

## **Between Millennium Development Goals (MDGs) and Climate Reality: The Indigenous People of Kerala**

**Rinu Jose<sup>1\*</sup>**

<sup>1</sup>Assistant Professor, Department of Economics, Kuriakose Elias College, Mannanam, Kottayam, Kerala, India

### **\*Corresponding Author:**

Rinu Jose

Email: rinujose185@gmail.com

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**Abstract:** This paper examines the intersecting trajectories of the Millennium Development Goals (MDGs, 2000-2015) and the unfolding realities of climate change among the tribal communities in Kerala. While Kerala achieved impressive aggregate progress towards the MDGs, acute malnutrition is common among these communities. School dropout rates among tribal children stood at 46 percent at the primary level and 38.5 percent at the secondary level, directly challenging the achievement of universal primary education (MDG 2). Maternal health (MDG 5) remained precarious, with anaemia and low birth weight reflecting intergenerational undernutrition intimately linked to hunger and food insecurity (MDG 1). Political marginalisation, with tribal communities constituting a negligible vote bank, has rendered their struggles largely peripheral to mainstream political discourse. Simultaneously, climate change has emerged as an independent and compounding threat. Forest-dependent communities, face imminent livelihood collapse as biodiversity shifts and species dieback accelerate. The Paniya, Kuruma and Kattunayakan communities of Wayanad have long reported changes in animal behaviour and phenological patterns through their traditional ecological knowledge, yet this knowledge is systematically excluded from official adaptation strategies and climate negotiations. Crucially, historical land dispossession has forced these communities onto precarious slopes and riverbanks, creating a "historically produced" risk landscape where climate-induced landslides and floods exact a disproportionate toll. The Adivasi experience reveals that without securing land tenure, integrating indigenous knowledge systems and explicitly addressing structural discrimination, both global development frameworks and state-level adaptation policies will continue to reproduce the inequalities they claim to resolve. Caught between the MDGs' aggregate successes and the accelerating climate reality, Kerala's indigenous peoples embody the limits of development discourse when it fails to confront the intersection of historical injustice and ecological crisis. Thus, the lives of Kerala's indigenous people are still in peril as universal development frameworks and state-level climate policies alike have failed to address the historically produced structural vulnerabilities that compound the marginalisation of these communities.

**Keywords:** Indigenous Peoples, Millennium Development Goals, Climate Vulnerability, Climate Change.

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### **INTRODUCTION**

The Indian state of Kerala has long occupied a distinctive place in development discourse (Balakrishnan, 2015). With a human development index comparable to developed nations, near-universal literacy, life expectancy exceeding the national average and fertility rates below replacement level, Kerala's developmental achievements have been celebrated globally as the "Kerala model" a testament to what social investment and political mobilisation can achieve in the absence of high per capita income (Kurien, 1995; Jayapal, 1995). Yet beneath this narrative of progress lies a profound and persistent contradiction: the indigenous communities of Kerala remain among the most marginalised populations in the state, excluded from the very development that has transformed the lives of their non-tribal neighbours (Haseena, 2014). Thus, the paper examines the intersection of two parallel trajectories that have shaped the lives of Kerala's indigenous peoples in

the period leading up to 2014: the global framework of the Millennium Development Goals (MDGs), which promised to halve poverty and expand human capabilities by 2015; and the unfolding reality of climate change, which threatens to undo whatever gains have been made. Caught between these forces, the Adivasi communities of Kerala embody the limits of universal development frameworks and the particular vulnerabilities of communities whose lives remain tied to forests, land, and ecosystems that are increasingly under threat.

### **The Millennium Development Goals: Universal aspirations, unequal outcomes**

The Millennium Development Goals, represented a bold vision to improve the lives of the world's most vulnerable populations (ADB, 2009). Adopted in 2000, the MDGs translated broad development ideals into eight time-bound targets

covering poverty, schooling, gender equality, child and maternal health, disease control, environmental sustainability and global partnership. By 2015, the United Nations described the MDGs as “the most successful anti-poverty movement in history,” noting that extreme poverty had fallen from 1.9 billion people in 1990 to 836 million in 2015. Progress was also visible in child survival, maternal health, sanitation, and women’s participation in education and parliament. The eight MDGs are:

