



REVIEW ARTICLE

Use and influence of food and nutrition security vulnerability assessment and analysis reports in Zimbabwe

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ABSTRACT

Background: Vulnerability assessment and analysis have gained increasing significance as they provide essential data to guide governments on food insecurity issues. **Aims:** This review was aimed at establishing the use and influence of food and nutrition security vulnerability assessment and analysis data and reports in Zimbabwe. **Methods:** A total of 18 databases and search engines were explored. The inclusion criteria were English articles published after 31 December 2016 to 15 February 2022. **Results:** A final list of 65 scientific publications and 32 grey literature documents was found from the literature search. From the academic publications citing the Zimbabwe Vulnerability Assessment Committee (ZimVAC) reports or products, the most popular thematic areas were food and nutrition security (36%, 24/67), climate change 18% (12/65), Nutrition 9% (6/65), Resilience 9% (6/65) and Livelihoods 9% (6/65). Regarding grey literature documents citing ZimVAC products, most were humanitarian response appeals by the United Nations Representative Office in Zimbabwe and the Government of Zimbabwe. In scientific literature there was use of ZimVAC information for both conceptual and symbolic purposes and in grey literature it was used mainly for instrumental and symbolic purposes. The results also revealed that several food and nutrition security programs in Zimbabwe have been informed by VAA information presented in the ZimVAC products. **Conclusion:** The findings in this paper show that VAA data and products are well-cited in both scientific and grey literature. However, as food and nutrition security appear to be the most important theme informed by ZimVAC data, ZimVAC needs to speak to a wider spectrum of policymakers and programmers by illuminating other themes, such as risk reduction and resilience. VAA tools must be adaptable and take into consideration topical issues such as pandemics with evidence generated for policy and programming in real-time.

Keywords: Food security; livelihood assessment; vulnerability assessment; Zimbabwe

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1 Introduction

There is a high prevalence of food insecurity in Southern Africa leading to high rates of malnutrition and disease burden. The continuous increase in the incidence and frequency of shocks, (floods, droughts, unemployment, and price) are exacerbating food insecurity and a threat to livelihoods. The vulnerability of a household or community is determined by its ability to withstand such shocks ¹.

According to Dilley and Boudreau (2001) ¹, vulnerability is the risk that the household's entitlements would fail to buffer against hunger, famine, dislocation, or other losses. In addition, vulnerability as a complex phenomenon is a function of the interaction of multiple causal factors all working together or in combination with the resultant negative effect on household livelihoods ².

Vulnerability assessment is the monitoring of individual, household, and community food security and livelihood indicators in order to inform policy³. Assessment of the extent and nature of vulnerability is important for many reasons⁴. Vulnerability Assessment Analysis (VAA) serves as a necessary process to design interventions that prevent food insecurity at all levels. It provides baseline information that can serve as a comparison between normal and non-normal situations⁵. VAA must give rise to data that can predict future situations and inform measures to avert, respond to, or recover from an adverse situation⁶. VAA thus generates valuable information that can be used at all levels from local to national, to regional. This can ensure the implementation of appropriate measures to decrease susceptibility and increase the coping capacity of the vulnerable⁷.

Framework for vulnerability assessment in Zimbabwe

In Zimbabwe, the Zimbabwe Vulnerability Assessment Committee (ZimVAC) is a government-led consortium of Ministries, United Nations (UN) agencies, Non-Governmental Organizations (NGOs), and Academia established in 2002 as part of the SADC's VAA system. The ZimVAC regularly contributes towards updating Government and its Development Partners on the food security situation through baselines, assessments, and monitoring exercises, complementing other information sources such as the Ministry of Agriculture's "Crop and Livestock Assessments", Zimbabwe Demographic and Health Survey (ZDHS), "Poverty Income, Consumption, and Expenditure Survey" (PICES) and Multiple Indicator Cluster Survey (MICS). ZimVAC was formally brought into Government structures by the Government of Zimbabwe Cabinet Decision of 25 May 2005.

ZimVAC is chaired and administratively run by the Food and Nutrition Council (FNC), a Department in the Office of the President and Cabinet. The Government of Zimbabwe has put in place mechanisms to ensure the effective institutionalization of ZimVAC by providing personnel within the FNC to run the operations of ZimVAC. This has been further supported by coming up with the legal structures that govern the work of ZimVAC. As of December 2021, ZimVAC had successfully carried out nine (9) urban livelihood assessments (ULAs) and 21 rural livelihood assessments (RLAs) since its inception. Through these assessments, ZimVAC collects and synthesizes data on the food and nutrition security situation in a timely manner. The assessments provide updates on the following parameters: demographics, child, and women of reproduction health (WRA) nutrition and diet quality, child morbidity prevalence, water sanitation and hygiene, gender violence, social protection, coping strategies, and shocks.

Although the ZimVAC has successfully conducted nine (9) ULAs and 21 RLAs and produced several reports and policy briefs (see <http://fnc.org.zw/documents/>), no study has been conducted yet to establish the use and influence of the vulnerability assessment information. Citation can be considered as a quality indicator. It reflects the significance, influence, and reach of a document (MacRoberts & MacRoberts, 1989). Therefore, this citation analysis was aimed at establishing the frequency of citation, use of VAA information; the nature of the reference to VAA information including a description of the major documents, governmental or non-governmental organizations that have used VAA information; the main categories of users of VAA information; as well as decisions and actions informed by VAA information between 2017 to 2022.

