RESILIENT SMALLHOLDER FARMING AND FOOD SECURITY IN CLIMATE-VULNERABLE RURAL AREAS. A CRITICAL DISCOURSE ANALYSIS OF A CLIMATE RESILIENCE PROJECT IN ZAMBIA

Ciprian NIȚU[1]
Denisa PAUL[2]
https://doi.org/10.54989/stusec.2025.19.02.04

Abstract

This paper critically examines an UNDP initiative designed to support climate resilience of smallholder farmers. Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I and II in Zambia (SCRALA) project is based on the assumption that agricultural resilience-building intrinsically lead to food security. Using critical discourse analysis, this study undertakes a contextual, textual, and intertextual investigation of the official SCRALA documents aiming to question the above assumption. Contextual analysis explores the discursive context that surrounds the SCRALA's approach to climate resilience and food security.

Textual analysis focuses on the lexical choices and distribution of active and passive voice within the SCRALA narrative. Intertextual analysis highlights the discursive connections both internally, between the documents of the SCRALA project, and externally, with the larger UN narrative on agro-resilience and food security. The paper reveals the pre-eminence of a technocratic discourse within SCRALA project. This discourse aligned with the priorities of the donor sector, consistently emphasizes quantifiable outputs, yet often obscures local vulnerabilities. Within the official narrative, the project is presented as a key mechanism to secure agricultural sustainability in Zambia. Yet, the institutional narratives dominate, often silencing the lived experiences of smallholder farmers. This paper advocates for a more inclusive adaptation framework, one that roots agricultural resilience in equity, justice, and rights.

Keywords: smallholder farming; food security; vulnerable rural areas; agricultural resilience; SCRALA Zambia

Introduction

Climate shocks have a devastating impact on rural communities in areas where people's main economic activity is agriculture[3]. This is particularly true for countries in the Global South that are vulnerable to climate change, such as Zambia, where food security is a critical issue. To alleviate the condition of households, the international community joined

[1] Ciprian Nițu is a lecturer in the Department of Governance Studies at West University of Timișoara, Romania, where he teaches political theory and international governance. His research focuses primarily on critical governance and social development. ORCID: https://ORCID.org/0000-0003-1670-1154, ciprian.nitu@e-uvt.ro
[2] Denisa Paul is a student in the Master's program in International Development within the Department of Governance Studies at West University of Timișoara, Romania. ORCID: https://ORCID.org/0009-0008-3220-7643, denisa.paul02@e-uvt.ro
[3] Stacy-ann Robinson, *Climate change adaptation in SIDS: A systematic review of the literature pre and post the IPCC Fifth Assessment report*, "WIREs Climate Change", Vol. 11, No. 4, 2020, p. 5, https://doi.org/10.1002/wcc.653

national and local efforts to develop policies and instruments intended to build agricultural resilience for small farmers in response to increasing climate pressure[1]. Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I and II in Zambia (SCRALA) is a project developed within United Nations (UN) system, implemented by United Nations Development Programme (UNDP), and financially supported by Green Climate Fund (GCF)[2]. It was designed to address human security issues emerging from climatic vulnerability[3] by promoting agricultural resilience over a period of seven years (2018-2025).

This paper focuses on a specific aspect of human security, namely food security. A central assumption of the UNDP's development philosophy is that poverty and hunger, specifically, can be alleviated by building agricultural resilience in climate-vulnerable rural areas. Agricultural resilience refers to the ability of the agricultural system to withstand different shocks and challenges and acquiring it is seen as a crucial step for achieving food security and development[4]. Though this idea may appear obvious and undebatable at first glance, it remains to be seen whether the assumption may withstand critical inquiry. The point of this paper is that the relation between food security and smallholder agriculture resilience in vulnerable rural areas is not that straightforward. The paper aims at deconstructing the supposition that building agricultural resilience automatically translates into improved food security. This goal is achieved through the use of critical discourse analysis.

The SCRALA project is one of many similar cases. Examples can be identified in geographically proximate areas, such as the Building Climate Resilience of Vulnerable Agricultural Livelihoods in Southern Zimbabwe project[5], as well as in more remote regions in Africa, as illustrated by the Strengthening Agricultural Resilience through Transformational Livelihood Adaptation in Liberia initiative[6] or other zones in the Global South, such as Community-Based Climate-Responsive Livelihoods and Forestry in Afghanistan[7], just to mention one example. Yet, given the SCRALA project is in its final year of implementation, it serves as a timely case study whose final evaluation could benefit from the analysis conducted in this paper.

However, we must confess that convenience played a significant role in the selection of our case study. The research began as a seminar project within the International

[1] Mashford Zenda, Michael Rudolph, *A systematic review of agroecology strategies for adapting to climate change impacts on smallholder crop farmers' livelihoods in South Africa*, "Climate", Vol. 12, No. 3, 2024, p. 3, https://doi.org/10.3390/cli12030033

[2] Green Climate Fund, *Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia (SCRALA)*, 2018, https://www.greenclimate.fund/project/fp072 (04.11.2025)

[3] Mitul Dutta, *Climate-Induced Impoverishment: Reviewing the SDG Goals through the Lens of Global Justice*, "NDIEAS-2024 International Symposium on New Dimensions and Ideas in Environmental Anthropology-2024 (NDIEAS 2024)", 2024, https://doi.org/10.2991/978-2-38476-255-2_23 (09.11.2025)

[4] United Nations, *Transforming our world: the 2030 Agenda for Sustainable Development*, 2015, https://sdgs.un.org/2030agenda (10.11.2025)

[5] UNDP Climate Change Adaptation, *Building Climate Resilience of Vulnerable Agricultural Livelihoods in Southern Zimbabwe*, 2020, https://www.adaptation-undp.org/GCF-Zimbabwe (09.11.2025)

[6] UNDP Climate Change Adaptation, *Strengthening Agricultural Resilience through Transformational Livelihood Adaptation in Liberia initiative*, 2025, https://www.adaptation-undp.org/projects/strengthening-agricultural-resilience-through-transformational-livelihood-adaptation (09.11.2025)

[7] UNDP Climate Change Adaptation, *Community-Based Climate-Responsive Livelihoods and Forestry in Afghanistan*, 2025, https://www.adaptation-undp.org/projects/community-based-climate-responsive-livelihoods-and-forestry-afghanistan (25.11.2025)

Development Master's programme at the Department of Governance Studies, West University of Timișoara. We found it compelling to take the project beyond the confines of a seminar class. Firstly, we were challenged by the question of how such research could be meaningfully concluded, given the distance from the object of study. Since conducting a sociological or policy impact analysis proved exceedingly difficult, we chose to investigate the official discourse as articulated in the project-related documentation. In this way, the discourse itself became the object of study. Secondly, we were motivated by the opportunity to contribute to the field by expanding the critical literature on climate change governance in smallholder agriculture within vulnerable climate regions. SCRALA was not merely another example of climate adaptation governance, but an occasion to contribute to the field through critical discourse analysis, an approach comparatively less used in this area.

