

# **GENDERED BARRIERS TO CYCLONE COMPENSATION FOR WOMEN AGRI-LABOURERS IN COASTAL TAMIL NADU – AN ANALYSIS**

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## **Abstract**

India's coastal regions now frequently encounter cyclone-induced catastrophes which negatively affect livelihoods related to agriculture. A significant agricultural region, the Cauvery Delta, has become particularly vulnerable to these weather-related problems, which may contribute to substantial losses in crops and economies that are unsustainable. Despite the fact that regulatory compensation programs have the goal of minimizing these adverse consequences, the effectiveness of them is nevertheless disproportionate, particularly for women who operate in agriculture. This study focuses at the gender-specific obstacles found in the delta zone's agricultural compensation mechanisms resulting from cyclones. Due to fundamental problems that include landlessness, informal employment status, legal recognition and land ownership necessities, women who work in agriculture frequently find themselves out of schemes for compensation regardless of their considerable contribution to agricultural production. These constraints make it more challenging for these people to get support, which exacerbates their pre-existing social and economic disadvantages. The article analyses the organizational and regulatory structures that governs disaster reparation in Tamil Nadu employing a doctrinal and policy-focused approach. It also evaluates the manner in which those structures communicate with biased socioeconomic conditions, which lead to disparate results and opportunities. The study presents the argument that the present systems for compensation are unintentionally designed upon land-based privileges, which regularly prejudice women who operate in agriculture. The significance of gender-sensitive and inclusive compensation schemes that recognize women as self-sufficient actors in agricultural economies and improve their resilience to risks generated on by climate change is emphasized in its conclusion.

**Key words: Cyclone-Induced Disasters, Agricultural Compensation, Women Agricultural Labourers, Gender Inequality, Disaster Relief Mechanisms, Climate vulnerability.**

## **Introduction**

The severity and frequency of extreme weather have risen owing to climate change, with storms constituting a constant threat to coastal India's agricultural economies. One of Tamil Nadu's most beneficial and crucial agriculture regions, the Cauvery Delta, has been repeatedly devastated by cyclones, which has caused considerable crop loss, unpredictable employment opportunities, and unsustainable economies. Although mechanisms to disaster reimbursement have already been established into effect to minimize these kinds of damages, its effectiveness and access have remained inconsistent across diverse agricultural workforce categories.

Women labourers in agriculture, who constitute an important portion of those who perform planting, transferring, and following-harvest operations, contribute significantly to the lowland region's output from agriculture. Nevertheless, serving an essential part, these kind of people frequently find themselves in unregulated, land-deprived labour associations and have no formal recognition as farmers. As a result of this, fulfilling restrictions that give precedence to property ownership, verified tenancy, and legally recognized agricultural status at times regulate their ability to obtain cyclone-induced agricultural reimbursement. As a consequence, there is a systematic gap between how compensation systems have been constructed compared to how women workers actually live.

The distinct impacts of cyclones across the delta worsen the issue. Inland areas within the delta have been affected by flooding, waterlogging, and irrigation system interruptions, all of which are having significant consequences on crop production and wage labour potential, while coastal districts receive direct harm from powerful winds and storm surges. The requirement for a comprehensive understanding of how compensatory processes operate throughout different geographical regions and social categories is emphasized by these multilayered implications.

In light of this, the following research questions are the focus of this paper:

1. What are the existing legal and policy frameworks in Tamil Nadu governing agricultural compensation for cyclone-induced losses?
2. How do this compensation mechanisms function in the Cauvery Delta, particularly across coastal and inland districts?
3. What procedural and structural barriers prevent women agricultural workers from accessing compensation?

4. To what extent do existing frameworks address or neglect gender-specific vulnerabilities in rural contexts?
5. What legal and policy reforms are necessary to ensure equitable and gender-sensitive access to disaster compensation?

This paper explores the argument that Tamil Nadu's agricultural compensation mechanisms, that mainly depend on ownership of land and authorized farmer position, are inherently discriminatory. Women who struggle in agriculture are consistently disadvantaged by a framework like this, and traditional entitlement schemes neglect to properly recognize their contributions to society. As an outcome, compensation mechanisms reinforce current inequality in socioeconomic status in addition to neglecting to take into account gender-based vulnerabilities. For the purpose to provide substantial access and enhance resilience within vulnerable farming communities, the article suggests that a shift towards gender-adaptive and equitable remuneration mechanisms, based on social justice and equity principles, is essential.

