

# Forging Pathways to Equity: The Nexus between Land Redistribution, Health, and Healthcare Access

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**Abstract:-** This article explores the nexus between land redistribution policies and healthcare accessibility to mitigate social and economic disparities arising from inequitable land distribution. Historically, concentrated land ownership has marginalised rural communities, limiting their access to healthcare services. Land reform initiatives focusing on redistribution and secure tenure have the potential to empower marginalised groups economically and enhance their health outcomes through improved access to healthcare facilities. The study fills Gaps in existing research by investigating the interconnectedness of land tenure security, health outcomes and healthcare access, drawing insights from global contexts, including successful cases in Denmark, New Zealand, and South Korea, alongside challenges in Russia, India, and South Africa. Through a comprehensive literature review and analysis of data from the Global Health Security Index, the study highlights the critical role of equitable land distribution in fostering health equity and sustainable development. Findings suggest that countries with inclusive land policies demonstrate improved public health indicators, highlighting the importance of integrating land reform into broader health and development agendas. In conclusion, land redistribution holds promise for enhancing healthcare access and achieving health equity. Ultimately, this research advocates for strategic interventions that prioritise fair land distribution as a cornerstone for achieving universal health coverage and addressing persistent health disparities worldwide.

**Keywords:-** Access; Equity; Healthcare Services; Inequalities; Land Ownership; Land Tenure; Public Health; Redistribution.

## I. INTRODUCTION

Historically, inequitable land distribution has been a persistent issue, stemming from colonial legacies, feudal systems, or contemporary forms of land concentration. In such contexts, a small segment of the population controls the majority of arable land, while the vast majority, often rural and impoverished, are left with limited or no access to land resources (Ondetti, 2021). In societies where land ownership patterns are skewed, access to healthcare services often mirrors these inequalities. This imbalance not only perpetuates wealth disparities but also exacerbates social injustices, including uneven access to healthcare. Meanwhile, land ownership serves as a cornerstone of economic power and social privilege in many societies. Based on these arguments, this article aims to explore the intricate

relationship between land redistribution initiatives and the accessibility of healthcare services, shedding light on the potential for transformative change within both realms.

### ➤ Background

A key driver for the increasing geographical differences in health is the disparity in the physical environment, which can either sustain or damage health outcomes (Dachaga & de Vries, 2022). On the one hand, land distribution patterns shape the geographical distribution of healthcare facilities and services (Obeidat & Alourd, 2024). On the other hand, land redistribution initiatives have the potential to disrupt these entrenched inequalities and enhance healthcare accessibility for marginalised populations (Obeidat & Alourd, 2024). In regions where land is concentrated in the hands of a few, infrastructure development tends to be skewed towards areas of high landownership, neglecting marginalised communities in remote or rural areas. Consequently, individuals in these underserved regions face significant barriers to accessing healthcare, including long travel distances, limited transportation options, and inadequate healthcare facilities (Evans et al., 2022). Access to land enables individuals to cultivate their own food, and generate income through agricultural activities (Santo et al., 2024), and invest in their health and well-being. As such, by redistributing land to landless or land-poor households, governments can empower communities economically, leading to improved health outcomes.

In this context, land reform encompasses three main objectives: redistribution, restitution, and ensuring secure land tenure for beneficiaries (Democratic Alliance, 2024). Redistribution aims to equitably distribute land, particularly addressing historical injustices where vital land resources were monopolised by a minority. By redistributing land equitably, historically marginalised populations can gain better access to resources, including healthcare facilities, leading to improved health outcomes. Restitution focuses on returning land or compensating individuals who were unlawfully deprived of land (Democratic Alliance, 2024). Its efforts can restore economic stability to communities, enabling them to better afford and access healthcare services. Secure tenure refers to the rights people hold over the land they occupy or utilise (Democratic Alliance, 2024). It provides a stable living environment, reducing stress and fostering conditions that support overall well-being and health equity (Smith, 2023). These factors are crucial for economic justice and play a significant role in improving access to essential services such as healthcare. Thus, this study argues that land reform is intimately connected with

forging pathways to equity, particularly in the nexus between land distribution and access to healthcare services.

### ➤ *Gap and Purpose*

The impact of land tenure security on health outcomes has not been exhaustively researched, despite its acknowledged importance in shaping livelihoods and well-being. Dachaga and de Vries (2022) point out the lack of clear measures to assess the relationship between land tenure security and health outcomes. Additionally, they argue that tenure security, housing, environment, and health are often studied separately, with little consideration of their interconnectedness (Dachaga & de Vries, 2022). Furthermore, the connection between land redistribution and access to healthcare services has not been thoroughly explored. Understanding how different forms of land redistribution affect healthcare access and health outcomes could provide valuable insights for promoting health equity, especially among disadvantaged groups. Geographical differences in health outcomes and access to healthcare services are driven by disparities in physical environments and uneven access to high-quality environments (Baumgartner et al., 2023). In light of these factors, this study aims to bridge these research gaps by investigating the relationship between land tenure security and health outcomes, as well as examining how land redistribution interventions impact healthcare access. In addressing these gaps, this research seeks to contribute to developing effective strategies for improving healthcare access and health outcomes for marginalised populations, aligning to achieve universal health coverage as outlined in the Sustainable Development Goals [United Nations (UN), 2015].

## II. LITERATURE REVIEW

### A. *The Link between Land and Health*

Land tenure security, widely recognised and utilised extensively by development agencies, is an approach to enhance livelihoods, well-being, and overall quality of life. It influences population health by affecting various factors, including employment opportunities, housing security, political participation, education, protection from environmental risks, and access to primary healthcare (Dachaga & de Vries, 2022). Formalising tenure through legal rights, indicating tenure security can empower households and communities to advocate for better infrastructure and services and engage in local governance. These actions can lead to enhancements in home and neighbourhood safety, improved quality of infrastructure, and increased access to healthcare services. Furthermore, security of tenure can stabilise neighbourhoods by enhancing access to government services and infrastructure that supports healthcare provision (Baumgartner et al., 2023). This avowal suggests a direct or indirect link between enhanced land tenure security and improved health and well-being outcomes (Dachaga & de Vries, 2022).

