and RVSS Ramakrishna (2010), op. cit.

57 The average size of cottonseed farm is larger in Nandyala (around 1.5 acres) compared to Gadwal (around 0.75 acres)

58 Venkateswarlu, Davuluri (2010b), op. cit.

59 The NREGA has negatively impacted the supply of labor in cottonseed producing areas. On one hand, it has reduced the immigration of labor to these areas, as the migrant workers at the source areas prefer not to migrate as they are getting better wages locally. On the other hand, local workers also prefer to keep their time flexible as opposed to entering into seasonal contracts at fixed rates in cottonseed production.

60 In 2011-12 the state governments in India allowed seed companies to increase their maximum sale price of BT cottonseed in the open market by 30%, for BG I (Bollgard I) Trait from INR650 to INR830 and for BG II (Bollgard II) trait from INR750 to INR930 per 450 gram packet.

61 "AP raises Bt cotton seed sale price," Business Standard, May 23, 2011, <http://www.business-standard.com/india/news/ap-raises-bt-cotton-seed-sale-price/436424/>

morning – and emasculation activities, which occur in the late afternoon/evening. In the Nandyala region, where both local and migrant laborers are involved in cross-pollination activities, the migrant laborers normally do overtime work.

According to local law, each overtime hour should be compensated at a rate equivalent to 1.5 times the normal hourly rate. But there is no practice of paying overtime premiums for agricultural activities in the locations studied. Instead, overtime work is normally compensated with incentives like providing tea and snacks during overtime or presenting small gifts at the end of the season. In terms of caste composition, most of the seasonal migrant workers belong to Scheduled Castes, Scheduled Tribes, and Backward Castes. It was reported that workers belonging to all castes are engaged in overtime work during the peak cross-pollination period.

Comparison with Legal Minimum Wages

Unlike other states, where a common wage rate is fixed for all agricultural activities, in the State of Andhra Pradesh, separate wage rates are fixed for different activities. The two locations studied fall under Zone II in the state, where the minimum legal wages for different tasks varied between INR165 and INR250. The minimum daily wage rate for activities like sowing, weeding and harvesting, mostly done by women, is INR175. For ploughing and spraying pesticides, which are exclusively done by male workers, the wage rates are INR165 and INR250 respectively. The daily wage for cross-pollination is fixed at INR 220 (Table 9).

A comparison of prevailing market wages in cottonseed farms with the statutory minimum wages clearly indicates that for certain activities and certain categories of workers, the legal norms are not followed. It was also observed that neither growers nor the hired workers are aware of the minimum legal wages for agricultural activities in the state.

- A comparison of the prevailing wage rates for ploughing and spraying pesticides, two activities done exclusively by men in the two locations, indicates that while the wage rates for both activities are either higher or equal to the legal minimum wages in Nandyala, in Gadwal the wage rate for ploughing is higher and that for spraying pesticides is lower than the legal minimum wages. Compared to the legal daily wage rate for ploughing activity (INR165), the average wage rate is 6% higher in Gadwal and 23.7% higher in Nandyal. For spraying pesticides, the average daily wage rate is equal to the minimum legal wage rate in Nandyal (INR220) and 15% lower (INR191.6) in Gadwal.
- The wage rates for activities mostly done by women are below the minimum legal wages in both regions. The average wage rate for sowing, weeding and harvesting varies between INR99.6 (weeding activity in Gadwal) and INR120 (harvesting in Nandyal), 37- 65% lower than the legal wage of INR165 for these activities.
- For cross-pollination activities, the legal minimum daily wage rate is fixed at INR220. The prevailing wage rates for this activity are lower than the legal minimum wages across all categories of workers.
- The average wage rate for all the activities in which children participated is 20-59% below the legal minimum wage. For example, the lowest average daily wage reported in the activities in which children participated is INR80 for sowing in Gadwal and the highest reported is INR183.3 for cross-pollination in Nandyala region.

Overview of Cotton and Vegetable Seed Production

Gujarat is the largest cottonseed producing state in India, with nearly 55% of the area under cottonseed production in the country in 2011-2012 concentrated in that state.⁶² In addition to cottonseed, Gujarat also produces high volumes of okra seeds; nearly 27% of the area under okra hybrid seeds in the country is concentrated in Gujarat.⁶³

Traditionally, cottonseed production has concentrated in the northern part of Gujarat in four districts: Sabarkantha, Banaskantha, Mehasan and Gandhinagar. In recent years, cottonseed production has spread to new districts like Vadodara and Panchmahal. Seed companies are relocating and expanding their production to new areas situated in remote pockets in the state where cheap labor is available.⁶⁴ All the new production locations in Gujarat are situated in remote tribal pockets (Bodoli area in Vadodara district; Lunawada in Panchmahal district; Bayad, Shamlaji and Khedbrahma areas in Sabarkantha district). In these new locations, most of the seed farmers are marginal landholders. More than 80% of them are tribal people who mostly depend upon family labor for production activities.⁶⁵