### **Cyclone impact on Agriculture and livelihood vulnerability in Coastal areas**

In coastal Tamil Nadu, cyclonic occurrences have grown into an ongoing and intrinsically disruptive force for agricultural livelihoods, particularly detrimental to women workers, small-scale farmers, and those without land. Cyclones like Cyclone Gaja and Cyclone Michaung have repeatedly severely disrupted agriculture in areas like Nagapattinam, which is a portion of the vulnerable Cauvery delta basin. Both direct and indirect adverse effects can be caused by these instances, crops that remain have been ruined by damaging winds, excessive rainfall, consequent floods, accumulation of water, and saline contamination impair the condition of the soil, disrupt irrigation systems, and diminish the productivity of agriculture over multiple growing seasons. Large areas of cultivable land are frequently rendered intermittently as well as persistently inappropriate for cultivating crops, and this has a particular adverse effect on paddy-based agricultural systems<sup>1</sup>.

Such environmental shocks generate rapid and widespread socioeconomic consequences. Cyclones generate accumulating impacts, which involve diminished revenues, temporary unemployment, and difficulties with migration, especially in regions wherein agriculture is the

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<sup>1</sup> Thenmozhi, M., Sujatha, M., Kavitha, M., SenthilRaja, S., Babu, M. and Priya, V. (2024) 'Assessment of Cyclone risk and case study of Gaja cyclone using GIS techniques and machine learning algorithms in coastal zone of Tamil Nadu, India', *Environmental Research*, 246, p. 118089.

primary source of earnings. While landless agricultural workers in particular female are experiencing extreme livelihood vulnerability as the consequence of the disintegration of wage possibilities, marginalised and small-scale farmers frequently encounter debt. An alteration into unstructured and hazardous categories of labour, which include construction work, brick manufacturing jobs, and relocation to cities, which are typically accompanied by decreased earnings and an absence of social security, is a prevalent aspect of post-disaster adaptation initiatives. This pattern indicates an ongoing cycle of sensitivity because interruptions spurred on by climate change amplify prevailing disparities in socioeconomic status, particularly those associated with gender and class<sup>2</sup>.

### **Disparities in Inland and Coastal Susceptibility**

Despite the fact that cyclones exert a detrimental effect on agricultural livelihoods across Tamil Nadu, their consequences fluctuate considerably throughout coastal and inland regions. In Tamil Nadu, the impacts of cyclones demonstrate a distinctive spatial distinction between interior and coastal agricultural regions. Surges from storms, embankment failures, saltwater penetration, and erosion of coastlines have more serious repercussions in areas along the coast like Nagapattinam and Cuddalore. In spite of damaging crops, these adverse environmental conditions also degrade the overall condition of the land, which complicates and enhances the ambiguity of agricultural recuperation. Already marked by higher instances of underemployment and destitution, coastal areas are more susceptible to damage both prior to and following cyclonic disasters<sup>3</sup>.

Even though they are relatively shielded from surges from storms, interior agricultural regions can still endure damage from disasters. The productivity of crops is adversely affected by prolonged waterlogged conditions and progressive raises in soil salt content that result from prolonged rainfall. Yet, the extent of and the prolonged environmental harm are usually less significant compared with coastal regions. Vulnerability is not evenly distributed across socioeconomic gradients in both geographic areas. Due to their modest financial reserves, insufficient access to institutionalised funding, and significant dependency on climate-relevant wage workers, small-scale farmers who are marginalised, landless labourers in agriculture, and other socially disadvantaged groups are most significantly impacted by these interruptions.

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<sup>2</sup> Ghosh, S. and Mistri, B. (2023) 'Cyclone-induced coastal vulnerability, livelihood challenges and mitigation measures of Matla–Bidya inter-estuarine area, Indian Sundarban', *Natural Hazards*, 116, pp. 3857–3878.

<sup>3</sup> Mukhopadhyay, S., Bhandari, G. and Sinha, S. (2025) 'Impact of climate change induced hazards on the livelihood of marginalized coastal dwellers of West Bengal, India', *TUZAL*, 7(1), pp. 107–124.

Particularly affected are female employees. Women are predominantly involved with low-paid, unregulated, or unpaid farming careers, as reported by broader South Asian studies, regardless of the lack of gender-related information regarding Tamil Nadu. They suffer additional nutritional insecurity, decreased employment opportunities, and emotional distress after storms, in particular when family incomes diminish or patterns of migration change<sup>4</sup>.

### **Legal Mechanisms and Women's Vulnerability**

India's legal and policy framework for disaster relief and social protection comprises the **Disaster Management Act, 2005**, the **National and State Disaster Response Funds (NDRF/SDRF)**, the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**, the **Unorganised Workers' Social Security Act, 2008**, the **Code on Social Security, 2020**, and the **Pradhan Mantri Fasal Bima Yojana (PMFBY) 2016**, which creates a multi-layered institutional system. However, there is a structural lack concerning livelihood loss because these frameworks operate in fragmented ways and ultimately fall short of guaranteeing fair protection for rural informal workers, notably women.