This article is structured as follows. The next section reviews the academic literature on climate-resilient smallholder agriculture. It also outlines the theoretical framework and methodological approach of the paper. The subsequent sections present a discursive analysis that unfolds alongside the contextual, textual, and intertextual examination of the official SCRALA documents. The contextual analysis explores the governance background of climate adaptation that shapes the discourse on agricultural resilience and food security within the SCRALA project. The textual analysis focuses on key terms of this narrative and includes an analysis of the distribution of passive and active voice within it. The intertextual analysis examines how the official SCRALA documents refer to one another as well as to other external UN sources.

Theory and Method

The academic literature on building agricultural resiliency in climate-vulnerable areas typically portrays education, infrastructure, and technology as essential factors of robust farming communities[1]. Agro-meteorological interventions such as early warning systems or improved access to microfinance for facilitating investments in technologies are acknowledged in the literature among the most effective policies to improve adaptive smallholder farming capacity[2]. Moreover, the academic literature discusses the importance of adjusting planting schedules, diversifying crops, and adopting water-efficient techniques[3]. Additional strategies include livelihood diversification, development of small enterprises, and expansion of agro-cooperative actions[4].

The above elements are seen as "universal" facilitators but a frequent topic of discussion refers to the spatial unevenness of resilience. A consistent strand in the scholarship

[1] Maria Bertomeu Pardo, Gemma Duran-Romero, *Food Security: Agricultural Innovation to Increase Resilience and Adaptation to Climate Change in Developing Countries*, "Studies of Applied Economics", Vol. 40, No. 1, 2022, p. 11, https://doi.org/10.25115/eea.v40i1.7228

[2] George Kanyama Phiiri, Anthony Egeru, Adipala Ekwamu, *Climate change and agriculture nexus in Sub-Saharan Africa: The agonizing reality for smallholder farmers*, "International Journal of Current Research and Review", Vol. 8, No. 2, 2016, p. 61

[3] Till Below, Astrid Artner, Rosemarie Siebert, Stefan Sieber, *Micro-level practices to adapt to climate change for African small-scale farmers: A review of selected literature*, "International Food Policy Research Institute", 2010, https://cgspace.cgiar.org/server/api/core/bitstreams/4f498680-b006-429f-85b6-ad4e7e7bb5a4/content (09.11.2025)

[4] Tinashe M. Mashizha, *Adapting to climate change: Reflections of peasant farmers in Mashonaland West Province of Zimbabwe*, "Jàmbá: Journal of Disaster Risk Studies", Vol. 11, No. 1, 2019, p. 4

emphasizes the need for context-sensitive policies[1] inasmuch as many resilience-building initiatives remain experimental or poorly aligned with the specificities of rural communities[2]. Traditional knowledge systems, local governance institutions, and community solidarity are widely advocated as crucial enablers of resilience[3]. Accordingly, grassroots participation as well as bottom-up innovation and creativity are recognized as integral parts of climate resilience-building efforts[4].

Limited local climate data[5], insufficient funding, and restrictive property regimes[6] are among the setbacks to effective climate adaptation discussed in the academic literature. Former UNDP initiatives designed to support smallholder farmers in Africa faced a series of obstacles, including limited technical capacity and lack of institutional support[7]. Beyond these factors, farmers' efforts in vulnerable regions are often undermined by systemic challenges such as persistent inequality and socio-political instability. Most of these obstacles are generally acknowledged in the comparative literature on climate resilience and food security in the Global South, which calls for context-sensitive and inclusive approaches to overcoming systemic barriers[8].

Expanding on the critique of systemic inequalities and exclusion in climate adaptation, feminist scholarship sheds light on gendered power dynamics that undermines resilience capacity of communities, especially in postcolonial settings. Rural women, in particular, face disproportionate climate impacts due to limited access to resources, land, and political exclusion[9]. In addition, despite their extensive environmental knowledge and

---

[1] Qingmu Su, Hsueh-Sheng Chang, Shin-En Pai, *A Comparative Study of the Resilience of Urban and Rural Areas under Climate Change*, "International journal of environmental research and public health", Vol. 19, No. 15, 2022, p. 2, https://doi.org/10.3390/ijerph19158911

[2] Innocent Chirisa, Verna Nel, *Resilience and climate change in rural areas: a review of infrastructure policies across global regions*, "Sustainable and Resilient Infrastructure", Vol. 7, No. 5, 2022, p. 387, https://doi.org/10.1080/23789689.2020.1871538

[3] Yusriadi Yusriadi, Andi Kaslin, *Resilience of Rural Communities Facing Global Challenges*, "Journal of Indonesian Scholars for Social Research", Vol. 5, No. 1, 2025, p. 66, https://doi.org/10.59065/jissr.v5i1.174

[4] Justice A. Tambo, Tobias Wünscher, *Enhancing resilience to climate shocks through farmer innovation: evidence from northern Ghana*, "Regional Environmental Change", Vol. 17, No. 5, 2017, p. 1513

[5] Leonard S. Unganai, Amon Murwira, *Challenges and opportunities for climate change adaptation among smallholder farmers in southeast Zimbabwe*, "2nd International Conference: Climate, Sustainability and Development in Semi-arid Regions", 2010, p. 17, https://www.researchgate.net/profile/Leonard-Unganai-2/publication/265930712_Challenges_and_opportunities_for_climate_change_adaptation_among_small-_holder_farmers_in_southeast_Zimbabwe/links/553f6ebe0cf24c6a05d217ad/Challenges-and-opportunities-for-climate-change-adaptation-among-small-holder-farmers-in-southeast-Zimbabwe.pdf (09.11.2025)

[6] Bertrand Tessa, Pradeep Kurukulasuriya, *Technologies for climate change adaptation: Emerging lessons from developing countries supported by UNDP*, "Journal of International Affairs", Vol. 64, No. 1, 2010, p. 21

[7] Keerthiga Kulenthiran, Anna Stanley, *A Critical Assessment of the United Nations Development Programme (UNDP) Project: "Enhancing Climate Resilience of the Vulnerable Communities and Ecosystems in Somalia"*, "Environment & Development", 2018, p. 2, https://scholar.google.com/scholar?hl=ro&as_sdt=0%2C5&q=Kulenthiran%2C+K.%2C+%26+Stanley%2C+A.+%282018%29.+A+Critical+Assessment+of+the+United+Nations+Development+Programme+%28UNDP%29+Project%3A+%E2%80%98Enhancing+Climate+Resilience+of+the+Vulnerable+Communities+and+Ecosystems+in+Somalia%E2%80%99.&btnG= (09.11.2025)