While some scholars argue that health outcomes predict land tenure security (Tseng et al., 2021), Dachaga and de Vries (2022) suggest that land tenure security significantly shapes the socio-physical and environmental conditions

necessary for good health. They describe land tenure security as a form of preventive medicine, fostering resilient conditions for healthy living, while land tenure insecurity increases vulnerability to poor health and well-being. This positions land tenure security as a potential intervention for poverty alleviation and health improvement. Additionally, Baumgartner et al. (2023) assert that secure housing and land tenure contribute to poverty reduction and enhance living standards. This positions land tenure security not only as a protective measure against health risks but also as a catalyst for broader socio-economic development and poverty alleviation efforts. Thus, recognising the multifaceted impact of secure housing and land tenure becomes crucial for designing effective policies that enhance health and well-being while addressing systemic inequalities.

Land redistribution initiatives hold promise for addressing entrenched healthcare inequalities stemming from long travel distances, limited transportation options, and inadequate healthcare facilities. Boro and Saikia (2020) emphasise healthcare access barriers, the adverse effects of poor public transportation, and the absence of paved roads. They highlight the significant obstacle posed by the distance to healthcare facilities, often 15–25 km away from rural villages. Additionally, their research sheds light on a concerning reality: rural residents sometimes resort to selling their land to afford healthcare services, revealing the crucial link between land ownership, financial resources, and healthcare access (Boro & Saikia, 2020). This affirmation emphasises that land ownership can serve as a means to access healthcare, albeit through drastic measures.

However, Boro and Saikia (2020) also uncover intricate social dynamics within healthcare facilities, revealing instances of discrimination against landless agricultural labourers, typically hailing from impoverished backgrounds. This mistreatment reflects societal biases associating landlessness with poverty and social marginalisation, exacerbating the hurdles faced by those without land in accessing respectful and dignified healthcare services. Their findings shed light on the complex relationship between land ownership, socio-economic status, and healthcare access (Boro & Saikia, 2020). Furthermore, Baumgartner et al. (2023) opine that tenure security stabilises neighbourhoods by improving access to government services and infrastructure, including good healthcare access and services. While land can facilitate healthcare access through financial means, it also highlights the indignities and discrimination experienced by landless individuals within healthcare settings.

The relationship between land redistribution and access to healthcare services is multifaceted, with implications beyond mere economic or logistical considerations. The systematic review conducted by Ninomiya et al. (2023) sheds light on the intricate interplay between land dispossession, mental health, and healthcare access, particularly among Indigenous communities affected by industrial resource development. The findings indicate the profound psychological toll experienced by individuals and communities facing land dispossession. Loss of traditional

lands, cultural disconnection, and environmental degradation due to industrial activities contribute to heightened levels of psychological distress, trauma, and social disruption. These mental health impacts intersect with broader issues of health equity, as they exacerbate existing disparities in access to healthcare services, particularly for marginalised populations living in remote or underserved areas (Ninomiya et al., 2023). The review further highlights the concept of environmental injustice, wherein Indigenous communities disproportionately bear the negative health consequences of land dispossession and environmental degradation. This injustice extends beyond physical health outcomes to encompass mental well-being, as the loss of land and cultural heritage undermines the resilience and coping mechanisms of affected communities (Ninomiya et al., 2023).

Moreover, the Institute of Health and Welfare National Indigenous Australian Agency echoes the profound connection between land and various aspects of human life, such as cultural practices, systems of authority, intellectual traditions, spirituality, and resource systems ownership and exchange. Severing this relationship can inflict irreversible harm on individual human beings and their health (Institute of Health and Welfare National Indigenous Australian Agency, 2020). Additionally, losing access to traditional lands can disrupt customary healing practices and knowledge systems passed down through generations. These practices often complement Western medical treatments and are integral to Indigenous peoples' holistic approach to health and healing. Without access to their traditional lands and cultural practices, Indigenous people may face barriers in accessing culturally appropriate healthcare services that meet their unique needs and preferences. Dispossession of land can lead to economic marginalisation and poverty, which are significant determinants of healthcare access. Limited financial resources may restrict access to healthcare facilities, medications, and preventive services, further exacerbating health disparities among Indigenous populations (Nolan-Isles, 2021).

In a similar vein, Baumgartner et al. (2023) present an illustrative example from Pune, India, where informal neighbourhoods allocated more secure land tenure through a government formalisation programme to have better access to government assistance and healthcare services than communities not included in the programme. Additionally, titling programmes that provided official property ownership documentation to households in Lima, Buenos Aires, and Montevideo, the capital of Uruguay, had positive health effects across various age groups. These included lower teenage pregnancy rates, healthier child weight, and reduced risk of cardiovascular disease and diabetes, facilitated by improved access to healthcare services (Baumgartner et al., 2023).

The coexistence of heightened health concerns and land tenure insecurity prompts inquiry into the potential correlation between variations in land tenure security and health outcomes (Dachaga & de Vries, 2022).

## B. Countries Successful in Land Reform

### ➤ *New Zealand: A Model of Agricultural Success and Improved Healthcare Access*

New Zealand's transformative journey in land redistribution is a beacon of success in agricultural prowess and facilitating improved healthcare access for its populace. Following a six-year adjustment period, New Zealand witnessed a remarkable surge in agricultural productivity, solidifying its position as a global leader in the agricultural domain. Diversifying land use and developing innovative agricultural products emphasised the nation's commitment to fostering economic vitality and innovation within its farming sector (King, 2022). Despite the misconceptions surrounding New Zealand's agricultural reforms, the reality of its success story unveils a nuanced narrative. Contrary to popular belief, reducing financial support to the agricultural industry was not an overnight endeavour but a gradual phasing-out over several years (Finney, 2022). This deliberate approach allowed for the implementation of temporary assistance measures aimed at supporting struggling farmers and facilitating their transition to a more open market (Finney, 2022). These temporary measures played a pivotal role in New Zealand's agricultural evolution, offering income support to farmers facing financial challenges, providing expert guidance on adapting to market changes, facilitating debt restructuring, and sustaining the operations of influential marketing boards (King, 2022). Such comprehensive support mechanisms ensured the industry's resilience during the transition period, enabling it to thrive amidst reduced financial support (Finney, 2022). Crucially, the success of New Zealand's agricultural reforms has yielded broader societal benefits, including improvements in environmental and public health outcomes. By embracing a model of land redistribution that prioritises economic sustainability and innovation, New Zealand has laid the groundwork for enhanced healthcare access for its citizens. The thriving agricultural sector fosters economic growth and plays a crucial role in improving healthcare access. By providing increased access to nutritious food and creating opportunities for physical activity and outdoor recreation, agriculture contributes to a healthier populace. This enhanced access to nutritious food and active lifestyles has helped prevent chronic diseases, promote overall well-being, and reduce the burden on healthcare systems (Finney, 2022).