The **National and State Disaster Response Funds (NDRF/SDRF)** are the primary budgetary instruments for assistance and reimbursement, and the **2005 Disaster Management Act** has constituted national, state, and local governments. A case study from Cuddalore in Tamil Nadu illustrates the manner in which the SDRF provides monetary support for livestock casualties, loss of crops surpassing one-third of the crop yield, housing loss, and natural disaster-related fatalities. Payments are provided directly to those negatively impacted via Direct Benefit Transfer (DBT)<sup>5</sup>. However, availability and comprehension remain insufficient, particularly for female agricultural labourers and rural women, many of whom have been denied formal entitlements due to sociocultural barriers, a lack of evidence, or a lack of knowledge. As a result of this, women are predominantly dependent upon informal mechanisms for coping, which usually end in lower and less consistent earnings. The Act's reactionary approach, insufficient local financing and accountability mandates, and the lack of a rights-based approach that explicitly takes gender-based vulnerability and the requirements of women workers into

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<sup>4</sup> Siddik, M.A. and Islam, A.R.M.T. (2024) 'A systematic review of cyclonic disaster: Damage-loss, consequences, adaptation strategies, and future scopes', *Heliyon*, 10(12), e33345.

<sup>5</sup> Tamizharuvi, P., Pazhanivel, A. and Ghouse, L.M. (2025) 'Government schemes and policy implementation for agricultural disaster management in Tamil Nadu: A case study of Cuddalore district', *International Journal of Social Science and Education Research*, 7(2), Part C.

consideration are also points of disagreement<sup>6</sup>. Concerns have been raised under Article 21 (right to life and livelihood) and Article 14 (equality before the law) as substantially affected groups acquire unequal protection based on formal recognition and the ownership of property.

Women make up a substantial portion of **MGNREGA's** workforce, which offers temporary wage employment and is essential to rural resilience. However, its efficacy is limited by implementation gaps and wage delivery delays, and it does not make up for genuine livelihood loss brought on by disasters<sup>7</sup>. Welfare programs are extended to informal workers under the **Unorganised Workers' Social Security Act, 2008 and the Code on Social Security, 2020**, but they are however, constrained by inadequate enforcement, limited coverage, and the absence of compensation provisions tailored to calamities. Access to reap the rewards can be restricted for women workers, who predominantly engage in undocumented and unstructured labour, owing to registration and awareness constraints<sup>8</sup>. The constitutional requirements under Article 39(a) which deals about sufficient livelihood and right to employment and public aid under Article 41 have been undermined by this.

The framework of **PMFBY**, which has connections to government financing and the ownership of property, perpetuates these constraints even further. The program primarily assists landowning farmers in regions like the Cauvery Delta, where agriculture is frequently affected by storms and floods. Tenant farmers, agricultural labourers, and women especially are disqualified from coverage for insurance because they frequently do not have formal tenancy documents or titles to their land. Because of this, labourers who depend on farm wages obtain no financial support, even though farmers are entitled to some compensation for the loss of crops<sup>9</sup>. This leaving woman agricultural labourers without any sort of immediate legal safeguards for their standard of living since labour legislation only provide temporary relief, insurance safeguards landowners, and catastrophe regulations emphasize on property damage.

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<sup>6</sup> Sharma, S. (2021) 'Exploring disaster mitigation in India: A financial viewpoint, *Emerging Economy Studies*, 7(1).

<sup>7</sup> Ravichandran, P. (2023) 'A comprehension analysis of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in India', *International Journal of Research in Social Science and Humanities (IJRSS)*, 4(10).

<sup>8</sup> Patro, S. and Sahu, H.N. (2024) 'A critical analysis on occupational safety, health and working condition of unorganised workers in Odisha', *Educational Administration: Theory and Practice*, 30(4).

<sup>9</sup> Tiwari, R., Chand, K. and Anjum, B. (2020) 'Crop insurance in India: A review of Pradhan Mantri Fasal Bima Yojana (PMFBY)', *Business Review*, 9(4).