[8] Fiona Nunan, Barnes Clare, Krishnamurthy Sukanya (ed.), *The Routledge Handbook on Livelihoods in the Global South*, Routledge, London, 2022, p. 482; Nyong Princely Awazi, *Climate Resilience Policies in the Fishery, Agriculture, Pastoralist, and Forest Sectors in the Developing World: State of the Art and Perspectives*, "Building Resilience: Climate Change and Livelihoods in the Global South", 2025, p. 147

[9] Misbah Nosheen, Javed Iqbal, Shahzad Ahmad, *Economic empowerment of women through climate change mitigation*, "Journal of Cleaner Production", Vol. 421, Art. 138480, 2023, p. 7, https://doi.org/10.1016/j.jclepro.2023.138480

potential, women's contributions often go unrecognized and uncompensated[1] particularly in specific social, cultural and political contexts[2]. Beyond gender, critical literature draws attention as well to the importance of other structural factors such as race, class, and colonial legacies. Marginalized communities are often excluded from adaptation policies whereas the predominant notions of vulnerability and adaptation frequently obscure the structural inequalities faced by these communities[3]. As a result, they reinforce the very problems they intend to solve[4]. Given this, critical literature calls for more equitable, justice-oriented, and emancipatory climate adaptation strategies[5].

This paper is grounded in the above-mentioned strand of literature. It critically interrogates the UNDP's role in climate change adaptation and food security development, arguing that while agricultural resilience may contribute to improved food security, its outcomes are not necessarily equally distributed among beneficiaries. To expand on this point, food security does not necessarily imply fair access to food for all[6], systemic inequalities may have a detrimental effect on access to climate-resilient technologies and infrastructures[7], and strengthening individual farms in vulnerable areas does not automatically lead to resilient communities in the absence of local cooperation and participation from below[8].

Our research explores how the complexities of climate adaptation are reflected in the discourse of the SCRALA project. Methodologically, the paper uses critical discourse analysis to reveal how the language of SCRALA engages structural power[9]. Focusing on discursive elements in international development, our investigation examines three dimensions of SCRALA language. Firstly, the contextual analysis highlights how SCRALA is embedded within a specific development narrative, reflecting a specific power dynamic. Secondly, the textual analysis focuses on several key terms selected from the academic literature on food security and climate resilience. Textual analysis investigates the occurrences of the selected terms in SCRALA documents and interprets their meanings in their immediate textual setting to reveal underlying positions. As part of the textual investigation, a sampled analysis of using active and passive voice was conducted as well. The aim of it is to reveal how agency and responsibility are framed in the official documents

[1] Evangeline Nwakaego Ajani, Elizabeth Amechi Onwubuya, Regina Nneamaka Mgbenka, *Approaches to economic empowerment of rural women for climate change mitigation and adaptation: Implications for policy*, "Journal of Agricultural Extension", Vol. 17, No. 1, 2013, p. 24, https://doi.org/10.4314/jae.v17i1.3

[2] Federica Ravera, Victoria Reyes-García, Unai Pascual, Adam G. Drucker, David Tarrasón, Mauricio R. Bellon, *Gendered agrobiodiversity management and adaptation to climate change: differentiated strategies in two marginal rural areas of India*, "Agriculture and Human Values", Vol. 36, No. 3, 2019, p. 455

[3] Marcus Taylor, *The political ecology of climate change adaptation: Livelihoods, agrarian change and the conflicts of development*, Routledge Press, New York, 2024, p. 16

[4] Michael Mikulewicz, *The discursive politics of adaptation to climate change*, "Annals of the American Association of Geographers", Vol. 110, No. 6, 2020, p. 1822, https://doi.org/10.1080/24694452.2020.1736981

[5] Natalie Osborne, *Intersectionality and kyriarchy: A framework for approaching power and social justice in planning and climate change adaptation*, "Planning theory", Vol. 14, No. 2, 2015, p. 130; Purabi Bose, *Climate adaptation: marginal populations in the vulnerable regions*, "Climate and Development", Vol. 9, No. 6, 2017, pp. 575-578; Kieren Rudge, *Leveraging critical race theory to produce equitable climate change adaptation*, "Nature Climate Change", Vol. 13, No. 7, 2023, p. 623

[6] Helen Onyeaka, Keru Duan, Taghi Miri, Gu Pang, Eric Shiu, Irina Pokhilenko, Özlem Ögtem-Young, Liza Jabbour, Kathryn Miles, Amil Khan, Christine H. Foyer, Emma Frew, Lin Fu, Bisola Osifowora, *Achieving fairness in the food system*, "Food and Energy Security", Vol. 13, No. 4, 2024, p. 2, https://doi.org/10.1002/fes3.572

[7] *Idem*

[8] Keerthiga Kulenthiran, Anna Stanley, *Op. cit.*, p. 3

[9] Chris Shei (Ed.), *The Routledge handbook of discourse analysis*, Routledge, London, 2023, p. 17

of SCRALA project. Thirdly, we explore the intertextual dimension of SCRALA's official documentation. Through this type of investigation, we hope to uncover how SCRALA project constructs coherence and legitimacy by discursively aligning reporting within the broader institutional language. The documents analysed are the initial project details, project briefs, SCRALA newsletters[1], and the Annual Performance Reports from 2018 to 2024[2]. Together, these documents offer a solid foundation for a comprehensive analysis of the official discourse surrounding the SCRALA project. However, we considered it useful to include a supplementary empirical input in the paper. Therefore, we also conducted a media analysis, examining two major online Zambian publications, *Lusaka Times* and *Times of Zambia*. Our aim was to incorporate the beneficiaries' views independent from the official SCRALA documents analysed as the primary empirical source.

The SCRALA Project. Understanding the Discursive Context

International financial institutions have increasingly integrated reform elements into their development projects, responding to long-standing demands from both academics and practitioners. Their evolving vocabulary reflects a growing awareness of the specific needs of agriculture in economically disadvantaged regions, particularly those vulnerable to drought and climate stress. Recent international initiatives contain discursive elements regularly present in the academic literature, such as context-sensitive policy design, community-based adaptation, inclusive and bottom-up governance, or policy coherence. These initiatives seem to be aware of the need of sustainable development to better align the existing international financial mechanisms with the rural grassroots realities[3].

