# Food systems transformation in Zimbabwe

# Effectiveness of participatory monitoring and evaluation

- By Joseph Tinarwo, Vain D.B Jarbandhan and Aaram Gwiza

The usefulness of participatory monitoring and evaluation (PM&E) in food systems transformation in Africa remains poorly explored. JOSEPH TINARWO, VAIN JARBANDHAN and AARAM GWIZA explain how PM&E is designed to measure programme effectiveness and is geared towards promoting programme ownership, empowering beneficiaries, enhancing transparency and accountability, and improving the projects and programmes. However, they caution that the effectiveness of PM&E in food system transformation requires adequate budgetary support, rolling capacity-building initiatives, multistakeholder partnerships, policy integration, and indigenous knowledge-sharing and learning practices.

# Introduction

n the contemporary world, PM&E has received widespread recognition as a tool for measuring the effectiveness and credibility of development interventions (see Sage *et al.*, 2021; Ruwa, 2016). In the context of food systems transformation, the concept of participation has been increasingly recognised as a vital strategy, because of its innovative methods of judging and learning from change that is more encompassing and open to the desires and ambitions of the people who are directly affected (Loveleen & Sukhdeep, 2019). In particular, the concept of PM&E deals with the meaningful involvement of primary stakeholders to facilitate significant development across societies (Rogito *et al.*, 2020; Estrella & Gaventa, 1998). PM&E differs from traditional M&E because it strives to meaningfully involve key programme stakeholders in measuring and judging the progress of their programme – specifically the achievement of outcomes (Mujuru, 2018; Chambers, 1997). Bamberger *et al.* (2010) argue that PM&E focuses on the extent to which the programmes attain results.

Food systems transformation is imperative, mainly because of the multiplicity of challenges confronting food systems in achieving equitable access to healthy, nutritious food for all while paying attention to environmental sustainability and resilience to shocks (Von Braun *et al.*, 2021; Webb *et al.*, 2020). For stakeholders advocating for food systems transformation, the M&E process now demands innovative methods of measuring and learning from change that are more flexible, inclusive and participatory. Essentially, the argument is that conventional M&E is inappropriate for measuring development interventions to end hunger and all forms of malnutrition by 2030, as enshrined in Sustainable Development Goal (SDG) 2 (Fan & Swinnen, 2020; Fanzo, 2019). The rise and demand for PM&E in food systems transformation is a result of the need to promote transparency and downward accountability, as well as to enhance the active participation of the primary stakeholders of local beneficiaries and programme staff members (Kropp *et al.*, 2020; Masset & Haddad, 2015).

There is a shortage of systematic evidence about the effectiveness of PM&E in transforming food systems. This study seeks to contribute toward addressing this gap. It is hoped that the findings from this research will help policymakers and development partners design and implement M&E systems for food systems interventions that can actively promote the participation of all stakeholders and beneficiaries at the grassroots level. The authors draw on lessons from Zimbabwe to understand the effectiveness of PM&E in food systems transformation.

# Conceptualising the role of PM&E in food systems transformation

The concept of food systems transformation and the argument for it stem from the 2017 United Nations High-Level Panel of Experts on Food Security (HLPE) Report on Nutrition and Food Systems. This report argues that some radical changes are needed in agriculture and food systems to achieve healthy, sustainable and equitable diets to meet the SDGs (HLPE, 2017; Von Braun *et al.*, 2021). However, as Caron *et al.* (2018) argue, for food systems transformation to occur, food systems should:

- support every individual to follow a nutritious and healthy diet;
- demonstrate sustainable agricultural production and food value chains;
- deal with climate change and focus on building resilience; and
- promote the revitalisation of rural areas.



Figure 1 shows the five key features required in food systems transformation that are essential to address the challenges currently threatening local and global food systems (Swinnen et al., 2021). For nations to achieve the SDGs by 2030, their leaders must transform the food systems of these countries to ensure higher efficiency and the private sector must be given much-needed incentives to accomplish this. The barriers along the food supply chain (from production, transportation and food storage to food consumption) must be removed (HLPE, 2017). Food systems also need to produce healthy, nutritious and affordable foods while promoting their widespread consumption and paying attention to food safety (Fanzo, 2019). To achieve meaningful transformation, food systems must include smallholder farmers and traditionally excluded social groups such as women, youth and the disabled in decision-making. Notably, these systems should assist them in forming and strengthening their livelihood strategies (Fan & Swinnen, 2020). Role-players in food systems must also increase their efforts toward environmental sustainability by strengthening sub-national governance strategies. They must also use regulations, digital technologies and innovations to conserve and protect natural resources and biodiversity (Von Braun et al., 2021). Lastly, for food systems to achieve transformation, they must be resilient. Resilient food systems must potentially cushion or bounce back swiftly from shocks (FAO et al., 2020).