The significance of participatory and rights-based disaster management has been further emphasized by international frameworks. The **Sendai Framework for Disaster Risk Reduction 2015–2030** focuses an intense focus on safeguarding vulnerable groups, especially women, and eliminating risks. Gender-responsive and socially accessible climate adaptation initiatives are additionally essential pursuant to the **United Nations Framework Convention on Climate Change (1992)**. States are needed by human rights treaties like the **International Covenant on Economic, Social, and Cultural Rights (1966)** and the **Convention on the Elimination of All Forms of Discrimination (1979)** against women to ensure social security, livelihood protection, and non-discrimination. Yet, the Indian framework persists to give prominence to asset-owning groups by means of labour regulations, crop insurance, and disaster support while neglecting entirely to comply with these international standards, notably when it relates to alleviating the gendered vulnerability of women.<sup>10</sup>

### **Regulatory Invisibility and Gendered Exclusion<sup>11</sup>**

The design of compensation frameworks reveals a structural bias toward **land-based entitlements**, which systematically excludes women agricultural labourers. Since most women do not own land and are not formally recognized as farmers, they are **absent from official beneficiary lists**. Even if women own land, either the areas of the plots are smaller than, or their quality is inferior to, the lands owned by men. Apart from this, even women's land rights are found to be less secure than those of the men. Gender and Land Rights Database of the food and Agriculture Organisation says that the share of the women 's land rights are found to be less than 15 percent globally In India, it is found that 73 percent of the rural women workers were engaged in the agricultural sector , only 14 percent of the women are only the operational holders. As Women mainly acquire land and inheritance from gifts, purchases, or government transfers, Agarwal (1998)<sup>12</sup> when compared to men.

Further, procedural requirements such as documentation, land records, and administrative verification create additional barriers. Women's limited access to institutional processes and decision-making spaces exacerbates their exclusion. Though India faces more groundbreaking challenges and decisions, the recent amendments made in the Hindu Succession Act guarantee

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<sup>10</sup> United Nations Office for Disaster Risk Reduction (2015)Sendi Framework for Disaster Risk Reduction 2015-2030.Geneva:UNDRR

<sup>11</sup> Kumar, S., Singh, R. and Sharma, P. (2023) 'Women's land ownership in India: Evidence from digital land records', *Land Use Policy*, 133, p. 106861. Available at: ScienceDirect Article (Accessed: 26 March 2026).

<sup>12</sup> Food and Agriculture Organization (FAO) (n.d.) *Gender and Land Rights Database*. Available at: <https://www.fao.org/gender-landrights-database> (Accessed: 26 March 2026).

equal rights to daughters as sons, however in most households have been considered as a single unit, assuming the distribution of resources is equal amongst the members.

This results in a condition of **regulatory invisibility**, in which women's labour contributions are essential yet remain unacknowledged within formal legal frameworks.

### **Social Economic Vulnerability<sup>13</sup>**

The exclusion of women agricultural labourers from formal compensation systems intensifies their economic insecurity and perpetuates structural inequality. When crops fail or natural disasters occur, these labourers suffer an immediate loss of income, as their livelihoods depend on daily agricultural work. However, since compensation mechanisms are largely linked to land ownership, they are not recognised as direct beneficiaries and remain outside the scope of financial relief. This situation is compounded by the lack of alternative livelihood options. Limited access to education, skill development, and employment diversification restricts their ability to secure other sources of income during periods of agricultural distress. As a result, their economic survival remains heavily dependent on unstable and seasonal agricultural employment. Furthermore, compensation provided by the State is typically channelled through male landowners, thereby excluding women who play a crucial role in agricultural production. This forces women to depend on household-level compensation, which is often distributed inequitably, undermining their financial independence and reinforcing existing gender hierarchies.

### **Conclusion and Suggestions**

There is a need for the promotion of decent work and pay in the informal agricultural sector to achieve a sustainable development goal and also to reduce inequalities and poverty. Innovative approaches can be initiated to introduce more schemes like social protection programmes, vocational training and digital tools to address the challenges in the agricultural sector.

To address this gap, compensation frameworks must shift from a land-centric approach to one that genuinely includes labourers. First and foremost, agricultural workers, particularly those in informal and casual roles, should be recognised as rightful beneficiaries of compensation schemes. This would involve extending basic labour protections, ensuring fair wages, and

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<sup>13</sup> International Labour Organization (ILO) (2018) *Women and men in the informal economy: A statistical picture*. 3rd edn. Geneva: International Labour Office. Available at: <https://www.ilo.org/wcmsp5/groups/public/> (Accessed: 26 March 2026).

including them within social security systems. In situations such as land acquisition, climate-related losses, or agricultural distress, compensation policies should consider everyone affected, not just landowners, so that existing inequalities are not further intensified. A gender-sensitive approach is also essential. Women in agriculture often face multiple layers of disadvantage they are paid less, have limited access to land and resources, and are frequently excluded from decision-making processes. To address this, policies must actively consider women's needs by ensuring their participation, tracking gender-specific outcomes, and designing programmes that reflect local realities. Encouraging women's involvement in planning and implementation can lead to more effective and inclusive outcomes.

In essence, making compensation systems fair and inclusive requires rethinking how agricultural labour is valued. Recognising the contribution of all workers, not just landowners and ensuring they are protected and supported is key to build a more equitable and sustainable agricultural sector.

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