- Eradicate extreme poverty and hunger: Halve the proportion of people living on less than \$1 a day and those suffering from hunger.
- Achieve universal primary education: Ensure that all children everywhere are able to complete a full course of primary schooling.
- Promote gender equality and empower women: Eliminate gender disparities in education and other areas.
- Reduce child mortality: Cut the under-five mortality rate by two-thirds.
- Improve maternal health: Reduce the maternal mortality ratio by three-quarters.
- Combat HIV/AIDS, malaria and other diseases: Halt and begin to reverse the spread of these major diseases.
- Ensure environmental sustainability: Integrate sustainable development principles into country policies and reverse the loss of environmental resources.
- Develop a global partnership for development: Build an open, rule-based, predictable, non-discriminatory trading and financial system (MDG Monitor, 2015).

Yet the MDG experience also exposed deep inequality. The UN reported that progress was “uneven across regions and countries,” with fragile and conflict-affected states facing the highest poverty rates. Even in 2015, about 800 million people still lived in extreme poverty and hunger, while children from the poorest households were more than twice as likely to be stunted and four times as likely to be out of school as those from the richest households. In conflict-affected countries, the share of out-of-school children rose from 30 per cent in 1999 to 36 per cent in 2012 (UN, 2015). The main lesson of the MDGs is that global goals can mobilize action, attract funding and produce measurable gains, but they do not automatically eliminate inequality. Success depended on targeted interventions, adequate resources and political will and where these were weak, progress lagged.

### Kerala and indigenous communities

Kerala is home to a vibrant tribal legacy who have lived for generations in the forests and hill regions of the Western Ghats, where they have long maintained

ways of life closely tied to nature and local ecosystems. These communities, spread across the border regions adjoining Karnataka and Tamil Nadu, have traditionally depended on sustainable practices that reflect a close relationship with the environment. In Kerala, the Kerala Institute for Research Training and Development Studies of Scheduled Castes and Scheduled Tribes (KIRTADS) recognizes 36 distinct Scheduled Tribes. The Scheduled Tribes Development Department further groups them into three broad categories: Particularly Vulnerable, Marginalised and Minorities. As per the 2011 Census, tribal people make up about 1.5 percent of Kerala’s population, amounting to roughly 4,84,839 individuals. Their population is concentrated mainly in districts such as Wayanad, followed by Idukki, Palakkad, Kasargod, and Kannur.

Kerala’s indigenous communities are officially listed as Scheduled Tribes. The major communities include: Adiyar, Aranadan, Eravallan, Hill Pulaya, Irular, Kadar, Kanikaran/Kanikkar, Kattunayakan, Kochuvelan, Koraga, Kudiya/Melakudi, Kurichchan, Kuruman, Kurumbas, Maha Malasar, Malai Arayan, Malai Pandaram, Malai Vedan, Malakkuravan, Malasar, Malayan, Malayarayar, Mannan, Marati, Muthuvan/Mudugar/Muduvan, Palleyan, Paniyan, Ulladan, Uraly, Mala Vettuvan, Ten Kurumban, Jenu Kurumban, Thachanadan Moopan, Cholanaikkan, Mavilan, Karimpalan, Vetta Kuruman and Mala Panickar (Shebeer and Jeesh, 2015).

### Poverty and land: The unfinished agenda

MDG 1 eradicating extreme poverty and hunger is inextricably linked to land for Kerala’s Adivasis. Land alienation remains the single most important driver of tribal marginalisation (Khan, 2012; Moorkoth, 2012). The land question has a long and contested history. The Kerala Scheduled Tribes (Restriction on Transfer of Lands and Restoration of Alienated Lands) Act, 1975 and subsequent legislation have failed to prevent alienation. Land struggles have been a constant feature of Kerala’s tribal landscape.

- **Kudilketti Samaram (2001):** Tribal families set up tents outside the state secretariat, seeking the allocation of cultivable land, under the leadership of the Adivasi Gothra Mahasabha (AGMS) and activist C.K. Janu.
- **Muthanga Agitation (2003):** Adivasi families occupied portions of the Muthanga Wildlife Sanctuary during this significant event which resulted in extensive arrests and casualties due to aggressive police intervention, which solidified land rights as a cultural identity issue.
- **Chengara Samaram (2007–2009):** To draw attention to the state’s inability to allocate expired plantation lease lands, landless families staged an

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occupation of a corporate rubber plantation, organized by the Sadhujana Vimochana Munnani.