The SCRALA project is such an initiative. Funded by the GCF and implemented by the UNDP in partnership with Zambia's Ministry of Agriculture, the Zambia Meteorological Department, the Water Resources Management Authority, and other actors at country level expected to uphold climate-resilient agriculture [4]. The smallholder farmers are the beneficiaries of the SCRALA project[5] whose objectives comprise enhancing food security, promoting climate-resilient livelihoods, and improving access to markets[6]. A first observation deriving from this short list of SCRALA project's objectives touches upon a perceived tension between top-down and bottom-up approaches to climate resilience in rural areas. On one hand, the project's emphasis on commercialization and market access reflects the neoliberal paradigm of development and climate adaptation. As the mainstream approach advocated by the international donors, it is generally at odds with traditional farming and adaptation discourse[7]. On the other hand, the vocabulary of SCRALA upholds traditional farming methods and community-led adaptation strategies. This seems to be a concession made to the academic literature reflecting the need for bottom-up approaches to the issues of climate resilience and food security[8]. By putting together these two perspectives, the

[1] UNDP Zambia, *Challenging the World. Working with the people of Zambia to build a resilient and diversified economy*, https://www.undp.org/zambia (09.11.2025)
[2] Green Climate Fund, *Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia (SCRALA)*, 2018, https://www.greenclimate.fund/project/fp072 (04.11.2025)
[3] Ranel Ram Cheng, Irina Velasco, *UNDP Philippines*, "Popul Environ", Vol. 43, No. 2, 2024, p. 15
[4] Green Climate Fund, *Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia (SCRALA)*, 2018, https://www.greenclimate.fund/project/fp072 (04.11.2025)
[5] *Idem*
[6] *Idem*
[7] Peter Ferguson, *Discourses of resilience in the climate security debate*, "Global Environmental Politics", Vol. 19, No. 2, 2019, p. 104, https://doi.org/10.1162/glep_a_00500
[8] Yusriadi Yusriadi, Andi Kaslin, *Op. cit.,* p. 67

SCRALA initiative emerges as a discursive site where global development agenda intersects with local development politics, reminding of a "cosmopolitical" moment[1] that attempts to align the need for international assistance with that for creating local conditions of sustainable development.

As concerns the stakeholders' voices, the institutional actors are the primary voices surrounding SCRALA discourse. They often use the global language of development. Through annual reports primarily as well as through project briefs, they articulate the goals, achievements and challenges of the project. The Annual Performance Reports[2] reveal a discourse dominated by technical language with a focus on metrics and procedural details. The voices of beneficiaries, their experiences, concerns and feedback are peripheral in this narrative. The smallholder farmers are described rather in general terms as "vulnerable groups" or "women farmers". However, the farmers' voice is more prominent in newsletters, particularly in the form of selected success stories.

The SCRALA Project 2024 Newsletter[3], for example, contains testimonials and input from beneficiaries, typically accompanied by photographs and quotes. It presents feedback from training sessions, infrastructure expansion initiatives, stakeholder gatherings, etc. Still, beyond this "from below" informational content, an institutional narrative shapes the discourse of the document. In subtext, the newsletter privileges project visibility and institutional engagement, downplaying the socio-cultural realities of rural communities involved. The newsletter's style of communication reflects the need for public support and accountability, presenting success stories but only selectively including direct voices of the primary beneficiaries of the project, the smallholder farmers. Official newsletters mirror a power dynamic in which institutional actors and experts shape the discourse, while farmers are rather passive beneficiaries. Their perspectives are not comprehensively reflected in the official materials, which reinforce the impression of their subaltern voice in the project's narrative.

Linking Agricultural Resilience and Food Security

The SCRALA project assumes a direct relation between climate-resilient small-holder agriculture and food security. This belief is very clearly expressed by the project's objectives and implementation strategies. The SCRALA project aims to "promote climate-resilient agricultural production and diversification practices to improve food security and income generation"[4]. The project helps smallholder farmers "plan for and manage climate risk to support resilient agricultural production"[5], which in turn is expected to "improve access to markets" and "foster the commercialization of climate-resilient agricultural commodities"[6]. These types of phrasing clearly imply that enhancing agricultural resilience is a path to achieving food security, strengthening food systems and reducing vulnerability. Furthermore, the implementation indicators are designed in such a way as to strengthen that relation. For example, activities such as training farmers in conservation agriculture and supporting

[1] Ciprian Nițu, *Cosmopolitismul. Către o nouă paradigmă în teoria politică*, MintRight Inc, 2014, pp. 101-130
[2] Green Climate Fund, *Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia (SCRALA)*, 2018, https://www.greenclimate.fund/project/fp072 (04.11.2025)
[3] UNDP Zambia, *SCRALA Project 2024 Newsletter*, 2024, https://www.undp.org/zambia/publications/scrala-project-2024-newsletter (11.11.2025)
[4] UNDP Zambia, *SCRALA Project Brief: Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I & II in Zambia*, 2025, p. 1, https://www.undp.org/sites/g/files/zskgke326/files/2025-08/scrala_project_brief_compressed.pdf (04.11.2025)
[5] *Ibidem*, p. 2
[6] *Ibidem*, p. 1

thousands with inputs for goat rearing and beekeeping are framed as resilience-building interventions that contribute to food and income security[1].

In the subsequent textual analysis, we deconstruct the framing of increased agricultural resilience as instrumental to achieving food security. While agricultural resilience is a necessary component, it alone is insufficient to ensure food security. As previously noted, equitable access to food, inclusive access to technology and infrastructure, resilient communities, as well as gender, ethnic, and class equality are all crucial for achieving food security. In the following section, we examine how these issues are reflected in the official language of the SCRALA project.

SCRALA's Lexicon. The Language of Food and Resilience

We undertook a critical analysis of several key terms used in the discourse on agricultural resilience and food security, examining how word choices signal a commitment to equity and contribute to the construction of meaning and legitimacy within the context of the SCRALA project. "Agricultural resilience" is central to the project mission and is consistently referenced through word sequences like "resilient agricultural livelihoods", "climate-resilient agriculture", or "resilient agricultural production" which are used frequently in the official documents of SCRALA project[2]. The concept has, at the same time, a practical meaning rather than an abstract one, conceiving resilience in terms of "climate-smart agriculture", "diversified livelihoods", "improved access to climate information", and "strengthened institutional and community capacities"[3]. These lexical choices reflect a pragmatic, donor-aligned framing, prioritization of measurable impact, and development narrative.

The term "food security" is consistently used across SCRALA's official documents, frequently paired with "climate resilient" and "sustainable agriculture". In the context of SCRALA Annual Performance Reports (2018-2024)[4], "food security" is discussed in relation with climate shocks ("droughts", "floods"), post-harvest loss management, livelihood diversification, or access to climate-resilient inputs (like drought-tolerant seeds). In the initial brief and details of the SCRALA project, "food security" is tied to climate-resilient agricultural production, diversification, and market access, and is presented as a direct outcome of these. SCRALA newsletters also present training in conservation agriculture, distribution of resilient inputs, and weather advisory systems as direct contributors to food security. Across all SCRALA official documents, the word "food security" is used pragmatically, emphasizing measurable outcomes (crop increases, input access, and post-harvest management). It signifies practical interventions rather than structural critiques and reflects the narrative on climate resilience promoted by donors in the development sector.