All major seed companies have seed production farms in Gujarat. Five large companies namely, Nuziveedu, Ajitha, Monsanto, Vibha and Mahyco, control nearly 60% of the cottonseed production area in the state, with multinationals like Monsanto, Bayer and DuPont controlling nearly 12% of the cottonseed production area in the state.⁶⁶ The important companies involved in okra seed production are Syngenta, Nunhums and Mahyco, which together account for nearly 50% of total okra seed production in the state.⁶⁷

Dependence on Seasonal Migrant Labor

An important feature of cottonseed production in Gujarat state, particularly in the traditional cottonseed production areas, is that most of the labor force engaged in seed production is seasonal migrant labor belonging to Scheduled Tribe (ST) communities coming from the southern part of Rajasthan and tribal pockets within Gujarat.⁶⁸ In 2006-07, seasonal migrant labor accounted for nearly 80% of the total hired labor engaged in cottonseed farms in the state.⁶⁹

During the last five years, the seasonal migration of workers to traditional cottonseed producing areas has declined significantly due to relocation and the expansion of production areas in new locations. These new production areas are those from which laborers used to migrate for cottonseed work to traditional seed production areas.⁷⁰ The introduction of NREGA has also impacted the migration of tribal workers from Rajasthan to Gujarat cottonseed farms; migration has declined due to the availability of some employment

62 Of the total area of 98,000 acres under cottonseed production in India in 2011-12, Gujarat state accounted for 54,000 acres, or 55%. No official data are available on the total extent of area under cottonseed production and the area covered by individual seed companies in the state. Based on the information gathered from the representatives of seed companies and key informants in seed industry circles the authors have made these estimates.

63 Venkateswarlu, Davuluri (2010b) "Growing Up in the Danger Fields," op. cit

64 Venkateswarlu, Davuluri (2010b) "Seeds of Child Labor: Signs of Hope," op.cit.

65 Ibid.

66 Ibid.

67 Venkateswarlu, Davuluri (2010b) "Growing Up in the Danger Fields," op. cit.

68 Ashok Khandelwal, Katiar Sudhir and Madan Vashnav (2008) "Child Labor in Cottonseed Production: A case study of cottonseed farms in North Gujarat, Dhakhina Rajasthan Majdur Union (full text at www.indianet.nl/pdf/drmureport.pdf).

69 Venkateswarlu, Davuluri (2007), "Child bondage continues in India cotton supply chain," op. cit.

70 Venkateswarlu, Davuluri (2010b) "Seeds of Child Labor: Signs of Hope," op. cit.

under NREGA in Rajasthan. An additional factor influencing a decline in migration is the availability of cottonseed-related work in Rajasthan itself. Several companies have recently started shifting their production from Gujarat to Rajasthan.⁷¹

Field Locations

In Gujarat, the field survey was conducted in eight villages in two different locations: Idar in Sabarkantha district and Bodeli in Vadodara district. These two locations were selected as they represent regional variations in wage rates and labor arrangements in seed production. Idar and its surrounding areas are traditional cottonseed-growing areas and are largely dependent upon migrant labor. Most farmers involved in seed production in this area belong to the wealthy Patel community, with substantial control over land and other resources. In contrast, the farmers in the Bodeli area in Vadodara district are small landowners belonging to the Adivasi community (Scheduled Tribe), who depend mostly on family labor. Of the 52 sample farms selected for the survey, 28 were producing cottonseed and 24 okra seeds. The sample farms are distributed equally (26 each) between the Idar and Bodeli locations. Out of the 52 sample farms, 18 were producing seeds for MNCs (Monsanto, Syngenta, Bayer and DuPont) and the remaining 34 were producing seed for Indian companies (Nuziveedu, Raasi, Ankur, JK seeds, etc.).

Fifty-two individual interviews with growers and 124 interviews with workers were conducted. Out of 124 workers interviewed, 26 (21.0%) were children below 18 years, 56 (45.2%) were adult women, and 42 (33.9%) were men. Fifty-eight (46.8%) were seasonal migrant laborers who mostly came from the southern part of Rajasthan. The caste composition of workers was: 63 (50.8%) STs, 22 (17.7%) SCs, 28 (22.6%) BCs, and 11 (8.9%) upper castes. In addition to individual interviews, eight focus group discussions were conducted with the workers (for a detailed break-up of workers interviewed in different states, see Table 2 in Section I)

Legal Minimum Wages in the Agriculture Sector

Table 10 presents the minimum wage rates fixed by the Gujarat government for different categories of workers in the agricultural sector. For the purpose of fixing minimum wages for agricultural workers, the entire state is treated as a single zone. A common wage rate is fixed for all the activities such as sowing, ploughing, weeding, spraying pesticides and applying fertilizers, staking and pruning of plants, harvesting, emasculation and pollination of hybrid seeds. INR120 is the current minimum daily wage rate commonly applicable for all the activities. The minimum wage for annual farm workers is fixed at INR43,800 per annum. The wage rates apply to men and women equally. The number of hours in a normal working day is eight hours.