- **Arippa Bhoosamaram (2012):** Hundreds of Adivasi and Dalit households took forest land in the Kollam district during an intensive, protracted protest, calling for cultivable land parcels rather than small housing complexes.

Land is central to tribal livelihood, identity and food security in Kerala. The alienation intensified from the 1950s onward, through distress sales, oral mortgages and manipulation of land records. The problem is not only historical; it reflects structural vulnerability. The 2014 study for the State Planning Board found that the average landholding of a Kerala tribal family fell from 2.77 acres to 1.30 acres and then to 0.66 acres over three generations. This decline matters because land is the main source of livelihood, employment and social security for tribal communities, so land loss quickly becomes livelihood loss, indebtedness and dependence on informal labour. Restoration of alienated land moved slowly and that only a tiny fraction of lost land had actually been returned in some areas. The gap between law and implementation allowed alienation to continue even after formal recognition of tribal rights.

The consequences were severe and multidimensional as the loss of land weakened food security, reduced bargaining power, pushed families into debt and deepened social exclusion. It also made tribal communities more exposed to malnutrition, unemployment and migration, particularly in remote forest and hill regions where alternative livelihood options are limited. In this sense, land alienation is not only a property issue; it is a social justice and development issue.

### **Climate change vulnerabilities**

As the MDG era drew to a close, climate change emerged as an existential threat that compounded the existing vulnerabilities of Kerala's indigenous communities. In 2014, the Kerala State Action Plan on Climate Change (SAPCC) identified four districts Alappuzha, Palakkad, Wayanad and Idukki as climate change hotspots (GoK, 2014). Wayanad, which has the highest Adivasi population in Kerala, was classified as highly vulnerable. The projected climate change scenario was stark. Atmospheric temperature across Kerala was estimated to rise by 2 degrees Celsius by 2050; minimum surface temperature in the Western Ghats region could rise by 2 to 4.5 degrees Celsius. The number of rainy days was likely to decrease along the entire western coast. Paddy production would drop by six percent with each degree rise in temperature. Heat stress and humidity variation would have significant associations with livestock diseases.

For forest-dependent communities, these changes have direct and devastating implications. The Western Ghats biodiversity hotspot account for 30 percent of the forest area were gravely impacted as per climate change impact models and the forests likely to undergo vegetation type change. Tropical moist deciduous forests, which account for about 28 percent of the forest area, are likely to experience change in about 20 percent of the area. The bulk of the species that provide multiple forest products are projected to experience dieback and even mortality. Communities in the Western Ghats depend significantly on non-timber forest products will also gravely be impacted. Climate change could adversely impact forest biodiversity and product flow to these forest-dependent households. The indigenous agri-food systems that have sustained communities for generations are being challenged by global environmental change. The three major Adivasi communities of Wayanad Paniya, Kuruma and Kattunayakan relate to local flora and fauna in distinct ways, but all are experiencing changes in local ecology that inform their choices of cultivation.

What makes climate change particularly devastating for Kerala's Adivasis is the way it compounds historical vulnerabilities. The vulnerability of Dalit and Adivasi communities has been "historically produced through land dispossession and forced settlement on hazard-prone slopes and riverbanks". They were dispossessed of their traditional lands and resettled on marginal, hazard-prone land. When climate-related disasters strike floods, landslides, droughts these communities are disproportionately affected. The Adivasi communities have reported climate change "much before science brought it into the limelight". Their traditional knowledge systems, honed over generations of living in close relationship with forests and ecosystems, give them a unique understanding of environmental change. Yet they are "only rarely considered in academics, policy discourses and more importantly in climate change negotiations". This erasure is not accidental; it reflects a deeper structural exclusion.

### **Status of MDGs for tribal communities in Kerala**

The status of the Millennium Development Goals for tribal communities in Kerala was mixed: there was some progress in schooling, health access and poverty reduction, but tribal households still remained among the most disadvantaged groups. The core issue was that average state-level gains did not fully reach the tribal outskirts, where deprivation remained high. Kerala often performed well on many human development indicators, but tribal communities did not benefit equally. The development gap persisted because of remoteness, land alienation, weak livelihoods and limited access to quality public services. In many tribal settlements, literacy and enrolment improved, but school completion, higher education and learning quality remained weak

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compared with the state average. This meant that the education-related MDGs were only partially realized for tribal populations.