Though "food security" is one major objective of the SCRALA project, and the idea of better access to food is embedded throughout all official documents of the project, the wording "equitable access to food" is missing. This idea is rather framed through expressions

[1] *Ibidem*, p. 4

[2] Green Climate Fund, *2022 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2023, pp. 11-13, https://www.greenclimate.fund/document/2022-annual-performance-report-fp072-strengthening-climate-resilience-agricultural (11.11.2025)

[3] Green Climate Fund, *2021 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2022, pp. 50-56, https://www.greenclimate.fund/document/2021-annual-performance-report-fp072-strengthening-climate-resilience-agricultural (11.11.2025)

[4] *Idem*

like targeting "vulnerable agro-ecological zones" or "populations", "inclusive input distribution", "market access", "insurance schemes"[1]. This word choice reflects a discourse focused on measurable indicators and aligned with donor expectations. This discourse prioritizes the productivity and availability of food but lacks a systematic critique, rarely addressing structural inequalities or issues of distributional justice. The idea of "equity" is conceptualized pragmatically, aligned with reporting style, and rooted in the technocratic discourse on development rather than human rights language. The concept of "human rights" is practically missing entirely from the official SCRALA documents, only indirect references (e.g. rights to food, water, etc.) are present. They are framed as development goals not as rights-based entitlements. Rarely, if ever, does the SCRALA discourse show a concern for food as a "cultural right", as reflected in the following statement of a local farmer: "as small-scale farmers, we are advised to leave traditional seeds for hybrid seeds which require chemical fertilizers and pesticides (…). We are, therefore, begging the Government to seriously reconsider this so as to preserve our foods, which is our identity"[2].

Similarly, SCRALA frames access to technology and infrastructure not as a universal entitlement, but as a strategic facilitator of climate adaptation and as a project output. Expressions referring to installation of "automatic weather stations and rain gauges", "irrigation schemes, boreholes, and water quality labs", "aggregation hubs to support market access", dissemination of "weather advisories via SMS, radio, WhatsApp, and community meetings", "training farmers in digital market platforms", "supporting weather-index insurance and early warning systems", "community-level dissemination of information and translation into seven local languages"[3] speak of a pragmatic, functional, and development-oriented idea of access to infrastructure and technology. SCRALA documents consistently report on a growing access to these through gender and context-sensitiveness. However, while SCRALA advances a digital strategy, the term "digital inclusion" misses entirely from the official documents. The concept of "digital inclusion" is not explicitly addressed in any of the official SCRALA reports. While the documents mention digital tools (WhatsApp, MaanoApp, Facebook, etc.), they do so in the context of dissemination or market access, without framing them as part of a broader digital inclusion strategy. The omission of "digital inclusion" is significant because it is a critical facilitator of smallholder farmers' adaptability. "Digital inclusion" does not refer only to access to devices and internet. Like other types of infrastructure, it needs inclusive strategies to address disparities in literacy, skills, and resources. Without such strategies, access to infrastructure will selectively empower those who are already better informed, trained and connected to the market. The case of SCRALA Farmer Field Schools may be illustrative in this context. Though the benefits of attending these schools are "many and they are worth of time"[4], reads the declaration of a local farmer echoed by many others, only around 10% of the total beneficiaries of the SCRALA project

[1] Green Climate Fund, *2023 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2024, pp. 77-79, https://www.greenclimate.fund/sites/default/files/document/fp072-annual-performance-report-cy2023.pdf (11.11.2025)

[2] Davies M. Chanda, *Need to help small-scale farmers*, "Times of Zambia", 2015, https://www.times.co.zm/?author=2 (25.11.2025)

[3] Green Climate Fund, *2020 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2021, p. 6, https://www.greenclimate.fund/document/2020-annual-performance-report-fp072-strengthening-climate-resilience-agricultural (11.11.2025)

[4] Moses Zangar Jr., *Breaking the cycle of poor harvests*, "Lusaka Times", 2021, https://www.lusakatimes.com/2021/03/07/breaking-the-cycle-of-poor-harvests/ (25.11.2025)

actually participate[1]. The Savings for Change groups show a similarly limited level of attendance[2]. However, members of these groups were able to "invest in economic activities such as bee production, construction of houses, mobile money businesses, goat rearing, cattle rearing, and vegetable production"[3]. This limited attendance raises concerns about the inclusivity of such interventions and open a discussion on a more equitable strategy to prevent the growing of intracommunity inequalities.

"Gender inclusion" is consistently featured across SCRALA's documents. Statistics on female participation in training, savings groups, and input distribution create the impression of closing the gender gap. Still, SCRALA's "gender inclusion" seems to be less sensitive to structural inequalities. Gender is used more as a statistical indicator rather than a transformative goal. On the other hand, "ethnic" or "class" disparities are virtually absent in documents. Instead, the official lexicon of SCRALA prefers the more general categories of "smallholder farmers" and "vulnerable populations"[4]. This lexical choice has the effect of obscuring the diverse realities of rural Zambia[5], an impression further accentuated by the managerial tone of the official reports. The narrative focuses in these documents mainly on project progress and coordination. Yet it avoids critical reflection on power dynamics or systemic exclusion that may arise from intersectional disparities and may affect the project execution. Specific measures like hiring gender experts[6] and other similar gender actions, do not offer enough evidence of sustained structural change. The newsletters[7] reinforce this pattern as well. They may provoke a critical reaction in response to the tendency of celebrating practical results and farmers' engagement without really interrogating the larger socio-political context. Overall, SCRALA's framing of inequality reflects a development-centric paradigm that prioritizes measurable outputs and donor visibility over the issues of equity and justice. Success stories are prioritized in official documents, such as goat rearing as an alternative source of income that helps farmers, especially women, yet punchier declarations like the following one are absent: "Where would 20 Zambian kwacha take the women? They will still be living on under $1 a day! Can we see tangible programmed to reduce poverty in Zambia than this short term politically motivated interventions!"[8].