By recognising the interdependence between land use, economic prosperity, and public health, New Zealand has forged a path towards heightened equity and well-being for its citizens by offering valuable lessons for countries seeking to emulate its achievements (Finney, 2022) in healthcare access through land redistribution strategies. Finney (2022) suggests that New Zealand's land reform has been highly successful to the extent that it is proposed and recommended as a potential model for the United States to consider.

### ➤ *South Korea Land Reform: A Catalyst for Improved Healthcare Access*

The Republic of Korea, also known as South Korea, has been one of the fastest growing countries to achieve economic success during the past half-century. Its remarkable economic

ascent is a testament to its strategic accumulation of human capital, a feat gravely facilitated by successful land reform initiatives (Hong & Kim, 2022). This pivotal reform reduced societal inequality and paved the way for enhanced access to healthcare services for its citizens. Central to South Korea's economic success story is its effective land reform, which played a crucial role in reducing inequality within Korean society. One of the primary outcomes of South Korea's land reform was the transformation of former tenant farmers into independent landowners. This shift allowed these individuals to acquire land at affordable prices, freeing them from the financial burdens of high rents that had previously hindered their economic prospects. As such, independent farmers were exempted from paying exorbitant rents, allowing them to accumulate wealth and access financial resources, including loans backed by their newly acquired land (Kim & Hong, 2022). By providing individuals with economic stability and resources, land reform empowers them to invest in education, healthcare, and other aspects of human development (Kim & Hong, 2022).

South Korea's success in land reform propelled its economic growth and facilitated improved access to healthcare services for its citizens. By addressing inequality and empowering individuals with land ownership, South Korea has demonstrated the transformative potential of land redistribution in promoting health equity and fostering societal well-being. As other countries consider similar reforms, the South Korean experience serves as a compelling example of the synergies between land redistribution and healthcare access, offering valuable lessons for achieving equitable healthcare systems worldwide.

#### ➤ *Denmark Agrarian Reforms: Fostering Improved Healthcare Accessibility*

Denmark's historical approach to agrarian reform, prioritising efficiency in land distribution, has had profound implications for healthcare access within the country. While contemporary Denmark is celebrated for its equality and prosperity, its success roots lie in strategic decisions made during the 1700s to balance land access with agricultural productivity (Helfand et al., 2019). Agrarian reforms, akin to recent evolutions in transition economies, have long been recognised as pivotal in driving agricultural productivity and fostering economic modernisation. Denmark's historical emphasis on efficiency in land distribution paved the way for establishing a politically and economically stable class of medium-sized landowners (Helfand et al., 2019). This class shaped Danish politics and laid the groundwork for equitable healthcare access. By prioritising efficiency, Denmark's agrarian reforms created a conducive environment for agricultural innovation and investment. The resulting economic stability contributed to the emerging, robust healthcare system, underpinned by equitable access to resources and services. Furthermore, the availability of landownership opportunities empowered individuals, enabling them to invest in education, healthcare, and other aspects of human development (Helfand et al., 2019). Unlike regions where collectivisation prevailed, Denmark's pro-market and pro-household reforms fostered increased economic agency among its citizens (Helfand et al., 2019),

leading to enhanced healthcare access and improved wellbeing.

Today, Denmark serves as a model for healthcare access, with its equitable policies rooted in historical land redistribution efforts. The country's journey from agrarian reform to robust healthcare provision highlights the critical role of equitable land distribution in fostering societal well-being and prosperity.

#### C. *Unsuccessful Nations Experiences*

##### ➤ *Russia Struggle with Land Reform and its Implications for Healthcare Access*

The narrative surrounding land reform in Russia paints a picture of significant challenges and shortcomings, with implications that extend beyond the agricultural sector to impact healthcare access for its citizens. The reform efforts initiated in 1861 aimed to liberate peasants from the oppressive system of serfdom but ultimately fell short, perpetuating economic inequality and exacerbating socio-economic hardships (Kutliyarov et al., 2022). The redistribution of land following the 1861 reform proved insufficient to meet the agricultural needs of the peasant population, leading to unsustainable practices and widespread land degradation. This action resulted in famine and economic turmoil, highlighting the interconnectedness between land distribution, agricultural sustainability, and public health outcomes. Insufficient access to arable land directly impacted food security and nutrition, contributing to poor health outcomes among Russian peasants (Kutliyarov et al., 2022). Subsequent attempts at land reform, including Stolypin's reform in the early 20th century, also failed to address underlying issues of inequality and inefficiency. The establishment of collective farms during the Soviet era further complicated land management and hindered agricultural development, exacerbating challenges related to healthcare access (Kutliyarov et al., 2022). Despite legislative changes and policy initiatives over the years, including the Land Code of the Russian Federation in 2001, the overall impact of land reform on healthcare access remains minimal. Bureaucratic hurdles, legal ambiguities, and resistance from entrenched interests have hampered the effective implementation of reform measures, perpetuating inequalities in land ownership and distribution.

The ongoing debates and legislative changes surrounding land reform in Russia highlights the complexities and shortcomings of reform efforts, with far-reaching implications for healthcare access. Unequal land distribution and inadequate support for small-scale farmers contribute to disparities in socio-economic status and access to healthcare services, perpetuating a cycle of poor health outcomes among vulnerable populations. Russia's struggle with land reform reflects broader challenges in achieving equitable healthcare access. As such, addressing the underlying issues of land ownership, distribution, and management is crucial for promoting health equity and improving healthcare outcomes for all Russian citizens.



