

# Occupational Health of Agricultural Women Workers in India

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## Abstract

**Background:** Women in Agriculture form a significant portion of the productive work force in Indian economy. Occupational Health is a vital component of nation's infrastructure and it focuses on the physical, mental and social well being of workers. In India, Occupational Health among agricultural women is a public health issue which needs immediate attention. **Objectives:** To study the association between health and agriculture, the occupational hazards and health problems faced by agricultural women workers and the related policy provisions in India. **Methods:** An extensive literature review and data search were done using online search engines, peer reviewed articles and the reports of various departments of Government of India. **Results:** The result reveals that Occupational health hazards have a direct impact on the physical and mental health of women workers. **Conclusion:** Implementation of social security and welfare measures by the Government for the agricultural women could enhance the health of women workers.

**Keywords:** Agriculture, informal sector, occupational hazards, occupational health, women workers

## INTRODUCTION

Agriculture, which comes under the purview of the informal sector, represents the face of Indian rural women. The informal sector is that sector of the economy in agriculture or in industry or in the trade or in transport or in communication or in services or in education or in the health sector or in building and construction work, which does not have a formal organization or registration or acceptance or support of any government or private body for its recognition.<sup>[1]</sup> The informal economy is the most available option for women as the primary source of work because of their limited education and skill, as well as the flexible work arrangement for women with children, the absence of occupational health and safety standards for women informal workers exposes them to double hazards as informal workers and as women.<sup>[2]</sup>

Agricultural workers are those who work on the land of others for wages. Workers of the agricultural sector generally do not have regular employment, work safety, constant income, and social security protection. To find out the intensity of occupational-related health problems among the women, the National Commission on Self-employed Women and Women in the informal sector explored and found a high incidence of a variety of illnesses including postural problems, problems of contact with hazardous materials, continuous work, lack

of rest, lack of safety measures and highly deplorable work environment.<sup>[3]</sup> Relating to the health problems of women in the agricultural sector, women suffer from ailments such as generalized body ache, cough, respiratory allergies, injuries, toxicity, and other related problems.

## REVIEW METHODOLOGY

An extensive literature and data search were undertaken using online search engines. The search was restricted to PubMed, Journal Storage, and Economic and Political weekly. Data were obtained from the Government of India reports, including the Ministry of Agriculture and Farmers Welfare, Ministry of Rural Development, Ministry of Health and Family Welfare, Ministry of Social Justice and Empowerment, Ministry of Women and child development and Ministry of Labour and Employment. The author reviewed peer-reviewed articles published in reputed journals relating to the subject of occupational health hazards of women workers in the agricultural sector. The online

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search was made using keywords such as occupational health, occupational hazard, workers' health in the agricultural sector, female workers, occupational health and gender, agricultural policies, health concerns of the female workforce in the agricultural sector.

## OCCUPATIONAL HEALTH OF AGRICULTURAL WOMEN WORKERS

The association between health and agriculture is bidirectional as agriculture influences health and health influences agriculture [Table 1].<sup>[4]</sup> The health of women has a close association with ecological, political, cultural, and socioeconomic dimensions. Women in agriculture are prone to major health issues due to work patterns, undernutrition, occupational hazards, health problems due to the use of agricultural machines, use of pesticides, abuse, and stress in work and family life. Occupational health is a key component of the nation's infrastructure, and the safety and health of workers enhance productivity and has a positive impact on economic and social development. Morbidity pattern among women agricultural workers reveals that their ailments were more with poverty and occupation rather than lifestyle.<sup>[5]</sup> Apart from poverty and deprivation, the insensitivity of the health-care system too adds to the ill health of agricultural women. Laws should be updated to encompass the full range of physical, chemical, and biological hazards to which workers are exposed. Women workers in the agricultural sector give the least significance to occupational health since work is important for them to withstand poverty than the quality of the job. According to the NIOH, occupational health is a sustained activity aimed at the promotion and maintenance of the highest degree of physical, mental, and social well-being of workers in all occupations.<sup>[6]</sup> Less income, occupational health hazards, adverse monsoon changes, employment insecurity, are some of the endangering threats for women in agriculture, which directly affects their physical and mental health.