The idea of "resilient communities" is expressed in SCRALA's discourse through terms pointing to institutional capacity-building and participatory mechanisms, once again

---

[1] UNDP Zambia, *SCRALA Project Brief: Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I & II in Zambia*, 2025, p. 1, https://www.undp.org/sites/g/files/zskgke326/files/2025-08/scrala_project_brief_compressed.pdf (04.11.2025)

[2] United Nations in Zambia, *Partnership Framework Annual Report*, 2022, p. 54, https://zambia.un.org/sites/default/files/2023-06/UNSDPF_2022-ANNUAL%20REPORT_FINAL WEB%20VERSION_11%20May%202023.pdf (25.11.2025)

[3] *161 Saving for Change groups operating in Kazungula to improve rural life*, "Lusaka Times", 2022, https://www.lusakatimes.com/2022/09/27/161-saving-for-change-groups-operating-in-kazungula-to-improve-rural-life/ (25.11.2025)

[4] Green Climate Fund, *2023 Annual Performance Report*, pp. 77-79

[5] Kate A. F. Crehan, *The fractured community: Landscapes of power and gender in rural Zambia (Vol. 54)*, University of California Press, California, 1997, p. 8

[6] Green Climate Fund, *2020 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2021, p. 6, https://www.greenclimate.fund/document/2020-annual-performance-report-fp072-strengthening-climate-resilience-agricultural (11.11.2025)

[7] UNDP Zambia, *SCRALA Project 2024 Newsletter*, 2024, https://www.undp.org/zambia/publications/scrala-project-2024-newsletter (11.11.2025)

[8] Moses Zangar Jr., *Making women stronger*, "Lusaka Times", 2021, https://www.lusakatimes.com/2021/02/05/making-women-stronger/ (25.11.2025)

framed in a technocratic and output-oriented way. Local institutions (e.g. Water User Associations, Farmer Field Schools, and Savings Groups) are presented as vehicles of resilience[1], but their internal dynamics, power relations, and sustainability are hardly ever interrogated. Participation is quantified (usually in number of trained farmers or committee members)[2], but not qualitatively explored in terms of transformative agency, empowering voice, or decision-making power. Similarly, solidarity is implied through cooperative models (e.g., associations, savings groups), yet the language lacks reflection on collective identity or social cohesion within larger rural areas.

As a final note of this section, the academic literature discusses the importance of grassroots knowledge, innovation, and creativity[3] as enablers of "resilient communities". The concepts of "traditional knowledge", "grassroots innovation", and "grassroots creativity" are rarely mentioned explicitly in SCRALA official documentation. They are indirectly mentioned through conservation practices, goat rearing, or beekeeping. These activities are rooted in local experiences and undoubtedly reflect a sort of grassroots resourcefulness. However, within the SCRALA discourse, they remain a secondary pillar of resilience[4]. A double discourse can be identified in the official documents concerning the acknowledgment of the value of traditional systems, an ambiguity that can also be observed in media reporting, where farmers are shown navigating the Meteorological Office's guidance to both "move away from traditional weather-forecasting techniques that have become increasingly inapt" and rely on "strategies farmers previously used to cope with bad weather"[5].

Passive and Active Voice Analysis. Framing Agency, Responsibility, and Accountability in the SCRALA Project

The distribution of passive and active voice across official texts is indicative of how agency, responsibility, and accountability are framed in the official discourse. The lexical choices are not merely informative or aesthetic. Rather, they reflect deeper ideological positions. The analysis of passive and active voice distribution may reveal the way in which actors are represented and how responsibility is assigned or diverted[6].

To explore the above-mentioned aspects, we conducted a sampled analysis of the SCRALA Annual Performance Report for 2024, the last available annual report at the time of writing this article. We opted for a report because this type of official document is more comprehensive and includes both institutional and community actors, whereas a newsletter mainly features images, testimonials and success stories from beneficiaries[7]. The aim of the analysis was to understand the roles assigned by the official language to actors involved in the execution of the project (institutional actors and local farmers). We selected the most narrative parts of the report (Section 2.1, Section 2.2, and Section 2.3), which were most

[1] Green Climate Fund, *2021 Annual Performance Report*, pp. 8-10
[2] Green Climate Fund, *2023 Annual Performance Report*, p. 4
[3] Justice A. Tambo, Tobias Wünscher, *Op. cit.*, p. 1516
[4] Green Climate Fund, *2019 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2020, p. 26, https://www.greenclimate.fund/document/2019-annual-performance-report-fp072-strengthening-climate-resilience-agricultural (11.11.2025)
[5] *Fighting extreme weather*, "Lusaka Times", 2020, https://www.lusakatimes.com/2020/02/18/fighting-extreme-weather/ (25.11.2025)
[6] Chris Shei (Ed.), *Op. cit,* p. 18
[7] UNDP Zambia, *SCRALA Project 2024 Newsletter*, 2024, https://www.undp.org/zambia/publications/scrala-project-2024-newsletter (11.11.2025)

suitable for the voice distribution analysis. Together, the selected sections inform about overall progress of the project, achievements during the reporting year, adaptation risks and performance indicators regarding key activities. The analysis focused on identifying whether sentences employed active or passive constructions to understand how the report attributes agency and how it communicates accomplishments and challenges.

The findings reveal a preference for passive voice in the sampled text. The text heavily relies on passive constructions, such as "was commissioned", "were disseminated", "was constructed", "was supported", and other similar expressions. These words are typically used to describe infrastructure development and delivery of services. While this type of vocabulary emphasizes actions within the SCRALA project, it often conceals the corresponding responsibility. Passive voice usage also reflects a prioritization of institutional mechanisms and outputs, and a tendency to obscure the individuals and communities affected by them.

In contrast, active voice is rarely used in the report. When used, it typically highlights the activities of institutional actors (the UNDP, the Zambia Meteorological Department, or the Ministry of Agriculture). The active voice is much less used in relation to farmers. That said, a proviso has to be added. Analysing SCRALA newsletters would produce a different result, given that these documents predominantly consist of testimonials on individual and cooperative success stories from beneficiaries, as previously mentioned. However, success is measured in these cases primarily through quantifiable outputs. This leaves unanswered the question of their true potential for genuine transformative change and empowerment of communities.

The linguistic choices of the SCRALA reports reinforce a sense of a technocratic language, which favours the executive bodies over project beneficiaries. The reliance on passive voice contributes to a top-down narrative aligned with international development discourse that prioritizes efficiency and accountability to donors. Within this narrative, smallholder farming communities are passive recipients rather than active agents of resilience and adaptation with a potential detrimental effect on community participation, empowerment and justice-oriented outcomes.

Intertextuality. The Discourse of Legitimacy and Alignment within the SCRALA Project

Discourse does not exist in isolation. Intertextuality refers to the presence of other texts within a given text. Critically examining intertextuality helps us to understand how structural asymmetries are legitimized, reproduced, or challenged through a discourse that span multiple texts[1]. In particular, analysing the intertextuality of the SCRALA project may reveal how climate resilience-building and food security are embedded in a discourse that either reinforces or challenges existing dynamics of influence, legitimization, and marginalization. The official language of the SCRALA project shows a consistent intertextuality designed to construct a narrative of legitimacy and alignment that operates both internally, among SCRALA's own documents, and externally, through references to UNDP and UN climate resilience frameworks.