#### Figure 1: Food system transformation goals

#### Source: Swinnen et al., 2021

With the drive towards promoting broad-based participation of all stakeholders in the development process, it is imperative that M&E also needs to be participatory (Guerra-López & Hicks, 2015; Bamberger *et al.*, 2010). The proponents of food systems transformation advocate using participatory approaches in assessing and implementing food and nutrition security interventions (Kosec & Resnick, 2019; Lartey *et al.*, 2018). Bamberger *et al.* (2010) define PM&E as a process through which all the stakeholders at different levels participate in the monitoring or evaluation of a specific policy, programme or project, share control of the activities, the process, and the outcomes of the M&E practice, and take part in finding applicable solutions. The use of PM&E in



food systems transformation entails the meaningful participation of local programme stakeholders and beneficiaries. Furthermore, these role-players should be given the opportunity to reflect on and learn from their practices (Rogito *et al.*, 2020; Pereira *et al.*, 2020). PM&E permits the programme managers and field staff to better understand different stakeholders' perspectives and community members' dynamics, which can contribute to transforming food systems (Sage *et al.*, 2021). In this way, PM&E increases the capacity and confidence of local programme staff and community members to articulate their priorities and criticisms of food systems transformation strategies, contributing to the interventions' sustainability and ownership (Masset & Haddad, 2015; Chambers, 1997).

# Method

# Research design

This research is premised on document search and a mixed research methodology, which used a survey and key informant interviews to determine the effectiveness of PM&E in food systems transformation. One advantage of using mixed methods is that the investigator can cover a relatively big sample size and gain insights into the population's attitudes, opinions, behaviours or characteristics (Creswell, 2014). The researchers purposefully sampled 65 respondents, as shown in Table 1. Thirty were directly involved in M&E programmes and projects related to food systems transformation within their respective organisations; 20 respondents held managerial positions as either directors or programme managers and a subset of 15 key informant interviews was purposively selected from the total sample of 65 members representing different stakeholder groups such as government, donors, civil society and community members. The researchers chose the respondents carefully based on their qualifications and experience in M&E and food systems transformation to ensure equal representation of all the stakeholder groups and genders to get rich and credible data (Bernard, 2017).

# Sample

# Table 1: Distribution of respondents by organisation and gender

Category of Respondents	Frequency	Male	Female
Government	15	11	4
Donors	12	7	5
Civil Society	19	13	6
Community Members	19	3	16
Total	65	34	31

Source: Responses from field survey, 2021



### Data-gathering instruments

Questionnaires were used to collect quantitative data, while unstructured key informant interviews with different stakeholder groups enabled the researchers to understand the practical issues affecting different groups using PM&E approaches in food systems transformation.

#### Data collection procedures

Questionnaires were administered both face-to-face (mainly with community members) and virtually (through emails) as a Covid-19 pandemic preventive measure and because emails are usually fast, cost-effective and have a high response rate (Bernard, 2017). Each interview lasted approximately 35 minutes. The interviews were recorded using a voice recorder for transcription purposes.

#### Data analysis

Descriptive statistics were compiled using Statistical Package for the Social Sciences (SPSS) Version 22 software to determine how effective PM&E is in building project ownership, learning and empowering community members in the food systems transformation process. In addition, the researchers thematically analysed qualitative data from key informants and open-ended questions. The results from the analysis were used to develop a proposed conceptual framework for strengthening PM&E in food systems transformation in Zimbabwe.

#### Ethical issues

The researchers sought permission to research the individual organisations and their staff members. The researchers obtained individual consent from the participants. It was explained to the participants that they had the right to withdraw from the interview process without being penalised. The researchers assured participants that the responses would only be used for research purposes and that their confidentiality would be respected.

#### Results

Data from the interviews and questionnaires reveal that participants cognise that PM&E is integral in transforming food systems.

Through key informant interviews, 80% (n=12) of the respondents argue that using PM&E in food systems transformation is still a comparatively new development principle and practice in Zimbabwe.