Table 10: Minimum Wages Fixed by the Gujarat Government for Agricultural Workers*

CATEGORIES OF WORKERS	DURATION	AMOUNT (INR)
Casual laborer	Per day	120
Permanent laborer	Annual salary	43,800

* Last revised in October 2011

Note: In the case of permanent employees employed for part of the year, the minimum rates of wages payable to him/her annually shall be proportionately reduced (Source: Minimum Wages Notification 2011, Government of Gujarat).

⁷¹ Ibid.

FINDINGS

The analysis of data on wages for important agricultural activities in vegetable and cottonseed crops collected from sample farms is presented below.

Variation in Wage Rates by Activity

Table 11 and 12 present task-wise and gender-wise average daily wage rates in cotton and vegetable seed farms in the Idar and Bodoli locations. The data indicates that the wage rates vary significantly depending upon the type of activity. The wage rates are higher for tasks such as ploughing and spraying pesticides compared to activities like sowing, weeding, and cross-pollination. While spraying pesticides fetched the highest wage, weeding received the lowest wage in both locations. The average daily wage rates for spraying pesticides in cottonseed farms varied from INR172.5 in Idar to INR153 in Bodoli during 2011-12. The average daily wage rates for weeding for female workers varied from INR87.5 in Idar to INR85 in Bodoli location.

Variation in Wage Rates by Region

The wage rates for different tasks and categories of workers varied between regions. Compared to Bodoli, the wages for different categories of workers and tasks were 5-20% higher in Idar. For instance, INR172.5 was paid in Idar for ploughing, whereas INR153 was paid for the same activity in Bodoli. Compared to Idar, Bodoli lacks proper irrigation, credit and marketing facilities.

Variation in Wage Rates by Gender and Age

As other states, Gujarat also has gender-based task allotments, with implications on the earning capacity for men and women. Women are preferred for tasks such as cross-pollination, weeding and harvesting, which are labor-intensive and low paid jobs, whereas men are preferred for ploughing, applying fertilizers and spraying pesticides, which are less labor intensive and highly paid jobs. The daily wage rates for ploughing and spraying pesticides, two activities that are exclusively done by men, varied between INR150 to INR200 in different locations. The daily wage rate for weeding, sowing and harvesting, mostly done by females, varied between INR80 and INR130 across locations.

The participation of men in joint activities such as cross-pollination is insignificant, and in most cases younger boys and older men work alongside women in cross-pollination. In such cases, they are paid at par with women. For instance, the average daily wage rate for both male and female casual workers is INR105 for cross-pollination activity in Idar in the cottonseed crop. In the case of migrant workers who are involved in cross-pollination activities, no discrimination based on gender is made in the wage payments.

Children were found in all activities in which women are involved, except applying fertilizers. The average daily wage rate paid to children is 5-10% lower than that of women across activities, crops and locations. Though children are involved in many activities, they are especially preferred for cross-pollination. According to a recent study, nearly 91,000 children below 14 years of age were employed on cottonseed farms in Gujarat during 2009-10 and children accounted for nearly 25% of the total workforce on cottonseed farms.⁷² The average wage rates in the case of children are lower across activities, crops and locations. For cross-pollination, older children with some work experience are generally paid at par with adult labor. Children who are newly recruited, and those who work during school vacations, are paid less. The average daily wage rate for children for cross-pollination activities in cottonseed in Idar location is INR100, and INR105 for adult labor.

⁷² Venkateswarlu, Davuluri (2010a), "Growing up in the Danger Fields," op. cit.

Variation in Wage Rates by Crop

Crop-wise comparison of wage rates indicates that there is not much difference in average daily wages for different tasks and categories of workers between cotton and okra seed farms.

Variation in Wages Based on Labor Arrangements

There are mainly three types of labor arrangements in cotton and vegetable seed farms:

- Daily wage
- Piece rate
- Seasonal contracts

Cross-pollination is mostly carried out through seasonal agreements. Daily wage arrangements are prevalent in other activities such as sowing, weeding and harvesting. As seed farmers require assured supply of labor during cross-pollination activity farmers prefer to enter into seasonal agreements with the labor by paying advances to them.