Health-related MDGs also showed uneven outcomes. Tribal women and children continued to face higher risks linked to malnutrition, poor maternal care and inadequate sanitation, especially in vulnerable hamlets and forest-fringe settlements. A legislative note on vulnerable tribal groups in Kerala indicates that these communities faced serious gaps in nutrition, housing, drinking water and healthcare access, all of which directly affected MDG progress. In short, state-level health achievements did not translate into equivalent improvements in tribal settlements (Shebeer and Jeesh, 2015). Livelihood and poverty reduction were also incomplete. The MDG aim of reducing extreme poverty was constrained for tribals because many depended on uncertain agricultural labour, forest produce and casual work, while landlessness and indebtedness remained widespread. Development strategies often failed to account for the cultural and ecological context of tribal life, so program delivery was weaker in practice than in official targets. As a result, tribal poverty reduction lagged behind Kerala's broader social progress.

The broader lesson is that MDGs were too aggregate to capture intra-state inequality well. Kerala's overall success could hide deep exclusion within tribal communities unless indicators were disaggregated by social group and geography. This is why later development thinking placed greater emphasis on equity, inclusion and place-based interventions rather than only state averages.

- **Poverty & hunger (Goal 1):** In 2015, the Kerala State Planning Board noted that more than 60% of tribal households were living below the poverty line. The persistence of land alienation and the decline of forest-based livelihoods continued to obstruct efforts to eliminate extreme poverty.
- **Universal education (Goal 2):** Although literacy in Kerala is nearly universal overall, tribal communities, particularly the PVTGs such as the Cholanaickan, Kattunaikyan and Kadar, continued to record much lower literacy levels and high rates of school dropout.
- **Maternal & child health (Goals 4 & 5):** Malnutrition, anemia, and infant mortality remained alarmingly high in tribal areas such as Attappady in Palakkad district, making it a major public health concern.

### The gap between policy and reality

Kerala's experience with the Millennium Development Goals (MDGs) reveals a clear gap between policy intent and tribal reality. Although the state performed well on broad social indicators, tribal

communities continued to face persistent deprivation in land, health, education and livelihoods. The Kerala State Action Plan on Climate Change of 2014 outlined a strategic framework to address vulnerabilities, as it identified sector-specific vulnerabilities and strategies for adaptation and mitigation in agriculture, water resources, forests and biodiversity, coastal ecosystems, energy, health and urban planning. Yet the plan, like the MDG framework itself, operated at a level of generality that failed to address the specific vulnerabilities of indigenous communities. The plan "employs the language of climate justice while structurally erasing caste as a driver of vulnerability". It refuses to name the historical processes of dispossession that have placed Adivasi and Dalit communities in situations of compounded climate risk. In a state where caste remains a crucial determinant of life chances, any climate action plan that does not address caste-based exclusion is doomed to reproduce the inequalities it purports to address.

The same critique applies to the MDG framework. Universal indicators literacy rates, enrolment ratios, infant mortality figures concealed the vast disparities between tribal and non-tribal populations. The MDGs promised reductions in poverty, improved schooling, better maternal and child health and environmental sustainability. In Kerala, these goals were pursued through welfare schemes, tribal development funds, the Integrated Tribal Development Project and the Tribal Sub-Plan, yet their impact on tribal communities remained limited. The problem was not the absence of policy, but the weak translation of policy into outcomes in remote tribal settlements. One major contradiction was poverty reduction. In addition, deeper structural problems such as land alienation, indebtedness and the erosion of forest-based livelihoods, all of which undermined income security and food access. In other words, the MDG goal of halving extreme poverty was not fully achieved for tribal communities.

Education also showed uneven results. Kerala's overall literacy rate was near universal, but tribal communities, especially PVTGs such as the Cholanaickan, Kattunaikyan and Kadar, continued to record lower literacy and high dropout rates. This meant that the MDG emphasis on universal primary education was shaped by state averages that concealed social exclusion. For many tribal children, distance to schools, poverty, language barriers and early economic pressures reduced sustained participation in education. Health outcomes revealed the same pattern. Tribal belts, particularly Attappady, remained marked by malnutrition, anemia and infant mortality, despite Kerala's strong public health reputation. The persistence of these indicators showed that improved state-level health coverage did not automatically reach marginalized

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settlements. Sanitation, maternal care and nutrition services often remained inadequate in tribal hamlets.