➤ *India Land Reform Challenges and Implications for Healthcare Access*

In India, where a significant portion of the population depends on land for their livelihoods, land governance remains a complex and contentious issue. Despite efforts to address these challenges, India has struggled to achieve meaningful success in land reform, with far-reaching implications for healthcare access among its citizens (Bhatia, 2021). India's rapid population growth and limited land availability present a formidable challenge in balancing the competing demands for land resources. As the country transitions to a lower-middle-income economy, the pressure on land resources has intensified, exacerbating existing inequalities and creating new socio-economic challenges (Bhatia, 2021). Efforts to ease restrictions on transferring agricultural land for non-agricultural purposes have shown limited effectiveness in driving industrial growth and economic development. Policy measures such as land banks and special economic zones have failed to address the structural issues within land markets, hindering progress towards equitable land distribution and socio-economic development (Bhatia, 2021). Moreover, the shift towards capital-intensive agriculture has raised concerns about displacing labour and the long-term viability of this model for India's agricultural sector. The lack of adequate reforms to address these challenges further accentuates the persistent inequalities within India's land governance framework (Bhatia, 2021).

Limited progress in the land governance processes has hindered efforts to improve transparency, efficiency, and accountability within India's land administration system. India's struggles with land reform have profound implications for healthcare access among its population. Inadequate land governance and persistent inequalities in land distribution contribute to socio-economic disparities, limiting access to essential healthcare services for vulnerable communities.

➤ *South Africa: Challenges in Land Reform and Implications for Equity in Healthcare Access*

South Africa's land reform program has faced considerable obstacles in addressing historical imbalances in land ownership and distribution, with far-reaching implications for equity in healthcare access. Despite government initiatives tackling inequality and skewed ownership patterns, progress has been slow, and socio-economic objectives remain largely unmet (Department of Agriculture, Land Reform and Rural Development, 2019).

Historical injustices, including colonial-era policies like the Native Land Act of 1913 and forced removals, have entrenched land ownership in the hands of the white minority, leading to the dispossession and dislocation of indigenous communities. This loss of ancestral land has profoundly impacted wealth, social cohesion, productivity, and cultural identity among affected populations (Department of Agriculture, Land Reform and Rural Development, 2019).

Efforts to redistribute land from white minority to black majority ownership have encountered significant challenges,

with the original targets largely unmet. Financial constraints, reliance on the willing-buyer willing-seller model, capacity gaps in the public sector, beneficiary knowledge deficits, and inadequate support mechanisms have impeded progress. Debates on amending the Constitution to allow for expropriating land without compensation reflect the urgency of addressing these challenges (Department of Agriculture, Land Reform and Rural Development, 2019). Despite ongoing policy reforms and interventions, systemic and structural obstacles persist. Government initiatives to provide tenure security and utilise state land for reform are underway, but their impact remains limited. Conclusively addressing spatial inequality and equity in land ownership presents a formidable challenge for South Africa, with implications extending to healthcare access (Department of Agriculture, Land Reform and Rural Development, 2019).

In South Africa, land reform challenges programmes illustrate the profound implications for equity in healthcare access. The land reform programme, initiated to address historical injustices and redistribute land more equitably, has encountered numerous obstacles. As a result, progress has been slow, and many of the intended beneficiaries continue to live without secure land tenure. The persistent disparities in land ownership and distribution exacerbate existing socio-economic inequalities, impacting access to healthcare services among marginalised communities.

### III. METHODOLOGY

In the pursuit of understanding the complex relationship between land redistribution, health, and healthcare access, this study employs a multifaceted approach, integrating a literature review survey with an analysis of data from the Global Health Security (GHS) Index. The literature review was informed and guided by a thorough search strategy to identify scholarly works pertinent to the research topic. This process involved drawing from diverse sources such as academic journals, books, and conference proceedings. The review encompassed a broad spectrum of literature spanning various disciplines, including public health, epidemiology, geography, sociology, and policy studies. The identified literature was subjected to comprehensive analysis and synthesis, focusing on discerning recurring themes, emerging trends, and gaps in knowledge. This process aimed to elucidate the current state of understanding regarding the impact of land tenure security on health outcomes and healthcare access. Key topics explored included the social health determinants, land tenure roles in shaping living conditions, and land redistribution policy implications. In addition to the literature review, this study incorporated an analysis of data sourced from the GHS Index, a comprehensive assessment tool designed to evaluate countries' capacities to prevent, detect, and respond to health emergencies. Leveraging the rich dataset provided by the GHS Index, this analysis sought to complement the insights gleaned from the literature review with evidence derived from real-world indicators. Synthesising the findings from the literature review and GHS Index analysis, this study strived to weave disparate strands of knowledge into a cohesive narrative

#### IV. ANALYSIS

The graph below provides a comparative analysis of six countries, namely, Denmark, India, New Zealand, Russia, South Africa, and South Korea, highlighting their rankings and overall index scores. The author generated the graph below using data retrieved from the Global Health Security (GHS) index.