To make agreements with the migrant workers, farmers depend upon middlemen. The recruitment of migrant workers for work in cotton and vegetable seed farms of North Gujarat is dependent upon an extensive network of agents, locally called 'mates',⁷³ in the tribal villages.⁷⁴ Before the season starts, seed farmers approach these mates, place their requests for laborers, and pay some advances. The advance money includes travel costs of the laborers from their home to work and some advance pay (equivalent to 10-15 days of wages). The daily wage rates are fixed in advance. The agreements are oral in nature and cover one crop season (three months). It is the responsibility of the mates to identify the required number of laborers and see to it that they continuously work for the farmer for the entire agreement period. Each mate mobilizes around 20-100 laborers by paying INR1000 to INR1500 in advances and places them with various farmers.⁷⁵

Farmers do not make any individual agreements with the laborers. Instead, they interact only with mates, who in turn make agreements on behalf of the laborers. Final payments are settled at the end of the season, and in the middle of the season a small amount of money (INR1000 to INR2000) is provided to workers to meet their living expenses. The mates receive a commission from the farmers for arranging the laborers. The mates earn a commission of INR10 (equivalent to 10% of the wage amount) per day of employment per worker. By the end of the contract period, the mates earn about INR800 to INR1000 as a commission on each worker he arranges for the farm.⁷⁶

The average daily wage rates for casual labor are slightly higher than for the workers who enter into seasonal agreements with the growers. For instance, in the cottonseed crop, the average daily wage rate for women in cross-pollination activities in Idar is INR100 for local seasonal laborers, and INR87.2 for migrant seasonal labor (the actual amount is INR109 but after adjusting the amount for an 8-hour normal working day, the actual wage would be INR87.2) and INR105 for casual laborers.

73 Called "Muqaddams" locally.

74 Ashok Khandelwal, Katiar Sudhir and Madan Vashnav (2008), op. cit.

75 Ibid.

76 Interviews with migrant workers and farmers

Discrimination in Wage Rates by Caste

Much of the labor force working on cotton and vegetable seed farms in Gujarat come from poor families in communities like Adivasis (Scheduled Tribes) and Dalits (Scheduled Tribes). Adivasi and Dalit workers accounted for nearly 70% of the total hired laborers on cottonseed farms in Gujarat in 2009-10.⁷⁷ Wage discrimination and differential treatment of workers on the basis of caste and ethnicity was not reported in any of the locations studied. This is probably because most of the laborers working on cottonseed farms are migrant Adivasi from a single ethnic community.

Table 11: Activity-Wise and Gender-Wise Average Daily Wage-Rates in Cottonseed Farms in Gujarat in 2011-12 (amount in INR)

ACTIVITIES	IDAR			BODELI		
	Male	Female	Children	Male	Female	Children
Ploughing	172.5	#	#	153	#	#
Sowing/transplantation	120	94.2	90	100	85.8	82.5
Weeding		90	87.5		85	80
Applying fertilizers	158.3	97.5		141.6	86.6	@
Spraying pesticides	175	#	#	157.5	#	#
Harvesting	100	94.2	90	@	90	80
Cross-pollination						
Daily casual labor	105	105	100	100	95	88.3
Seasonal labor (local)	@	100	@	92.5	92.5	86.6
Seasonal Labor (migrants)**	109	109	109	@	@	@

@ = number of quotations is less than three, # = indicates that the particular category of workers was not engaged in that operation

**The wage rates mentioned against seasonal migrant labor are exclusive of in-kind benefits provided by the employer in the form of supply of vegetables and edible oil and commission amount of INR10 (approx. 10% of the wages) paid to the middle men (mates) who arrange labor. The migrant laborer generally works for 10 hours a day, excluding a two-hour break. If we adjust this amount to normal working hours, i.e. 8 hours for local labor, the actual wage would be only INR87.2.

Note: Except for cross-pollination, the daily wage rates mentioned for other activities are for casual laborers who work on daily wage contracts. For cross-pollination, the wage rates are reported for both casual and seasonal laborers. Seasonal laborers are involved mainly in cross-pollination activity.

Notes are the same for Table 12.

Table 12: Activity-Wise and Gender-Wise Average Daily Wage Rates in Okra Seed Farms in Gujarat in 2011-12 (amount in INR)

TYPE OF ACTIVITY	IDAR			BODELI		
	Male	Female	Children	Male	Female	Children
Ploughing	170	#	#	151.3	#	#
Sowing/transplantation	120	95	90	100	84.5	82.5
Weeding	#	91.6	87.5	#	85	80
Applying fertilizers	155.5	97.5	#	137.5	85	@
Spraying pesticides	175	#	#	155	#	#
Harvesting	100	94.2	90	100	93.3	90
Cross-pollination						
Daily casual labor	107.5	107.5	100	100	95	86.6
Seasonal labor (local)	@	100	100	92.5	92.5	80
Seasonal labor (migrants)**	109	109	109	@	@	@

⁷⁷ Venkateswarlu, Davuluri (2010b) "Seeds of Child Labor: Signs of Hope," op. cit.