Purpose of PM&E	Strongly Agree	Agree	Undecid- ed	Disagree	Strongly Disagree
Building Project Ownership	1.4%	54.3%	18.6%	25.7%	0%
Enhancing Learning	2.9%	78.6%	18.6%	0%	0%
Empowering Beneficiaries	1.6%	78.6%	2.9%	0%	0%

#### Table 2: The purpose of PM&E in Zimbabwe's food systems transformation

Source: Responses from field survey, 2021

PM&E in food systems



# How PM&E differs from the conventional expert-led approaches

Key informant interviews revealed that external experts have characteristically led the M&E of food and nutrition security interventions. As a result, the assessment of programme performance was done using pre-set indicators, techniques and planning tools that exclude key stakeholders in the programme evaluation. The respondents working for the government on M&E confirmed that outside experts often conduct assessments. Beneficiaries were not allowed to participate in the decision-making on issues that affect them actively. In Zimbabwe's food systems transformation, questions such as how to implement participatory approaches and which strategies work in which settings are central to the theme of continuing discussions.

#### PM&E's approach to food systems transformation

A documentary search revealed that some stakeholders involved in Zimbabwe's food systems transformation using PM&E are doing so because of the pressure from donor organisations or other development agencies. Local non-governmental organisations (NGOs) mostly work as implementing agencies of large NGOs or donor organisations. For example, at the initial stages of the project or programme, the Foreign, Commonwealth and Development Office (donors) collaborates with different stakeholders to design the programme to establish the M&E framework and the indicators to be measured. In this way the process can be described as participatory when it involves the government, external M&E consultants and many NGOs. However, the primary beneficiaries at the grassroots level are usually not meaningfully represented or involved in these initial stages of the M&E process. The following quotes are illustrative:

While PM&E provides data for food systems transformation implementers and sponsors, it is important to note that, in most cases, the primary beneficiaries are not involved in the project design. Key informant 1

In this way, PM&E in food systems transformation results in increased project ownership and accountability:

Once stakeholders agree on problems to be addressed, design interventions to manage them, and agree on performance measurement of expected results, there is increased ownership and accountability for achieving results. Government Director

This enables PM&E to form part of Results-Based Management, which plays a vital role in achieving food systems transformation results:

*PM&E is a critical part of Results-Based Management, as stakeholders participate in creating results to be achieved. They remain involved in measuring and monitoring these results throughout the entire lifespan of a programme.* Advisor, Zimbabwe Donor Agency



Participatory approaches can complement the traditional expert-led M&E, primarily based on more rigorous data-gathering methodologies. PM&E has created opportunities for various stakeholders at different levels to engage in dialogue. Community dialogue has strengthened the community's views and increased their engagement in programme implementation. As one director of a Community Working Group on Agriculture explained:

The use of PM&E in food systems transformation is practiced in the sub-national (ward, village, district and provincial) food and nutrition security committees in Zimbabwe. Director of a Community Working Group on Agriculture

While it is widely acknowledged that PM&E plays a key role in ensuring food systems transformation in Zimbabwe, the PM&E process still faces several challenges. As the following quote illustrates, most of the challenges facing PM&E are related to capacity, sustainability and the extent of participation of all stakeholders:

Sometimes there are disagreements on indicators to measure or track a particular programme within the food systems transformation process, and the order of ranking priorities differs since different stakeholders have different agendas in every programme. Chief of Social Policy

As one M&E specialist noted, the use of PM&E by many stakeholders involved in food systems transformation in Zimbabwe suffers from a lack of specialised PM&E staff:

Implementing PM&E requires high-calibre local expertise that is not always available in most organisations involved in food systems transformation and at the community level. Since there is a limited number of local staff with an understanding of M&E techniques, most organisations in food systems transformation rely on international assistance, thus compromising local ownership, participation, data utilisation and sustainability. M&E Specialist

According to the Chief of Research and Evaluation of a donor organisation supporting food systems transformation in Zimbabwe, donors face several challenges in the design and operationalisation of PM&E systems. There are harmonisation challenges, including dealing with many stakeholders, grant management, data management systems and reporting challenges. The other challenges include difficulties in reconciling different stakeholder priorities and preferences, leadership and challenges relating to capacity building in implementing PM&E in food systems transformation. Lack of M&E experience also makes it difficult to establish who takes the lead and is accountable.