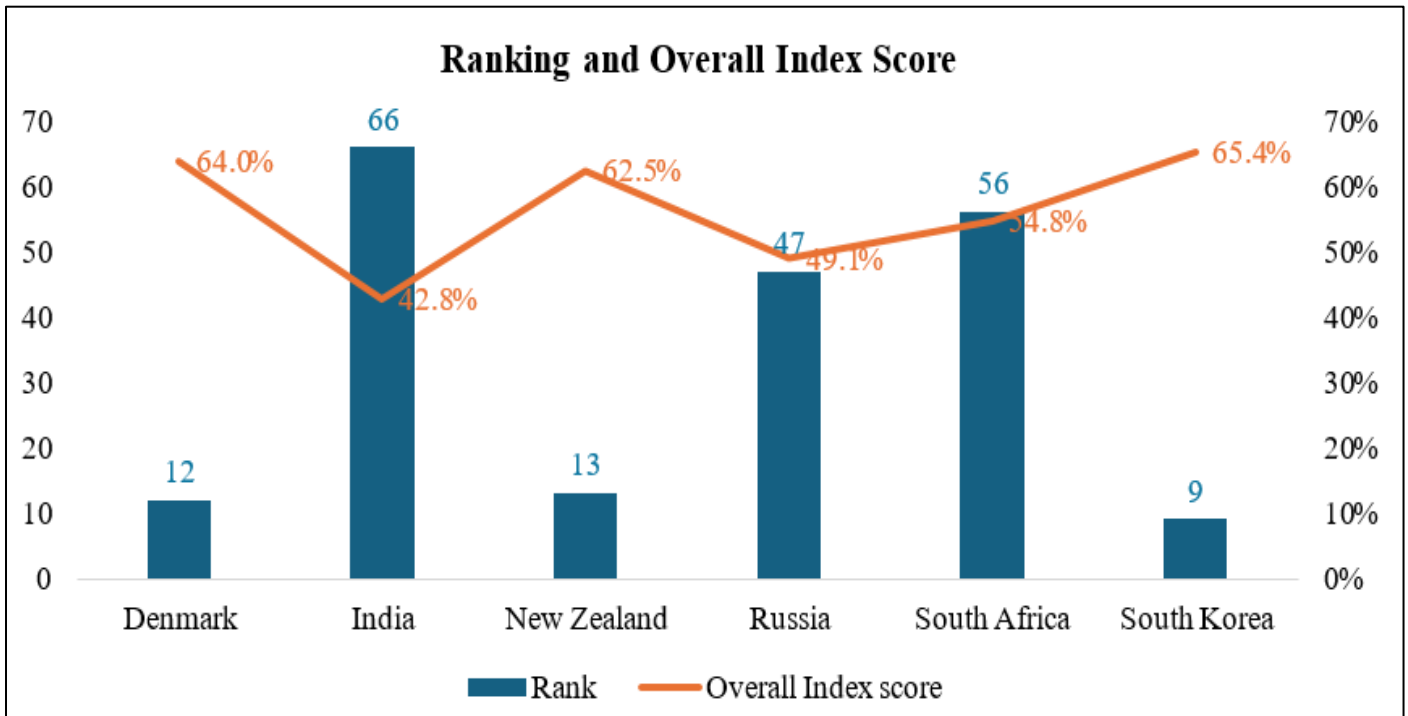


Fig 1 Rankings and Overall Index Score  
Source: Author (2024)

According to the graph above, Denmark’s significant ranking was 12th out of 195 countries, with an overall index score of 64%, reflecting its strong performance across various health indicators and solidifying its position among the world’s leading nations in terms of public health.

India ranked 66th out of 195 countries with an overall index score of 43%, highlighting specific areas requiring attention and improvement. In this regard, addressing critical factors, such as comprehensive land redistribution, could enhance healthcare access and overall public health, thus leading to an improved ranking.

New Zealand’s commendable 13th position out of 195 countries indicated its global significance in public health. With an overall index score of 63%, this country showcased robust performance across various health indicators, providing a vigorous foundation for potential further advancements.

Russia, at 47th position out of 195 countries, demonstrated moderate performance in health-related indicators with an overall index score of 49%. This positioning offered insight into

Russia’s health landscape compared to other nations and points to potential areas of improvement.

Meanwhile, South Africa held the 56th position out of 195 countries, exhibiting a moderate level of performance in health-related indicators with an overall index score of 55%. This positioning signified its significance on the global stage and emphasised opportunities to enhance its public health initiatives.

Moreover, South Korea’s impressive 9th position out of 195 countries, with an overall index score of 65%, solidified its prominent global status. This ranking signalled its exceptional performance across various health indicators, positioning it as a primary influencer in international public health efforts.

Figure 2 below provides a comparative analysis of six countries, namely, Denmark, India, New Zealand, Russia, South Africa, and South Korea, highlighting infrastructure adequacy and management of public health vulnerabilities. The author generated the below graph using data retrieved from the GHS index.