Internally, each SCRALA document elaborates on earlier ones. Each Annual Performance Report, for example, draws on the previous year's achievements, challenges, and implementation indicators. Cumulative referencing of SCRALA documents creates a

[1] Norman Fairclough, *Intertextuality in critical discourse analysis*, "Linguistics and education", Vol. 4, No. 3-4, 1992, p. 269

sense of temporal progression, sustained effort, and long-term impact. This discursive strategy elevates SCRALA as an accountable and adaptive project. Additionally, the repetitive structure of the SCRALA's documents contributes to the impression of a high level of predictability in the execution of the project. The central elements of the reporting structure (objectives, results, and indicators) are repeated verbatim year after year. Though predictability, a characteristic highly valued by the donor sector, is suggested in the documents, the uniformity of the reporting style reduces opportunities for localized storytelling and deeper contextual analysis. This, in turn, has the effect of obscuring structural imbalances, as noted in the declaration that poverty remains endemic in Zambia, particularly among women[1].

Externally, SCRALA texts are rooted within the broader discourse of UNDP on climate actions. Official texts position the SCRALA project as a significant local instrument within the complex governance architecture of climate resilience. References to other UNDP's programs and instruments (e.g. Integrating Agriculture in National Adaptation Plans, a joint initiative of UNDP and the Food and Agriculture Organization[2]; Climate Information for Resilient Development in Africa[3]) connect SCRALA to global adaptation strategies. SCRALA's relevance and credibility are further strengthened by references to its participation in regional forums, such as the Southern African Regional Climate Outlook Forum[4]. Through such references, external intertextuality projects SCRALA within an institutional matrix, signalling its alignment with international norms and expectations.

Bringing this discussion to a close, we emphasize that although SCRALA's intertextuality serves key functions within the project's economy, such as legitimizing it as a credible and well-aligned facilitator of resilience and human security, yet this discursive strategy may also constrain narrative diversity and hide localized vulnerabilities in rural Zambia, where climate risks intersect with gender, class, and ethnic disparities.

Conclusions

This paper has critically examined the SCRALA project in Zambia, an initiative financed by the GCF and implemented by the UNDP, in order to evaluate the official UNDP discourse on climate adaptation and food security. The SCRALA project is presented in official documents as a strategic intervention to promote agricultural resilience and food security in the face of increasing climatic challenges in rural Zambia. Our paper has deconstructed the assumption that resilience-building inherently leads to food security, a belief deeply embedded in the official discourse. Through contextual, textual and intertextual analysis of the project's discourse, our investigation has revealed that institutional narrative dominates the project's official language, often silencing the complexity of lived experiences and diversity of voices of smallholder farmers in vulnerable agro-rural areas.

---

[1] Moses Zangar Jr., *Breaking the cycle of poor harvests*, "Lusaka Times", 2021, https://www.lusakatimes.com/2021/03/07/breaking-the-cycle-of-poor-harvests/ (25.11.2025)

[2] Green Climate Fund, *2020 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2021, p. 6, https://www.greenclimate.fund/document/2020-annual-performance-report-fp072-strengthening-climate-resilience-agricultural (11.11.2025)

[3] Green Climate Fund, *2019 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2020, p. 26, https://www.greenclimate.fund/document/2019-annual-performance-report-fp072-strengthening-climate-resilience-agricultural (11.11.2025)

[4] *Ibidem*, p. 7

Grounded in critical theory, this study has interrogated the mainstream discourse on climate adaptation and food security. Our analysis has shown that the language of SCRALA's official documents reflects a technocratic orientation that emphasizes measurable outputs. The lexical choices signal alignment with donor priorities and favour project visibility and progress indicators, while substantive change remains hidden. The passive voice predominates, obscuring agency and reinforcing a discourse in which beneficiaries and communities are positioned as recipients rather than active craftsmen of resilience. Moreover, while community adaptation and traditional knowledge are noted, they are relatively secondary in the project's discursive economy. Last but not least, SCRALA's intertextual strategy builds legitimacy and alignment within an institutional matrix but narrows narrative diversity and obscures local vulnerabilities shaped by gender, class, or ethnicity.

Our concluding observation points toward the need for a more inclusive and critically grounded policy approach to climate adaptation. Advocating for an official discourse that more accurately reflects socio-cultural realities and addresses systemic inequalities in vulnerable rural settings, our paper considers that only a discourse grounded in equity, justice, right entitlements, and one that incorporates equity-focused metrics alongside critical race and class indicators, is able to foster climate resilience and food security in a sustainable way.

Bibliography

Books

1. Crehan, Kate A. F., *The fractured community: Landscapes of power and gender in rural Zambia (Vol. 54)*, University of California Press, California, 1997
2. Nițu, Ciprian, *Cosmopolitismul. Către o nouă paradigmă în teoria politică*, MintRight Inc, 2014
3. Nunan, Fiona; Clare, Barnes; Sukanya, Krishnamurthy (Ed.), *The Routledge Handbook on Livelihoods in the Global South*, Routledge, London, 2022
4. Shei, Chris, (Ed.), *The Routledge handbook of discourse analysis*, Routledge, London, 2023
5. Taylor, Marcus, *The political ecology of climate change adaptation: Livelihoods, agrarian change and the conflicts of development*, Routledge Press, New York, 2024

Studies and Articles

1. Ajani, Evangeline Nwakaego; Onwubuya, Elizabeth Amechi; Mgbenka, Regina Nneamaka, *Approaches to economic empowerment of rural women for climate change mitigation and adaptation: Implications for policy*, "Journal of Agricultural Extension", Vol. 17, No. 1, 2013, https://doi.org/10.4314/jae.v17i1.3
2. Awazi, Nyong Princely, *Climate Resilience Policies in the Fishery, Agriculture, Pastoralist, and Forest Sectors in the Developing World: State of the Art and Perspectives*, "Building Resilience: Climate Change and Livelihoods in the Global South", 2025
3. Below, Till; Artner, Astrid; Siebert, Rosemarie; Sieber, Stefan, *Micro-level practices to adapt to climate change for African small-scale farmers: A review of selected literature*, "IFPRI Discussion Paper", No. 953, 2010
4. Bose, Purabi, *Climate adaptation: marginal populations in the vulnerable regions*, "Climate and Development", Vol. 9, No. 6, 2017