Donors supporting food systems transformation face challenges in designing and implementing PM&E systems in low-resource countries such as Zimbabwe. This is exacerbated by the lack of understanding about which stakeholders to include and exclude in the process. The unavailability of national standard procedures for implementing appropriate interventions also affects the data collection process. This, coupled with methodological problems, may result in challenges in estimation because of the variations in data collection procedures across implementing partners, government departments and other relevant stakeholders. Donors also face ethical challenges in implementing the PM&E approaches that emanate from collecting data on sensitive areas like malnutrition, livelihoods, resilience strategies and health.



# Conceptual framework for strengthening PM&E in food systems transformation

Based on the results, the authors created a conceptual framework for strengthening PM&E in food systems transformation in Zimbabwe, as presented in Figure 2.

Figure 2: Conceptual framework for strengthening participatory monitoring and evaluation in food systems transformation in Zimbabwe



Source: Authors' own construction

#### Discussion

The study found that M&E is vital in Zimbabwe's food systems transformation agenda, as it strengthens programme management and enhances efficiency. In the absence of effective M&E, it is often difficult to judge whether food systems transformation is going in the right direction.

To strengthen the role of PM&E in food systems transformation, it is crucial to enhance human and institutional capacity building. While the Zimbabwean government has recently initiated the process of establishing M&E units in government ministries and the departments responsible for agriculture, environment, health and social protection, among others, there is a need to strengthen these institutions in coordinating and facilitating PM&E processes in food systems transformation. This may involve investing in training initiatives and exchange programmes to share best practices, skills and knowledge on food systems transformation. For instance, participating in international training programmes and capacity-building initiatives may facilitate skills transfer on participatory data collection and management, M&E and food



systems transformation to smallholder farmers, community leaders, extension workers, researchers and policymakers.

Further, it is important to ensure the engagement, coordination and harmonisation of diverse stakeholders involved in food systems transformation. Multisectoral

coordination and multistakeholder partnerships between community members, farmer groups, research organisations and think tanks, government, donors, private sector and development partners in the M&E process of food system-related activities and initiatives encourage active participation and engagement, thereby reducing conflicts and duplication of efforts. For instance, establishing participatory mechanisms with regular consultations with diverse stakeholders in assessing food system-related projects and programmes reduces conflicts and promotes inclusivity and ownership.

It is vital to ensure policy integration of PM&E into the national policy frameworks that support food systems transformation. This may entail aligning domestic, regional and international policies, strategies and programmes with participatory approaches and practices as it relates to food systems transformation. The active role of grassroots role-players in policy processes needs to be cultivated from policy planning to evaluation, establishing mechanisms for feedback from diverse stakeholders in the M&E process of food systems transformation projects and ... for food systems transformation, the M&E process now demands innovative methods of measuring and learning...

programmes. Involvement of diverse stakeholders, including grassroots role-players, in the food systems transformation processes from planning safeguards against challenges such as policy failure, policy missteps and policy inconsistencies because everyone is involved in decision-making processes.

Countries that have made good progress in transforming food systems, particularly those that are in developed nations, allocate substantial budgets to their government ministries and departments spearheading M&E and food systems transformation. Adequate budgetary support towards PM&E, as well as food systems transformation, is hinged on the government's ability to mobilise both financial and technical resources from domestic and international sources. Creating a favourable environment that allows the active role of the private sector is also crucial in mobilising resources from private institutions and organisations towards the development of innovations and startups that promote PM&E of food systems transformation initiatives.

In supporting sustainable food systems transformation, it is crucial to foster knowledge sharing through platforms such as workshops, conferences and networks to facilitate peer-to-peer learning, and dissemination of experiences and best practices.

# PM&E in food systems



#### Conclusion

PM&E forms an integral component of food systems transformation, and to successfully implement it, it is crucial to promote the participation of diverse stakeholders in decision-making processes. While no single formula or fixed guidelines explain how PM&E is implemented, adequate budgetary support, capacity building, policy integration, multistakeholder support and indigenous knowledge sharing and learning practices are crucial elements in establishing strong and sustainable PM&E systems in food systems transformation. The use of PM&E in food systems transformation cannot be successful if it simply extends a traditional, top-down function of a project or programme. Instead, food systems transformation actors need to design inclusive PM&E approaches and systems that are flexible, all-encompassing and inclusive of the key stakeholders, including the traditionally excluded stakeholder groups such as women, youth and marginalised people, from programme design to termination. Finally, it is imperative to mainstream and institutionalise PM&E systems throughout the entire food systems transformation process.