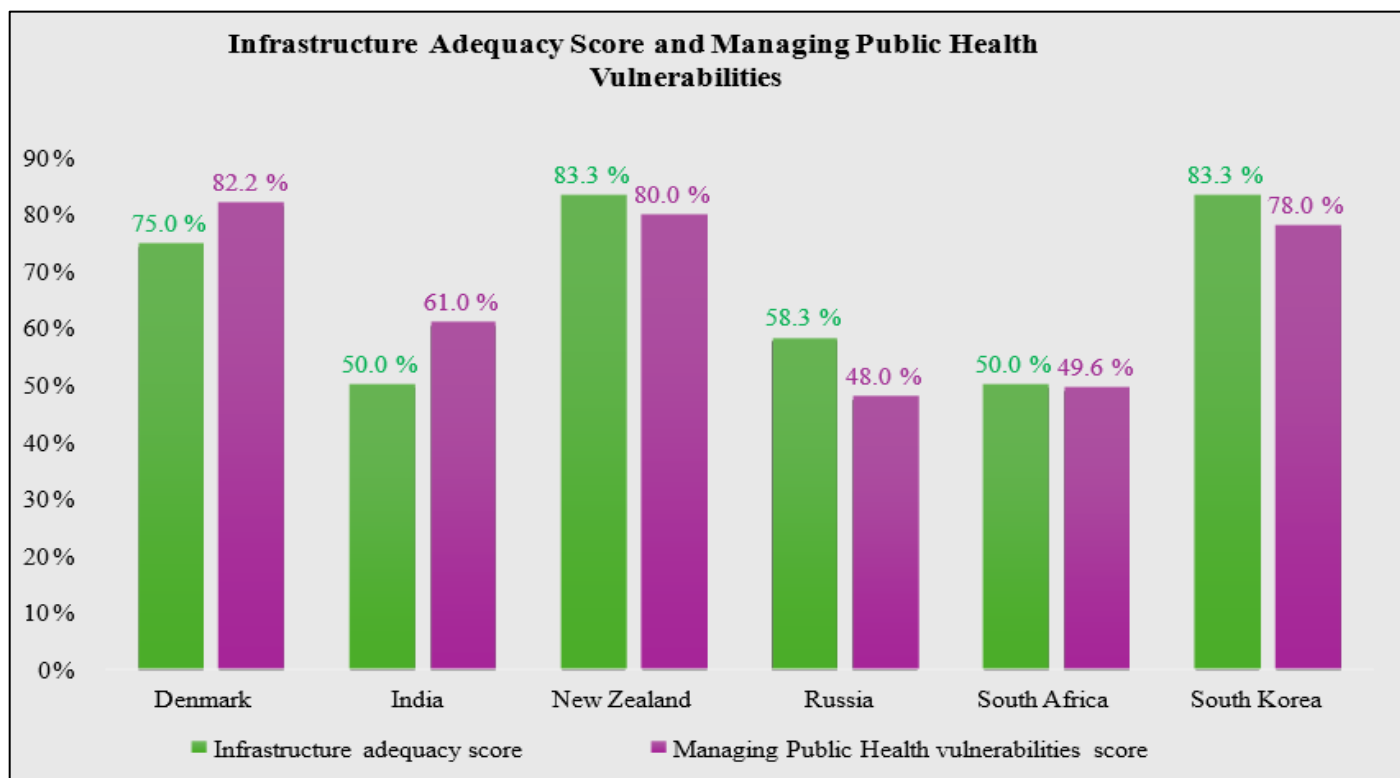


Fig 2 Infrastructure Adequacy Score and Managing Public Health Vulnerabilities  
Source: Author (2024)

Table 1: Comparison of Infrastructure Adequacy and Public Health Vulnerability Management Across Countries

Country	Infrastructure Adequacy Score	Managing Public Health Vulnerabilities
<b>Denmark</b>	Denmark’s infrastructure adequacy score of 75% indicates a well-established and efficient infrastructure system. The high score suggests that Denmark has invested significantly in developing and maintaining its physical and digital infrastructure, ensuring that essential services are accessible and reliable. This level of infrastructure improves the overall quality of life for its citizens.	Denmark excels in managing public health vulnerabilities, as evidenced by its high score of 82.20%. Its healthcare system is accessibility and of quality, and efficiency. Additionally, this country’s focus on health education and promotion, along with its emphasis on healthy lifestyles, contributes to reducing the burden of chronic diseases and improving overall health outcomes.
<p>In conclusion, Denmark’s high ranking and overall index score are a testament to its strong performance in infrastructure adequacy and public health management. The country’s well-established infrastructure, effective public health measures, and focus on preventive care create a resilient healthcare system that delivers excellent health outcomes for its population’s groundbreaking land reform initiatives, which have played a pivotal role in shaping a healthcare system the world envies.</p> <p>Denmark’s visionary land reform policies have paved the way for equitable access to healthcare services nationally. By strategically distributing healthcare facilities and resources, this country ensures that even remote and rural areas access quality medical care. This deliberate decentralisation of healthcare services has democratised access to healthcare, breaking down barriers to entry and empowering all citizens in proactively managing their health.</p>		
<b>India</b>	India’s infrastructure adequacy score is moderate at 50%, highlighting considerable gaps in developing and maintaining essential infrastructure. The score reflects the uneven distribution of infrastructure across the country, with some areas suffering from inadequate facilities and services. This disparity can be linked to historical patterns of land ownership and distribution, where large tracts of land are controlled by a few, leaving many without access to land that could be used to advance essential infrastructure.	India’s public health vulnerabilities are managed to a moderate degree, with a score of 61%. This measure indicates that while systems exist to address public health risks, significant challenges remain. The healthcare system in India faces several issues, including insufficient healthcare facilities.
<p>India’s lower global ranking and moderate scores in infrastructure adequacy and public health management highlight its significant challenges, many of which can be linked to the absence of comprehensive land redistribution policies. Its infrastructure landscape is marked by disparities, with some areas lagging in terms of access to basic amenities such as roads.</p>		

This disparity can be attributed to unequal land distribution patterns, where large swathes of land are concentrated in the hands of a few, hindering efforts to develop essential infrastructure in underserved regions.		
<b>New Zealand</b>	A critical aspect of New Zealand’s global standing is its infrastructure adequacy score, which stood at 83.3%. This score highlights its commitment to developing and maintaining modern infrastructure systems that facilitate economic growth, connectivity, and social development. From transportation networks to healthcare facilities, this nation’s infrastructure reflects a proactive approach to addressing the evolving needs of its populace.	In light of recent global health challenges, New Zealand’s ability to manage public health vulnerabilities is of paramount importance. With a score of 80%, it demonstrated a proactive and efficient approach to safeguarding the health and wellbeing of its citizens. Through robust public health policies, investment in healthcare infrastructure, and community engagement, New Zealand has established itself as a leader in pandemic preparedness and response.
New Zealand’s exceptional performance in global rankings, infrastructure adequacy, and public health management can serve as a testament to the transformative impact of its visionary land reform initiatives. As a forward-thinking nation, it has recognised the intrinsic link between land ownership and healthcare access, leveraging land reform as a catalyst for positive change. By prioritising equitable land distribution, this country has empowered its citizens’ access to land and resources, laying the groundwork for inclusive infrastructure development and enhanced healthcare access. This strategic approach has facilitated the establishment of healthcare facilities in previously underserved areas, ensuring that even remote communities have access to quality medical care.		
<b>Russia</b>	Russia’s infrastructure adequacy score of 58.3% exposed the relatively unstable state of infrastructure supporting healthcare delivery, spanning hospitals, clinics, medical equipment, and transportation networks. This score cast a shadow over its struggle to maintain a reliable infrastructure backbone, crucial for adequately reaching every corner of the nation with effective healthcare services.	The results revealed that Russia demonstrated 48% capacity to manage public health vulnerabilities. This score indicates its lack of preparedness and response mechanisms in addressing health emergencies, pandemics, disease outbreaks, and other public health challenges.
Russia’s health overall index score served as a stark reminder of its struggle to address health-related issues due to the absence of comprehensive land reform. While the nation exhibited strengths in specific healthcare and public health management aspects, the lack of equitable land distribution has hindered infrastructure development and public health preparedness. By failing to prioritise land reform, Russia has perpetuated disparities in healthcare access, resulting in subpar health outcomes for many citizens.		
<b>South Africa</b>	South Africa’s infrastructure adequacy score of 50% highlighted its struggle in establishing and sustaining crucial infrastructure networks. This score was a substantial reminder of the insufficiency and inefficiency plaguing infrastructure systems supporting various sectors, including transportation, energy, and healthcare.	The managing of public health vulnerabilities score for South Africa was 49.6%, signifying the nation’s inadequate capacity to address health-related challenges and mitigate risks. This score indicated this country’s insufficient preparedness and response mechanisms in managing public health emergencies, disease outbreaks, and other health vulnerabilities.
South Africa’s performance in health and infrastructure highlighted its significance globally yet reveals a troubling narrative of inadequate healthcare access stemming from the absence of comprehensive land reform. While the nation exhibited strengths in healthcare access and disease prevention, the failure to implement equitable land redistribution has impeded infrastructure development and public health management.		
<b>South Korea</b>	With a remarkable infrastructure adequacy score of 83.3%, South Korea exemplified excellence in infrastructure development. This score highlighted its commitment to building and maintaining modern infrastructure systems that support economic growth, connectivity, and societal well-being.	South Korea demonstrated strong capabilities in managing public health vulnerabilities, as evidenced by its score of 78%. This score reflected its effective strategies and measures in addressing health-related challenges, including disease prevention, healthcare access, and emergency response protocols.
South Korea’s infrastructure development and public health management were rooted in its visionary land reform policies. By prioritising equitable land distribution, South Korea enabled inclusive infrastructure growth and expanded healthcare access. This approach has led to the establishment of medical facilities in underserved regions, ensuring broader healthcare coverage. Through sustained investment in infrastructure and public health, this nation secured its trajectory of success and set a global standard for equitable development.		