Impact of NREGA on Wages

Wage rates in cotton and vegetable seed farms have increased significantly in recent years. One of the important reasons for this increase is the implementation of NREGA since 2005, which has created new employment opportunities for rural workers. NREGA has affected the seasonal migration of tribal workers from Rajasthan to Gujarat's cottonseed farms. During the last three years, the number of tribal workers migrating from Rajasthan to Gujarat has declined due to the availability of some employment under the NREGA in Rajasthan itself.

Overtime Compensation

As in Andhra Pradesh, in Gujarat the normal working day for different activities varies between different categories of workers. For all activities except cross-pollination, the normal working day is 7-8 hours, which is in line with the local law. For cross-pollination, the normal working day is 8-10 hours depending upon the type of worker doing the work. For migrant labor, the normal working day is 10 hours and for local labor it is 8 hours. During the peak cross-pollination period, there is need to extend working hours by 1-2 hours to accommodate production pressures. In Idar, where both local and migrant laborers are involved in cross-pollination activity, overtime work is normally done by seasonal migrant laborers who stay in the farmhouses throughout the season. Most of the seasonal migrant laborers belong to Scheduled Tribes (STs) and mainly hail from the southern part of Rajasthan and tribal pockets within Gujarat. There is no overtime compensation practice in the region. Overtime work is normally compensated with positive incentives, like providing tea and snacks during overtime work. The interviews with the workers indicate that there is no correlation between overtime work and either caste or gender.

Comparison with Legal Minimum Wages

A comparison of prevailing market wages in cotton and vegetable seed farms with the statutory minimum wages fixed by the government clearly indicate that the legal norms are not being followed. It is important to note that neither employers nor workers in the locations studied have any awareness about minimum wage legislation and wage rates prescribed for different activities and categories of workers.

The discussions with labor department officials and social activists reveal that the government has not made any serious attempt to create awareness about the act and implement it in the field. INR120 per day is the legal minimum wage rate prescribed by the government for casual laborers in the agricultural sector. For the purpose of fixing minimum wages for agricultural workers, the entire state is treated as a single zone; the common wage rate of INR120 is fixed for all the agricultural activities.

Except for ploughing and spraying pesticides, which are exclusively done by male workers, wage rates for all other activities are less than the minimum legal wages. The average daily wages for ploughing and spraying pesticides are 20-50% higher than the legal minimum wage.

Women and children in general are not being paid the minimum legal wages. The average daily wage rates for women in all the activities in which they are involved is 10-29% lower, and for children 10-33.3% lower than the minimum legal wages. The average wage rates for women varied between INR84.5 and INR109, and for children between INR80 and INR109.

SECTION III: SUMMARY OF FINDINGS AND CONCLUSIONS

The previous sections of this study examined prevailing wages and benefits among a cross-section of farms producing hybrid cotton and vegetable seeds in four states in India. They were compared to state-specific legal provisions to understand whether they were at par with the legal requirements. The wages data were also analyzed to see if differences in compensation existed based on worker's age, gender, caste, migratory status, type of farm activity, type of labor arrangement and regions. A summary of important findings from the analysis of state-level data is presented below. A comparison of findings between different states is also presented to explore similarities and differences among the four states.

Variation by Activity

A comparison of wage data for agricultural activities across the four states shows significant variations in wage rates for different activities. The average wage rates in all four states covered by the study are high for tasks like ploughing, spraying pesticides and applying fertilizers compared with sowing, weeding, harvesting and cross-pollination. Overall, spraying pesticide is paid the highest wage, whereas weeding is paid the least across all four states. For instance, the average wage rates for spraying pesticides varied between INR155 and INR220,⁷⁸ whereas for weeding it varied between INR80 and INR147. Compared to Gujarat and Maharashtra, wage rates were higher for all activities in Andhra Pradesh and Karnataka.

Variation by Gender and Age

Division of labor based on gender is well documented by several studies, and the present study observed similar phenomena in all its study locations across different states. This has serious implications for the earning capacity of men and women. Ploughing and spraying pesticides are considered to be tasks done by men, and weeding a task done by women; women are exclusively hired for weeding. Women are preferred for harvesting and cross-pollination, which are labor-intensive activities.⁷⁹ The wage rates for ploughing are 60-100% higher compared to weeding, depending on the state. The average daily wage rates for ploughing varied between INR151 and INR204, whereas for weeding it varied between INR80 and INR147 in different states.