#### REFERENCES

- Apgar, J.M., Allen, W., Albert, J., Douthwaite, B., Paz Ybarnegaray, R. & Lunda, J. 2017. Getting beneath the surface in program planning, monitoring and evaluation: Learning from participatory action research and theory of change in the CGIAR Research Program on Aquatic Agricultural Systems, *Action Research*, 15(1): 15-34.
- Bamberger, M., Rao, V. & Woolcock, M. 2010. Using mixed methods in monitoring and evaluation: experiences from international development. Brooks World Poverty Institute, World Bank.
- Bernard, H.R. 2017. *Research methods in anthropology: Qualitative and quantitative approaches.* Rowman & Littlefield.
- Caron, P., de Loma-Osorio, G.F., Nabarro, D., Hainzelin, E., Guillou, M., Andersen, I. & Verburg, G. 2018. Food systems for sustainable development: proposals for a profound four-part transformation, *Agronomy for sustainable development*, 38(4): 1-12.
- Chambers, R. 1997. Whose reality counts? London: Intermediate technology publications.
- Chambers, R. 2007. Whose reality counts? The quiet revolution of participation and numbers. Available at https://opendocs/bitstream/handle/20.500.12413/3388/Wp70.pdf?sequence=1 (accessed 26 April 2021).
- Creswell, J.W. 2014. A concise introduction to mixed methods research. Sage Publications.
- Estrella, M. & Gaventa, J. 1998. Who counts reality? Participatory monitoring and evaluation: A literature review. Available at https://opendocs.ids.ac.uk/opendocs/bitsream/handle (accessed 28 April 2021).
- Fan, S. & Swinnen, J. 2020. Reshaping food systems. The imperative of inclusion, in 2020 Global food policy report: Building inclusive food systems. Available at https://www.ifpri.org/



publication/2020-global-food-policy-report-building-inclusive-food-systems (accessed 20 April 2021).

- Fanzo, J. 2019. Healthy and Sustainable Diets and Food Systems: The Key to Achieving Sustainable Development Goal 2, *Food Ethics*, 4(2): 159-174.
- FAO, IFAD, UNICEF, WFP and WHO. 2020. The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets. Rome, FAO. Available at https:// doi.org/10.4060/ca9692en (accessed 26 April 2024).
- Guerra-López, I. & Hicks, K. 2015. The participatory design of a performance-oriented monitoring and evaluation system in an international development environment, *Evaluation and program planning*, 48: 21-30.
- Guijt, I. & Gaventa, J. 1998. Participatory Monitoring and Evaluation: Learning from Change. IDS Policy Briefing. The University of Sussex. Available at http://www.ids.ac.uk/files/dmfile/PB12. pdf (accessed 23 April 2021).
- HLPE. 2017. (High-Level Panel of Experts on Food Security and Nutrition). Nutrition and Food systems. A Report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Available at https://www.fao.org/3/i7846e/i7846e. pdf&ved (accessed 21 April 2021).
- HLPE 2020. Food Security and Nutrition: Building a Global Narrative Towards 2030. Available at https://www.fao.org/cfs/cfs-hlpe&ved (accessed 21 April 2021).
- Kananura, R.M., Ekirapa-Kiracho, E., Paina, L., Bumba, A., Mulekwa, G., Nakiganda-Busiku, D. & Peters, D.H. 2017. Participatory monitoring and evaluation approaches that influence decisionmaking: lessons from a maternal and newborn study in Eastern Uganda, *Health Research Policy* and Systems, 15(2): 55-68.
- Kosec, K. & Resnick, D. 2019. Governance: Making Institutions Work for Rural Revitalisation. Available at https://ideas.repec.org/h/fpr/ifpric/9780896293502-08.html (accessed 21 April 2021).
- Kropp, C., Antoni-Komar, I. & Sage, C. (eds.). 2020. Food Systems Transformations: Social Movements, Local Economies, Collaborative Networks. Routledge.
- Lartey, A., Meerman, J. & Wijesinha-Bettoni, R. 2018. Why food systems transformation is essential and how nutrition scientists can contribute, *Annals of Nutrition and Metabolism*, 72(3): 193-201.
- Loveleen, K. & Sukhdeep, K. 2019. Participatory monitoring and evaluation in extension programmes, Asian Journal of Home Science, 14(2): 458-462.
- Mansuri, G. & Rao, V. 2013. Can participation be induced? Some evidence from developing countries, *Critical Review of International Social and Political Philosophy*, 16(2): 284-304.
- Masset, E. & Haddad, L. 2015. Does beneficiary farmer feedback improve project performance? An impact study of a participatory monitoring intervention in Mindanao, Philippines, *The Journal* of Development Studies, 51(3): 287-304.
- Menon, S., Karl, J. & Wignaraja, K. 2009. Handbook on Planning, Monitoring and Evaluating for Development Results, UNDP Evaluation Office, New York.
- Mujuru, V.T. 2018. Participatory Monitoring and Evaluation, Power Dynamics, and Stakeholder Participation: Analysing Dynamics of Participation Between World Vision and its Stakeholders in Thusalushaka Area Development Programme PM&E, PhD thesis, University of Pretoria).
- Narayan, D. & Srinivasan, L. 1994. Participatory development tool kit: training materials for agencies & communities. Banco Mundial.
- Nweke, A.C. 2021. Monitoring and evaluation: a practical approach to public service delivery, International Journal of Public Administration and Management Research, 6(3), pp.33-40.
- Pali, P.N., Nalukwago, G., Kaaria, S.K., Sanginga, P.C. & Kankwatsa, P. 2005. Empowering communities through participatory monitoring and evaluation in Tororo district. Available at http://ciat-library.ciat.cgiar.org/Articulous-Ciat/pali2005-article.pdf&ved (accessed 27 April 2021).