The array of global rankings and scores presented in this analysis highlights the intricate relationship between infrastructure, public health, and land reform policies in

influencing the well-being of nations. Countries like Denmark, New Zealand, and South Korea serve as shining examples, demonstrating how equitable land distribution can



catalyse enhanced healthcare access and robust infrastructure development. These nations built resilient healthcare systems and modern infrastructure networks that benefit all citizens by ensuring fair distribution of resources. Conversely, countries like India, Russia, and South Africa continued to grapple with challenges stemming from historical land distribution patterns. The land ownership disparities and access contributed to significant hurdles in infrastructure development and healthcare accessibility. Despite efforts to address these issues, persistent inequalities persist, hindering advancements and developments in public health and infrastructure.

## V. FINDINGS

The study reveals a complex and significant relationship between land redistribution policies and healthcare accessibility as outlined below:

### ➤ *Impact of Historical Land Distribution Patterns:*

Historical patterns of land ownership concentration have entrenched systemic marginalisation among diverse populations, negatively impacting their ability to access essential healthcare services. Countries characterised by inequitable distribution of land tend to suffer from disproportionately poorer healthcare infrastructure. This disparity manifests in several critical ways, such as inadequate numbers of healthcare facilities, insufficient medical personnel, and limited financial resources allocated to healthcare services. As a consequence, residents in these areas face heightened barriers in accessing timely and quality healthcare, exacerbating health inequalities. The nexus between historical land redistribution and healthcare access further reveals a stark reality: communities with concentrated land ownership historically experience diminished health outcomes compared to regions where land ownership is more equitable. This relationship indicates the enduring legacy of socio-economic disparities stemming from historical injustices in land distribution policies.

### ➤ *Benefits of Land Redistribution:*

Land redistribution initiatives, particularly those guaranteeing secure land tenure, have proven to be transformative in improving healthcare access and outcomes. Countries that have successfully implemented such policies, such as Denmark, New Zealand, and South Korea, offer compelling examples of how equitable land distribution positively influences public health. Secure land tenure plays a crucial role in fostering economic stability and empowerment within marginalised communities. By providing secure land rights, these initiatives empower individuals and communities to invest in their land, leading to increased agricultural productivity, diversified livelihood opportunities, and enhanced income generation. This economic upliftment not only improves living standards but also enables individuals to better afford and access essential healthcare services. Moreover, the positive correlation between secure land tenure and health extends beyond economic factors. Access to secure land often translates into improved housing conditions, sanitation facilities, and nutrition, all of which are fundamental determinants of

health. Communities with secure land tenure are better positioned to build sustainable infrastructure for healthcare delivery, attracting investment in healthcare facilities and services that cater to their specific needs.

### ➤ *Global Health Security Index Insights:*

Analysis of the Global Health Security Index reveals a significant correlation between equitable land distribution and healthcare accessibility, highlighting its impact on overall health security. Countries that have implemented policies ensuring secure land tenure tend to score higher in healthcare access metrics within the index. This correlation highlights the critical role of land tenure security in promoting health equity and sustainable development. Secure land rights empower individuals and communities to invest in their health and well-being by improving living conditions, accessing essential healthcare services, and building resilient healthcare systems. In contrast, regions with inequitable land distribution often face heightened barriers to healthcare access, exacerbating health disparities and compromising overall health security. By prioritising equitable land distribution policies, governments strengthen healthcare infrastructure, enhance healthcare accessibility, and mitigate health risks more effectively. This holistic approach not only improves health outcomes but also contributes to broader socioeconomic development goals, fostering inclusive growth and resilience against health emergencies.

## VI. DISCUSSION

The relationship between land redistribution and healthcare access is complex and multifaceted, demonstrating significant implications for social equity and public health. This study highlights that equitable land distribution can profoundly influence health outcomes by addressing the socioeconomic determinants of health, including access to healthcare services.