Wage differences also exist in activities in which men and women participate. For example, in joint male and female activities such as fertilizer application, the men receive 20-60% higher wages compared to women depending on the state. Men's participation in joint activities such as cross-pollination is insignificant, and in most cases younger boys and older men work along with women. In such cases, men are paid at par with women.

Though children (below 14 years) are involved in many activities, they are preferred and employed for cross-pollination, for which they receive wages at par with women if they are experienced; children who are newly recruited and those who work during school vacations are paid 10-20% less than women.

Variation by Region

Regional variations in wage rates were observed in all four states. Certain pockets within the states are relatively more developed compared to others, and this has implications for wages in the labor market.

⁷⁸ For spraying pesticides, INR155 was paid in Bodoli, Gujarat, and INR220 in Nandyal, Andhra Pradesh.

⁷⁹ Cross-pollination and harvesting activities together accounted for nearly 70%-90% of the total labor requirement in cottonseed production and 70%-80% labor requirement in production of vegetable seed crops.

Wages are higher in regions that are relatively developed due to better agroclimatic conditions, infrastructure facilities (irrigation, credit, and marketing), availability of alternative employment, etc. For instance, in Karnataka, the wage rates in vegetable seed farms in Koppal for different categories of workers and tasks are 10-40% lower compared to Ranibennur. Compared to Koppal, Ranibennur is an agriculturally-developed region, with better irrigation, credit and marketing facilities for farmers. Due to the heavy concentration of seed production in this area, the demand for labor is strong. Further, the literacy rate is high among agricultural laborers, and the incidence of child labor on cotton and vegetable seed farms, are low in the Ranibennur area.

Variation by Crop

Wage rate variations by crops are observed in Karnataka and Maharashtra. The wages for different activities, particularly cross-pollination of vegetable seed crops, are slightly higher (about 5%) compared to cottonseed crop. The vegetable seed crops are relatively more labor-intensive than the cottonseed crop. The cross-pollination period of vegetable seed crops usually coincides with the harvesting of other commercial crops. Thus, the wage rates go up during this period. On the other hand, the duration of the cross-pollination period of cottonseed is longer than that of vegetable seed crops.

Variation by Type of Labor Arrangements

Type of labor arrangement is also one of the determining factors for variations in wage rates for different agricultural tasks. Broadly four types of labor arrangements exist in cotton and vegetable seed farms across the four states: daily wage, seasonal, annual, and piece-rate contracts. Cross-pollination, the vital activity in seed production, is mostly carried out through seasonal agreements. As farmers require assured supply of labor during cross-pollination, they prefer to enter into seasonal agreements with laborers and extend advances to them. Daily wage arrangements are prevalent in other activities such as sowing, weeding and harvesting. Hiring labor through piece-rate is in practice for some activities like construction of the net houses, preparation of seed-beds for vegetable seeds, ploughing and harvesting of cotton. Hiring of labor on an annual contract basis is prevalent in Maharashtra. Seasonal migrant labor accounts for a significant share of the workforce in seed farms in Gujarat and Andhra Pradesh.

Wages for daily casual labor are higher than for seasonal labor in all the states. Within seasonal labor, the wages for migrant labor are low compared to local labor. The difference in wage rates between seasonal and daily wage labor and between migrant labor and local labor varied from 5-10% in different states.

Variation by Caste

Most of the workers on cotton and vegetable seed farms in all four states are poor and come from Scheduled Castes (SCs), Scheduled Tribes (STs) and Backward Castes (BCs). While SCs and BCs constitute a majority of the workforce in AP, Karnataka and Maharashtra, STs constitute majority of the workforce in Gujarat (nearly 60%). Caste-based variations in wages were not reported in any of the locations studied. However, differential treatment (verbal abuse) of workers by the employers was reported in the Koppal area in Karnataka.

Variation based on MNC and Local Seed Farms

Of the total 200 sample farms selected for the survey, 37.5% (25 cottonseed and 50 vegetable seed farms) were producing seed for MNCs – Monsanto, Syngenta, Bayer, DuPont, and Advanta. Comparison of wage data between farms producing for MNCs and those producing for local companies shows no significant variation. For instance, the average daily wage rates for ploughing and spraying pesticides in Koppal in Karnataka varied between INR162.5 and INR184.5 on MNC farms and between INR160.8 and INR184 on farms producing for local companies. Similarly, for other activities, the difference in average wage rates was marginal (less than 3%) between MNCs and local companies.

Overtime Compensation

During the peak cross-pollination period, there is need to extend the working hours by 1-2 hours to accommodate pollination activities, conducted in the early morning, and emasculation activities, which occur in late afternoon and evening. It is not the usual practice in any of the states to compensate for overtime work with additional money. Overtime work is normally compensated with incentives such as providing tea and snacks during overtime work and presenting some small gifts at the end of the season. In Karnataka and AP, male workers are offered a bottle of local liquor for their overtime work. Interviews with workers and growers indicate that this happens informally, with mutual consent.