5. Cheng, Ranel Ram; Velasco, Irina, *UNDP Philippines*, "Popul Environ", Vol. 43, No. 2, 2024
6. Chirisa, Innocent; Nel, Verna, *Resilience and climate change in rural areas: a review of infrastructure policies across global regions*, "Sustainable and Resilient Infrastructure", Vol. 7, No. 5, 2022, https://doi.org/10.1080/23789689.2020.1871538
7. Dutta, Mitul, *Climate-Induced Impoverishment: Reviewing the SDG Goals through the Lens of Global Justice*, "NDIEAS-2024 International Symposium on New Dimensions and Ideas in Environmental Anthropology-2024 (NDIEAS 2024)", 2024
8. Fairclough, Norman, *Intertextuality in critical discourse analysis*, "Linguistics and Education", Vol. 4, No. 3-4, 1992
9. Ferguson, Peter, *Discourses of resilience in the climate security debate*, "Global Environmental Politics", Vol. 19, No. 2, 2019, https://doi.org/10.1162/glep_a_00500
10. Kulenthiran, Keerthiga; Stanley, Anna, *A Critical Assessment of the United Nations Development Programme (UNDP) Project: "Enhancing Climate Resilience of the Vulnerable Communities and Ecosystems in Somalia"*, "Environment & Development", 2018
11. Mashizha, Tinashe M., *Adapting to climate change: Reflections of peasant farmers in Mashonaland West Province of Zimbabwe*, "Jàmbá: Journal of Disaster Risk Studies", Vol. 11, No. 1, 2019
12. Mikulewicz, Michael, *The discursive politics of adaptation to climate change*, "Annals of the American Association of Geographers", Vol. 110, No. 6, 2020, https://doi.org/10.1080/24694452.2020.1736981
13. Nosheen, Misbah; Iqbal, Javed; Ahmad, Shahzad, *Economic empowerment of women through climate change mitigation*, "Journal of Cleaner Production", Vol. 421, Art. 138480, 2023, https://doi.org/10.1016/j.jclepro.2023.138480
14. Onyeaka, Helen; Duan, Keru; Miri, Taghi; Pang, Gu; Shiu, Eric; Pokhilenko, Irina; Ögtem-Young, Özlem; Jabbour, Liza; Miles, Kathryn; Khan, Amil; Foyer, Christine H.; Frew, Emma; Fu, Lin; Osifowora, Bisola, *Achieving fairness in the food system*, "Food and Energy Security", Vol. 13, No. 4, 2024, https://doi.org/10.1002/fes3.572
15. Osborne, Natalie, *Intersectionality and kyriarchy: A framework for approaching power and social justice in planning and climate change adaptation*, "Planning theory", Vol. 14, No. 2, 2015
16. Pardo, Maria Bertomeu; Duran-Romero, Gemma, *Food Security: Agricultural Innovation to Increase Resilience and Adaptation to Climate Change in Developing Countries*, "Studies of Applied Economics", Vol. 40, No. 1, 2022, https://doi.org/10.25115/eea.v40i1.7228
17. Phiiri, George Kanyama; Egeru, Anthony; Ekwamu, Adipala; *Climate change and agriculture nexus in Sub-Saharan Africa: The agonizing reality for smallholder farmers*, "International Journal of Current Research and Review", Vol. 8, No. 2, 2016
18. Ravera, Federica; Reyes-García, Victoria; Pascual, Unai; Drucker, Adam G.; Tarrasón, David; Bellon, Mauricio R., *Gendered agrobiodiversity management and adaptation to climate change: differentiated strategies in two marginal rural areas of India*, "Agriculture and human values", Vol. 36, No. 3, 2019
19. Robinson, Stacy-ann, *Climate change adaptation in SIDS: A systematic review of the literature pre and post the IPCC Fifth Assessment report*, "WIREs Climate Change", Vol. 11, No. 4, 2020, https://doi.org/10.1002/wcc.653
20. Rudge, Kieren, *Leveraging critical race theory to produce equitable climate change adaptation*, "Nature Climate Change", Vol. 13, No. 7, 2023

21. Su, Qingmu; Chang, Hsueh-Sheng; Pai, Shin-En, *A Comparative Study of the Resilience of Urban and Rural Areas under Climate Change*, "International journal of environmental research and public health", Vol. 19, No. 15, 2022, https://doi.org/10.3390/ijerph19158911
22. Tambo, Justice A.; Wünscher, Tobias, *Enhancing resilience to climate shocks through farmer innovation: evidence from northern Ghana*, "Regional Environmental Change", Vol. 17, No. 5, 2017
23. Tessa, Bertrand; Kurukulasuriya, Pradeep, *Technologies for climate change adaptation: Emerging lessons from developing countries supported by UNDP*, "Journal of International Affairs", Vol. 64, No. 1, 2010
24. Unganai, Leonard S.; Murwira, Amon, *Challenges and opportunities for climate change adaptation among smallholder farmers in southeast Zimbabwe*, "2nd International Conference: Climate, Sustainability and Development in Semi-arid Regions", 2010
25. Yusriadi, Yusriadi; Kaslin, Andi, *Resilience of Rural Communities Facing Global Challenges*, "Journal of Indonesian Scholars for Social Research", Vol. 5, No. 1, 2025, https://doi.org/10.59065/jissr.v5i1.174
26. Zenda, Mashford; Rudolph, Michael, *A systematic review of agroecology strategies for adapting to climate change impacts on smallholder crop farmers' livelihoods in South Africa*, "Climate", Vol. 12, No. 3, 2024, https://doi.org/10.3390/cli12030033

Documents

1. Green Climate Fund, *2019 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2020, https://www.greenclimate.fund/document/2019-annual-performance-report-fp072-strengthening-climate-resilience-agricultural
2. Green Climate Fund, *2020 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2021, https://www.greenclimate.fund/document/2020-annual-performance-report-fp072-strengthening-climate-resilience-agricultural
3. Green Climate Fund, *2021 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2022, https://www.greenclimate.fund/document/2021-annual-performance-report-fp072-strengthening-climate-resilience-agricultural
4. Green Climate Fund, *2022 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2023, https://www.greenclimate.fund/document/2022-annual-performance-report-fp072-strengthening-climate-resilience-agricultural
5. Green Climate Fund, *2023 Annual Performance Report for FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia*, 2024, https://www.greenclimate.fund/sites/default/files/document/fp072-annual-performance-report-cy2023.pdf
6. UNDP Zambia, *SCRALA Project Brief: Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I & II in Zambia*, 2025, https://www.undp.org/sites/g/files/zskgke326/files/2025-08/scrala_project_brief_compressed.pdf
7. UNDP Zambia, *SCRALA Project 2024 Newsletter*, 2024, https://www.undp.org/zambia/publications/scrala-project-2024-newsletter

8. United Nations in Zambia, *Partnership Framework Annual Report*, 2022, https://zambia.un.org/sites/default/files/2023-06/UNSDPF_2022 ANNUAL%20REPORT_FINAL-WEB%20VERSION_11%20May%202023.pdf

Websites

1. https://sdgs.un.org
2. https://www.adaptation-undp.org
3. https://www.undp.org
4. https://www.greenclimate.fund
5. https://www.times.co.zm
6. https://www.lusakatimes.com