# PM&E in food systems

- Pereira, L.M., Drimie, S., Maciejewski, K., Tonissen, P.B. & Biggs, R.O. 2020. Food systems transformation: Integrating a political-economy and social-ecological approach to regime shifts, *International Journal of Environmental Research and Public Health*, *17*(4): 1313.
- Rogito, O., Maitho, T. & Nderitu, A. 2020. Capacity Building in Participatory Monitoring and Evaluation on Sustainability of Food Security Irrigation Projects, *Journal of Engineering, Project* & Production Management, 10(2).
- Ruwa, M.C. 2016. The influence of stakeholder participation on the performance of donor-funded projects: a case of Kinango integrated food security and livelihood project. PhD thesis, University of Nairobi.
- Sage, C., Kropp, C., & Antoni-Komar, I. 2021. Grassroots initiatives in food systems transformation: The role of food movements in the second 'Great Transformation', *Food systems transformations*. Taylor & Francis.
- Swinnen, J., McDermott, J. & Yosef, S. 2021. Beyond the pandemic: Transforming food systems after COVID-19. Available at https://www.ifpri.org/publication/beyond-pandemictransforming-food-systems-after-covid-19&ved (accessed 20 April 2021).
- Von Braun, J., Afsana, K., Fresco, L., Hassan, M. & Torero, M. 2021. Food Systems Definition, Concept and Application for the UN Food Systems Summit. A paper from the Scientific Group of the UN Food Systems Summit. UN, New York. Available at https://www.un.org/sites/un2. un.org/files/food\_systems\_paper-draft\_oct-25.pdf (accessed 24 April 2021).
- Webb, P., Benton, T.G., Beddington, J., Flynn, D., Kelly, N.M. & Thomas, S.M. 2020. The urgency of food systems transformation is now irrefutable, *Nature Food*, 1(10): 584-585.

Dr Joseph Tinarwo's research interests are on food systems, particularly the intersection of climate change, food security and nutrition. He holds a PhD in Public Management and Governance, specialising in food systems, from the University of Johannesburg (UJ). Dr Tinarwo is a postdoctoral research fellow at the University of South Africa. Prior to this, he was a postdoctoral research fellow at Queen Mary University of London. Over the years, Dr Tinarwo has been consulting and supporting the Government of Zimbabwe, development partners and non-governmental organisations on climate and development-related projects. He is currently a co-investigator of a project on assessing the importance of infrastructure reconstruction on food security in Zimbabwe.

Professor Vain D.B Jarbandhan is an associate professor and former Head of the Department of Public Management and Governance at UJ. He is the Director of the Centre for Public Management and Governance in UJ's College of Business and Economics. His academic interests focus on public sector human resource management, future-fit leadership and development, and good governance. He served on the Executive Committee of the Association and Schools of Southern African Departments of Public Administration and Management (ASSADPAM).

Dr Aaram Gwiza is in the Department of Development Sciences at the Marondera University of Agricultural Sciences and Technology, Zimbabwe and is a postdoctoral fellow of the Centre for Public Management and Governance, College of Business and Economics, UJ.

The authors received no external funding in the writing of this paper.