### ➤ *Impact of Land Redistribution on Healthcare Access*

Evidence from various countries, such as New Zealand, South Korea, and Denmark, shows the transformative potential of land reform in enhancing healthcare accessibility. In New Zealand, agricultural reforms boosted productivity and indirectly improved public health by increasing access to nutritious food and fostering economic stability (Finney, 2022). Similarly, South Korea's land reforms reduced societal inequality and empowered individuals to invest in healthcare and education, promoting overall well-being of its citizens (Hong & Kim, 2022). Denmark's historical approach to agrarian reform, prioritising efficiency in land distribution, paved the way for establishing a politically and economically stable class of medium-sized landowners (Helfand et al., 2019). This class shaped Danish politics and laid the groundwork for equitable healthcare access. Moreover, secure land tenure in Denmark empowered individuals to invest in education, healthcare, and other aspects of human development, similar to the outcomes observed in New Zealand and South Korea. This empowerment enabled communities to advocate for better healthcare infrastructure and services, enhancing the overall socio-economic well-being of the population (Helfand et al., 2019). These countries

illustrate that land redistribution can be a powerful tool for poverty alleviation and health improvement. As such, governments can create stable living environments, reduce stress, and improve access to essential services, including healthcare, by providing secure land tenure. Secure land tenure also empowers communities to advocate for better infrastructure and services, leading to broader socio-economic benefits.

➤ *Challenges and Barriers of Land Reform and Healthcare Access*

Despite the promising outcomes in other countries, the implementation of land reform is fraught with challenges. Russia has illustrated significant hurdles in achieving effective land reform, which has led to ongoing socio-economic disparities and limited healthcare access for the marginalised population. Similarly, the experiences in South Africa and India highlight the difficulties in overcoming entrenched inequalities and ensuring that land redistribution efforts reach those in need the most. Moreover, the intersection of land tenure security and health outcomes is particularly pronounced among Indigenous communities (Institute of Health and Welfare National Indigenous Australian Agency, 2020). The loss of traditional lands and the subsequent cultural disconnection have severe psychological and social impacts, exacerbating health disparities (Institute of Health and Welfare National Indigenous Australian Agency, 2020). This assertion highlights the need for land reform policies sensitive to cultural contexts and promoting the physical and mental well-being of the populace.

## VII. RECOMMENDATIONS

➤ *Countries may ensure that land reform initiatives, particularly those focused on equitable redistribution, significantly impact healthcare outcomes and access to healthcare services.*

These initiatives should be integrated into broader health and development strategies to maximise their effectiveness. This approach entails investment in healthcare infrastructure by allocating resources to build and upgrade healthcare facilities in areas benefiting from land redistribution as well as improving access to healthcare by strategically locating facilities within redistributed land areas, ensuring proximity and ease of access for all residents, as well as promoting economic opportunities within redistributed lands, such as agricultural training programmes, cooperative farming initiatives, and micro-enterprise development. This approach advances economic stability and diminishes susceptibility to health hazards linked to socioeconomic deprivation.

➤ *Governments may consider designing and implementing robust land reform policies that address historical injustices and aim to reduce socio-economic inequalities.*

These policies should ensure secure land tenure for marginalised populations, including clear legal frameworks that recognise and protect land rights to support new landowners. They should include implementing measures to rectify past injustices through fair and transparent processes

of land redistribution that prioritise those who have been historically disadvantaged and coordinating with ministries of health, education, agriculture, and social services to ensure that land redistribution contributes to improved health outcomes, enhanced livelihoods, and overall socio-economic development to address historical injustices and reduce socio-economic inequalities effectively.

➤ *Governments and relevant stakeholders may consider engaging local communities in the planning and implementation of land reform programmes for their success and longterm sustainability.*

Community involvement ensures tailor-made policies to local needs and empowers individuals to take ownership of their land and health outcomes. Participatory decision-making mechanisms should be established to enhance community engagement. By actively involving communities, governments can empower individuals to take ownership of their land and health outcomes, fostering a sense of responsibility and commitment to the success of the reform initiatives. Additionally, community engagement can go beyond mere consultation; it should encompass meaningful participation throughout all stages of the land reform process. This measure includes identifying priorities, designing interventions, implementing programmes, and monitoring outcomes. By actively involving communities, governments can ensure that land reform initiatives meet immediate needs and contribute to long-term sustainable development and improved health outcomes within marginalised populations.

➤ *Relevant authorities may consider establishing robust monitoring and evaluation systems to assess the impact of land reform policies and identify areas for improvement.*

These systems should track changes in land ownership patterns, health outcomes, and socioeconomic conditions to ensure policies achieve their intended goals. By monitoring changes in land ownership patterns, governments can evaluate whether land redistribution initiatives are reaching their intended beneficiaries, particularly marginalised populations such as Indigenous communities, women, and small-scale farmers. This initiative helps ensure that land tenure security is established effectively and maintained, promoting stability and sustainable development in redistributed areas. Moreover, tracking socio-economic conditions allows policymakers to assess the broader impacts of land reform on livelihoods, income generation, and overall community well-being. This practice includes monitoring improvements in access to basic services, infrastructure development, and economic opportunities within redistributed areas.

➤ *Further empirical research is recommended to explore the long-term impacts of land redistribution on health to identify best practices for policy implementation.*

This research should prioritise the impact of land redistribution on healthcare access and utilisation. It should include examining changes in healthcare-seeking behaviour, utilisation of preventive and curative services, and overall health service delivery in redistributed areas. Such research can highlight barriers to healthcare access faced by different

population groups and inform targeted interventions to improve health service provision in these areas.

### VIII. CONCLUSION

This study concludes that land redistribution holds significant promise for enhancing healthcare access and achieving health equity. Nations that prioritise equitable land distribution and invest in robust infrastructure demonstrate better health security outcomes. This affirmation suggests that addressing historical land ownership patterns and promoting inclusive infrastructure development are critical steps toward achieving global health equity. To foster sustainable development and improve public health, countries must prioritise policies that promote fair land distribution and infrastructure investment. By learning from the successes of nations like Denmark, New Zealand, and South Korea, other countries can develop strategies to enhance healthcare access and infrastructure, paving the way for a healthier and more prosperous future. By addressing the socio-economic determinants of health and providing secure land tenure, governments can empower marginalised populations and foster sustainable development. However, successful implementation requires careful planning, community involvement, and a commitment to addressing historical and cultural contexts. Finally, it is critical to integrate land reform into broader health and development policies to create equitable and healthy societies.

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