Women form a significant portion of the productive workforce in the economy of India [ Table 2 ].<sup>[7]</sup> In the highly stratified Indian society, most of the women workers of the agricultural sector are at the bottom of the social order deprived of the basic health facilities. Occupational health in agriculture has a direct impact on productivity and the women workers' health is the baseline for agricultural production. The social security and welfare measures with effective implementation could

play a predominant role in enhancing health in the agricultural sector. Agricultural hazards arise due to agricultural tools, farm machinery, climate agents, chemical agents, animal/snake bite, dust, solar radiation, and psychological stress due to socioeconomic problems. Occupational hazards provide the base for finding the diseases and illness and its impact on health, productivity, and the wages of the women workers in agriculture.

Ministry of Labour and Employment, Government of India classifies agricultural hazards as farm machinery (tractors, threshers, fodder, chopping machines), agriculture tools and implements (pick, axe, spade and sickle), chemical agents (pesticides, fertilizers, strong weed killers), climate agents (high temperature, heavy rain, humidity, high-velocity wind/storm, lightening), electricity, animal/snake bites and other agents such as dust, solar radiation and psychological stress due to socioeconomic problems.<sup>[8]</sup> Three major activities which create occupational health issues for agricultural women are household cooking, farm work, and animal rearing. Identification of health issues of agricultural women itself is a challenge as we do not have a systematic database on occupational hazards and its consequences [Table 3].<sup>[9-15]</sup>

Technology in agriculture has both pros and cons as women are seem to be the beneficiaries of the technology, but most of the agricultural tools and equipment are designed for the usage of men. Agricultural equipment, implements or tools for land preparation, ridging and weeding, crop threshing, cooking stoves, and water transporting are generally large, bulky, heavy, and difficult to manage and operate for, especially in Asia. Adopting inappropriate tools could lead to posture, spine and musculoskeletal problems, or worse to accidents and physical injuries.<sup>[16]</sup> There is a need to look into the design requirements for farm tools for women based on ergonomic principles.<sup>[17]</sup>

Agricultural worksite in many parts of India lacks proper toilet facility, potable water, bathing facilities, and women use the field/riverside for this purpose. Lack of basic facilities like first aid, transport facilities, unhygienic workplace, washing facilities adds on to the prevailing occupational health issues. Reproductive health of women is directly affected due to the usage of pesticides, thereby affects both physical and mental health. The health, productivity, and wages are closely linked as if the physical or mental health is being affected, and it automatically affects productivity and wage. Considering women as a substantial provider for the family and the undervaluing of their contribution, lack of power

**Table 1: Link between agriculture and health**

Agricultural supply chain	Intermediary process	Health outcomes
Agricultural producers (farmers and workers)	Labour process	Occupational health risks
Agricultural systems (types, practices, technologies, location, ownership)	Environmental change (water, air, soil)	Water associated vector borne diseases
Agricultural outputs (distribution, quantity, quality, density, price)	Income generation	Under nutrition
	Access to food, water, land and health related services	Chronic diseases
		Food borne illnesses
		Livestock-related illnesses

Source: Developed from<sup>[4]</sup>

**Table 2: Participation rate of women in agriculture**

Population details	Total
Total population of India (million)	1210.85
Rural population (million)	833.7
Urban population (million)	377.1
Work participation rate (%)	39.8
Percentage of female participation to total workers (%)	24
Percentage of female agricultural laborers to total workers (%)	41.1

Source: Adapted from<sup>[7]</sup>

social security act, 2008 states that unorganized worker means a home-based worker, self-employed worker or a wage worker in unorganized sector but it has not clearly mentioned about the inclusion of agricultural worker.<sup>[24]</sup> Indian constitution talks about the dignity of human labor and protecting and safeguarding the interest of labor, but the review of various government social security/welfare schemes depicts the lack of exclusive scheme for the women workers addressing Occupational Health. It also exposes that the women's agricultural workers are not protected