Most of the growers engage seasonal workers for cross-pollination. As seasonal workers have long-term contracts with the growers, they feel obliged to work overtime during peak periods. Most seasonal workers belong to SCs, BCs, and STs. In some farms, a significant number of workers from upper castes were also observed working. All workers are engaged in overtime work during peak cross-pollination period. In the case of annual farm workers, a correlation between caste and overtime work was found.

Impact of NREGA

All four surveyed states have recently witnessed a significant increase in agricultural wages. Apart from other factors, the National Rural Employment Guarantee Act (NREGA), introduced by the Government of India in 2005, has significantly contributed to increases in wage rates for agricultural workers. It has created new employment opportunities for rural workers and empowered them to bargain for better wages. In states like Gujarat, NREGA has also affected the seasonal migration of tribal workers from Rajasthan to the cottonseed farms in Gujarat. During the last three years, the number of tribal workers migrating from Rajasthan to Gujarat has declined due to the availability of employment in Rajasthan itself under the NREGA.

Legal Minimum Wages

For the purpose of fixing minimum wages for agricultural works, the entire state is treated as a single zone by the State Governments of Karnataka and Gujarat. The minimum daily wage rate for casual labor for all activities is fixed at INR145.58 in Karnataka and INR120 in Gujarat. The Zonal System for setting daily wage rates prevails in Maharashtra and Andhra Pradesh. In Maharashtra, with four wage zones, the two field locations in the study fall under Zone III, where the minimum daily wage is INR105 for all agricultural activities. Similarly, in Andhra Pradesh, the two study locations fall under Zone II. In the latter, the legal minimum daily wage rate varied between INR112 and INR186 depending upon the type of activity.

The wages for overtime work varied from one-and-one-half times to two times the ordinary rate of wages in different states. With regard to annual farm workers, except Karnataka, the other three states have prescribed legal minimum annual wages rates: INR43,800 in Gujarat, INR40,843 in Andhra Pradesh, and INR32,760 in Maharashtra. In the case of working hours, except in Andhra Pradesh where the act prescribes different working hours for different agricultural activities, in other states the normal working day is considered as eight hours for all tasks. All four states prescribe equal pay for equal work and apply the wage rates to men and women equally.

Compliance with Legal Minimum Wages

A comparison of prevailing market wages in cotton and vegetable seed farms with the statutory minimum wages fixed by the respective state governments indicates that the legal norms are not followed especially for certain categories of workers and activities.

- Male workers in general receive higher than the minimum legal wages for most activities in cotton and vegetable seed crops across the states. The average daily wage rates for ploughing and spraying pesticides, done exclusively by men, are 5-65% higher compared to the legal minimum wages in different states.⁸⁰
- Women are not paid the minimum legal wages for most activities, except cross-pollination in some locations.⁸¹ The average daily wage rates for women in sowing, weeding and harvesting activities are 5-48% lower compared to the minimum legal wages in different states. The average daily wage rates for women in sowing, weeding, and harvesting activities varied between INR85 and INR150 in different states.⁸²
- The prevailing wage rates for children for all activities across locations and crops in all four states are lower compared to the legal minimum wages. The gap between minimum wages and prevailing market wages for children varied between 5-50% in different states.⁸³
- There is an overall non-compliance with regard to overtime compensation and paid rest days.

To conclude, in spite of the legal requirements, payment of minimum wages is an issue in the agriculture sector in general, and seed production in particular, in India. Despite the significant increase in the wage rates in recent years on account of NREGA and other factors, in the locations studied the prevailing wages rates for certain activities and categories of workers are still below legal minimum wages, especially for women and children. In many states, the Minimum Wages Act is not implemented properly in the agricultural sector. There is lack of awareness about the Act among workers and farmers alike.

80 The average daily wage rates for ploughing varied between INR151 and INR204, and for spraying pesticides between INR155 and INR220, whereas the minimum legal wages for these activities varied between INR105 and INR186 in different states.

81 The average daily wage rates for women workers for cross-pollination activity in Nandyala in AP, the Ranibennur location in Karnataka and Devlgoanraja in Maharashtra, are either at par or slightly higher than the legal minimum wages.

82 The average daily wage rates for women in sowing, weeding, and harvesting activities varied between INR85 and INR150 in different states. INR85 was reported in Gujarat for weeding activity and INR150 in Karnataka for harvesting.

83 The average daily wage rates for children for different tasks varied between INR80 and INR183 in different states. INR80 was reported in Gujarat for weeding activity and INR183 in Andhra Pradesh for cross-pollination activity.