The broader lesson is that the MDG framework in Kerala was too aggregate to capture inequality within the state. Policies existed, but implementation was uneven and many interventions were welfare-oriented rather than transformative. Without secure land rights, stronger local participation and culturally appropriate delivery systems, the gap between policy and reality remained wide. The MDG period therefore highlights both Kerala's achievements and its unfinished justice agenda for tribal communities.

## CONCLUSION

It is evident that the hardships faced by Kerala's indigenous communities were not temporary development gaps but deeply rooted structural conditions even with the MDG era and continued to intensify under climate stress. By the time the Millennium Development Goals reached its final phase, it was already evident that the state's impressive aggregate achievements concealed serious inequality within tribal settlements. Improvements in literacy, health coverage and poverty reduction at the state level did not adequately reach Adivasi communities, who remained burdened by land alienation, insecure livelihoods, poor infrastructure and limited political visibility. The experience of Kerala's tribal people demonstrates that universal development frameworks can create the illusion of progress while leaving the most vulnerable groups behind when inequality is not measured and addressed in specific, grounded ways. The central weakness of the MDG approach, as seen in Kerala, was its reliance on broad indicators that could not capture the realities of communities living at the margins of forests, hills and fragile ecologies. Tribal households continued to face all hurdles even when the state as a whole appeared to perform well. In this sense, the MDGs did not fail because they lacked goals; they failed because the implementation process did not sufficiently engage with the historical and social forces that shaped tribal disadvantage. Land dispossession, unequal access to public services and the erosion of forest-based livelihoods created a persistent gap between policy promise and lived experience. Without land security and culturally appropriate development, the benefits of growth and welfare remained unevenly distributed.

Climate change further deepened this exclusion. For indigenous communities whose lives are closely tied to land, forests, water and biodiversity, environmental change is not an abstract future risk but a daily reality. Shifts in rainfall, rising temperatures, declining forest resources, biodiversity loss and an increase in extreme events such as floods and landslides have intensified the vulnerabilities. Because many tribal families were historically pushed onto marginal, hazard-prone lands,

climate impacts now strike communities already weakened by poverty and dispossession. This means that climate vulnerability in Kerala is not simply natural or geographical; it is historically produced. The same communities that contributed least to ecological degradation are among those suffering its harshest consequences. Thus, there is need to rethink development from the perspective of justice. Policies must move beyond general targets and numerical success to recognize difference, inequality and historical responsibility. For Kerala's tribal communities, this means secure land rights, stronger livelihood support, quality education, better nutrition and health systems and the meaningful inclusion of indigenous knowledge in environmental planning. Their traditional ecological wisdom should not be treated as secondary to formal science, especially in a period of climate uncertainty. Rather, it should be valued as an essential resource for adaptation, conservation, and resilience.

Ultimately, the story of Kerala's indigenous people between the MDGs and climate reality is a reminder that progress cannot be judged only by state averages or global rankings. Development becomes meaningful only when it reaches those who have been systematically excluded from its benefits. Until tribal communities are recognized not as peripheral beneficiaries but as central stakeholders in policy, Kerala's celebrated development model will remain incomplete. The challenge ahead is therefore not merely to continue development, but to make it equitable, inclusive and ecologically informed. Only then can the gap between promise and reality begin to close. Thus, the Kerala's experience reveals that development frameworks, whether national or global, cannot succeed if they fail to address the specific historical and structural conditions that produce vulnerability. Universal indicators cannot substitute for grounded understanding of how caste, land dispossession and ecological change intersect to produce particular patterns of marginalisation. The voices of indigenous communities, with their traditional knowledge and their lived experience of both development and climate change, cannot continue to be excluded from policy discourse.

The tragedy of Kerala's Adivasis is not that development has failed them it is that development has succeeded so spectacularly for others while leaving them behind. Between the MDGs and climate reality, they have been doubly excluded: from the benefits of development and from the recognition of their vulnerability. Until these structural exclusions are addressed, no amount of goal-setting or action planning will bridge the gap between Kerala's development reputation and the lived reality of its indigenous peoples.

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