**Table 3: Occupational hazards and health problems faced by agricultural women workers**

Occupational hazards	Occupational health problems
Physical hazards: Heat and humidity, solar rays, cold, noise, vibration, poor illumination, long hours of continuous work, repetitive motion for work, forceful motions, postural changes, bending posture, immersion of hands and feet continuously in water, slips and falls due to wet fields, continuous movement, carrying heavy load of materials, contact with soil, mud, dust, water and manure, contact with insects, contact with scorpions, snakes and other poisonous animals, contact with wild mammals, felling of trees	Physical health: Back pain, joint pain, leg pain, head ache, dust allergy, swellings in joints, fever, cold and cough, general malaise, chest pain, pain in shoulders, eye problem, hearing problem, respiratory problem, throat infection, skin irritation, nervous problem, abdominal pain, constipation, urinal infection, mouth infection, cuts and wounds, musculoskeletal disorders
Chemical hazards: Insecticide, herbicide, rodenticides, bactericides, fungicides, larvicides, using chemicals for treating land	Gynecological and menstrual health: Problem in childbirth, frequent abortion, vaginal discharge, burning sensation during urination, frequent and urgent need to urinate, severe pain in the pelvis, sores/lumps in the genital area, severe bleeding, bleeding between periods, irregular periods, painful cramps
Mechanical hazards: Poorly maintained tools and equipment - spade and sickle, axe, the noise of vehicles - tractors, vibration and noise of farm equipment, felling from the tractor, electric water pumps, electric shock	Psychological health: Disturbance in sleep, anemic, the problem with spouse, problem with children, behavioral problems, burn out syndrome, betel leaves/ other chewing products, alcoholism, social insecurity, alienation, no entertainment
Biological hazards: Infections due to bacteria, virus, parasite, fungus and working with cattle	Communicable disease: Malaria, typhoid, hepatitis, jaundice, leptospirosis, diarrhoeal diseases, cholera, hookworm infection, influenza, filariasis, tuberculosis, HIV/AIDS, polio, rabies
Psychosocial hazards: Occupational stress, lack of job satisfaction, insecurity feeling, the problem in the relationship, emotional tension, unemployment, lack of an alternative job, low payment for work, poverty, etc.	Noncommunicable disease: Rheumatism, blood pressure, cardiac diseases, cancer, wheezing, asthma, kidney disease, lung disease, cataract

Source : Developed from<sup>9-15,18-20]</sup>

and decision-making, absence of control on their earnings, reproductive work, stress, and strain relating to occupational and domestic work, overburden of work, underemployment, less payment, gender discrimination, poor eating habits, ill habits of the spouse such as alcoholism, extramarital relationship, death of a spouse, male domination, etc., lead to both physical and mental health issue [Table 3].<sup>[18-20]</sup>

## POLICY PROVISIONS

India has many laws and schemes for the welfare of the workers, but it has not given enough significance to the health aspects of women agricultural workers. 80–100 million Indian women have worked in agriculture over the past two decades, and it is hard to find much evidence of this in policymaking.<sup>[21]</sup> The women agricultural workers do not have solid social security policies, which increases their vulnerability at the time of illness and old age.<sup>[22]</sup> Significant reforms required in India's occupational health and safety infrastructure and the regulatory reforms are needed to ensure that occupational health laws cover all workers, including those in the informal sector, as well as those engaged in agriculture.<sup>[23]</sup> Unorganized workers

under any legal framework, and there is an absence of strong association for them. Occupational health issues of women could be addressed with the provision of worksite inspection and preventing work risk factors due to hazards and unhygienic living and work conditions.

## RECOMMENDATIONS

- National level database shall be created on the occupational hazards and the health issues faced by the agricultural women workers which would provide clarity on framing policy and system
- Investment on occupational health has to be made by the government and necessary labor legislation, and social welfare measures could bring positive improvements
- Social banking shall be initiated in the rural area to provide financial assistance to women agricultural workers
- Social awareness camps shall be conducted for the women workers to know about their rights, schemes, and policies of the government
- Occupational health in agriculture has to be addressed,

and well-planned strategy should be integrated with rural development programs with the support of national policies

- Health education and awareness has to be provided to the women workers which would make them work collectively for the betterment of life
- Potential human resources including doctors, paramedical personnel, physiotherapists, social workers, counselors, etc., should be given more training and retraining on occupational health
- Government shall make it mandatory that the employers should provide the safety measures such as proper footwear, gloves, mask, head cover which could substantially reduce the occupational health issues
- Measures to be taken to manufacture tools and equipment according to the physical body postures of women and it has to be cost-effective
- With government support, courses should be started in the premier academic and research institutions about occupational health in agriculture.

## CONCLUSION

The health of women in agriculture is the baseline for the nation's development as they form the major portion of the potential human resource of the nation. Occupational Health is directly linked to the production and economy, and thus, this study is relevant to the overall well-being and economic development of the nation. India being the vast agricultural nation, lacks constructive legal framework to address the occupational health issues faced by the agricultural women workers. The government has to appoint committee/task force to frame a policy on occupational hazards and health issues faced by agricultural women workers. In the coming years, occupational diseases would be the major public health problem in India and it is high time to ensure the network of multi-stakeholders (including government, private, nonprofit, and civil society organizations) participation in working with agricultural women workers to enhance the quality of life.

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## Conflicts of interest

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