APPENDIX 1

CHECK LIST FOR WORKER INTERVIEWS

Personal and family background

- Name of the worker
- Address (village, taluk, district and State)
- Educational status
- Caste background
- Religion
- Age
- Gender
- Name of the farmer/farmers with whom he is working
- Name of seed company/ies for whom the worker is producing seed

Type of activities the worker is involved in

- Sowing/transplantation
- Spraying pesticides
- Ploughing
- Weeding
- Applying fertilizers
- Cross pollination
- Harvesting

Type of labor arrangement the worker is involved

- Daily wage
- Seasonal contract system
- Annual contract system
- Piece rate system

Daily wage rates received for different activities during current crop season (2011)

ACTIVITY	DAILY WAGE WORKERS WITH NO BINDING CONTRACTS (WAGE ADVANCES AND PRIOR AGREEMENTS)			SEASONAL WORKERS WITH WAGE ADVANCES AND PRIOR AGREEMENTS		
	Daily wage rate	Additional benefits	Monetary value of the additional benefits	Daily wage rate	Additional benefits	Monetary value of the additional benefits
Sowing/transplantation						
Ploughing						
Erecting net						
Weeding						
Applying fertilizers						
Spraying pesticides						
Cross-pollination						
Harvesting						
Others (specify)						

Working hours per day

ACTIVITY	DAILY WAGE LABORERS		SEASONAL WORKERS		ANNUAL WORKERS	
	Normal day	Peak season	Normal day	Peak season	Normal day	Peak season
Sowing/transplantation						
Ploughing						
Erecting net						
Weeding						
Applying fertilizers						
Spraying pesticides						
Cross pollination						
Harvesting						
Others (specify)						

Wage payment methods

- Cash, in-kind or both
- Daily, weekly, monthly, annually

Awareness about local law on wages and benefits

- Minimum Wages Act
- Equal Remuneration Act

In case the respondent is involved in piece rate contracts

ACTIVITIES UNDERTAKEN	UNIT	UNIT RATE	TIME TAKEN TO COMPLETE	NUMBER OF WORKERS INVOLVED

In case the respondent is employed on annual contract basis

- Record complete details of the terms and conditions of the employment including
- Amount of loan/advance taken by the worker
- Working hours per day
- Nature of activities
- Annual salary (cash and in-kind)
- Additional benefits
- Payment methods
- Number of years working with the same employer, etc.

CHECK LIST FOR FARMER INTERVIEWS

Farm details and farmer background

- Name of the farmer
- Address (village, taluk, district and State)
- Educational status
- Caste background
- Gender
- Total land owned by the farmer
- Size of the sample farm visited
- Name of the seed crop
- Activity on Farm at the time of visit
- Name of the seed company for which the farmer is producing seed
- Number of years with the company

Profile of hired labor employed on the farm during the current crop season

- Total number of laborers employed
- Age profile of workers (adults, young workers and children)
- Gender break-up of workers (male and female)
- Religion and caste profile of the workers

Type of labor arrangements (number of workers employed on):

- Daily wage basis
- Seasonal contract system
- Annual contract system
- Piece rate system

Daily Wage Rates for Different Activities

ACTIVITY	DAILY WAGE RATE PAID TO CASUAL WORKERS WITH NO WAGE ADVANCES AND PRIOR AGREEMENTS			DAILY WAGE RATE PAID TO SEASONAL WORKERS WITH WAGE ADVANCES AND PRIOR AGREEMENTS			ADDITIONAL BENEFITS IF ANY	APPROXIMATE MONETARY VALUE OF THE ADDITIONAL BENEFITS
	M	F	C	M	F	C		
Sowing/transplantation								
Ploughing								
Erecting net								
Weeding								
Applying fertilizers								
Spraying pesticides								
Cross pollination								
Harvesting								
Others (specify)								

Working hours per day

ACTIVITY	DAILY WAGE LABORERS		SEASONAL WORKERS		ANNUAL WORKERS	
	Normal day	Peak season	Normal day	Peak season	Normal day	Peak season
Sowing/transplantation						
Ploughing						
Erecting net						
Weeding						
Applying fertilizers						
Spraying pesticides						
Cross pollination						
Harvesting						
Others (specify)						

Wage payment methods

- Cash, in-kind or both
- Daily, weekly, monthly, annually

Piece rate contracts

ACTIVITIES OFFERED	UNIT	UNIT RATE	TIME TAKEN TO COMPLETE	NUMBER OF WORKERS INVOLVED

Annual farm workers

In the case of workers employed on annual contract basis, complete details of the terms and conditions of the employment including:

- Amount of loan/advance taken by the worker
- Working hours per day
- Nature of activities
- Annual salary
- Payment methods
- Number of years working with the same employer, etc.