2 Methods

2.1 Citation analysis-academic literature

The following common databases and search engines were explored, Google Scholar, Scopus, Google, Web of Science, Yahoo and PUBMED, Biomed Central; BioOne; BIOSIS; CINAHL; EBSCOHost; JSTOR; ProQuest; SAGE Reference Online; ScienceDirect; SpringerLink; Taylor & Francis; and Wiley Online. Search terms were built from thematic areas of interest. These thematic areas were Food and Nutrition security, Climate change, social protection, Resilience, Gender, Agriculture and Livelihoods, and Disaster Risk reduction. The following search terms made up the search query; Zimbabwe AND Vulnerability AND Assessment AND Committee, Zimbabwe AND Vulnerability AND Assessment AND Committee AND Food and Nutrition Security, Zimbabwe AND Vulnerability AND Assessment AND Committee AND chronic poverty, Zimbabwe AND Vulnerability AND Assessment AND Committee AND social protection, Zimbabwe AND Vulnerability AND Assessment AND Committee AND climate change, Zimbabwe AND Vulnerability AND Assessment AND Committee AND resilience, Zimbabwe AND Vulnerability AND assessment AND committee AND emergency response strategy AND disaster management. The inclusion criteria were English articles published after 31 December 2016 to 15 February 2022. The cut-off period was decided based on the fact that another citation analysis ending 2016 had been done (unpublished report).

2.2 Citation analysis grey literature and key informant interviews

Citation analysis for grey literature was conducted through an online search of institutional websites/ repositories known to the researchers. Noting the limitations of a web-based citation analysis, the research team collected the following additional

data through key informant interviews with ZIMVAC members and selected users. To obtain information likely to have no digital footprint for example national development plans, sectoral policies, strategies, white papers, evaluations, and short interviews were solicited from focal people belonging to the Scaling up Nutrition (SUN) network. Using the Scaling Up Nutrition Network ensured broad coverage and maximum representation by all sectors likely to use and cite ZIMVAC products. The networks were Government network, which included all relevant ministries and departments, e.g., the ministry responsible for health and childcare, the ministry responsible for agriculture, etc., and NGO network, e.g., WFP, UNICEF, FAO, Donor network, e.g., USAID, Civil Society network, Business network and, the Academia and research network. From these networks, focal persons were interviewed then using a snowballing sampling approach we interviewed other potential data users who were willing to participate. The interview questions were What kind of documents have you produced that have cited ZIMVAC products for the period 2017-2022? Who are your target users for the documents mentioned above? What decisions and actions have been informed by VAA information? Copies of any mentioned documents were then requested. All relevant information was recorded onto an extraction template.

2.3 Data analysis

A data extraction template was designed and used to harvest detailed information from each relevant downloaded source. The extraction categories were author, year, target group, nature of reference, and theme. All information conforming to the extraction categories was downloaded onto the data extraction template and was validated by two reviewers. Content analysis in Excel was conducted to identify the patterns, trends, and typologies. Where possible there was a determination of the frequency of patterns, trends, and typologies using descriptive statistics. Lastly, there was the generation of narrative and numerical summaries and synthesis of analyzed findings.

3 Results

3.1 Citations in academic publications

For the period under review (2017 – 2022), a total of 65 scientific publications were found. Of these 65 publications, one was an undergraduate dissertation, one MSc dissertation, and one doctorate (PhD) dissertation (Table 1). The remaining 62 publications were all refereed scientific publications. Figure 1 shows the different thematic areas covered by the 65 scientific publications. The graph shows that publications on food and nutrition security (36%, 24/65) dominated, followed by the thematic areas of climate

change 18% (12/65). Only two publications were on the thematic area of Agriculture production (3%).

There was more usage of the ZIMVAC products in the background section of resources citing it. At least 84.6% (55/65) of the publications cited ZimVAC products in the background section of the paper, 6.0% (4/65) in the methodology section, and 1.5% (1/65) in the result section. Five (7.7%) of the publications consisted of secondary analysis of ZimVAC data.

3.2 Citations in grey literature

The ZimVAC documents were also cited in grey literature though not as high as in scientific publications these have been divided into policy documents and reports from non-governmental organizations.

3.3 Citations in policy documents

Table 2 presents the various policy documents/reports that have cited ZimVAC products. An analysis of the documents reveals that in the period between 2017 and 2022 11 policy documents made reference to ZIMVAC data. These policy documents included policy briefs, humanitarian response appeals by the United Nations Representative Office in Zimbabwe, and Ministry of Finance budgets. All the documents were on food and nutrition security, livelihoods, and social protection.

3.4 Citations in reports by non-governmental organizations

The ZimVAC products were well cited by non-governmental organizations (NGOs) reports. Figure 2 and Table 3 show that a total of 23 documents from NGOs cited ZimVAC products during the period under review. Eleven (50%) of the documents were reports on the humanitarian situation in Zimbabwe, six (27.3%) were annual reports, and three (13.6%) of the documents were early warning reports. At least 10 of the 11 (90.9%) humanitarian situation reports were mainly from UNICEF, while the early warning reports were from FAO.

3.5 Nature of use of VAA Information

The use of information was defined as either conceptual, symbolic, or instrumental. In the scientific literature, there was the use of VAA information for both conceptual purposes e.g., in Murendo et al 2021 “Assessments in Zimbabwe have shown that only 54 % of the population consumes acceptable diets and there is lack of protein-rich foods in the diets” and symbolic purposes e.g., in Butaumocho et al 2017, “The study obtained primary household level data for the two selected rural provinces from the 2014 ZimVAC rural livelihood assessment survey data set”.

Table 1. Scientific publications citing ZimVAC data and reports

Ref.	Title	Theme	Nature of use of ZimVAC data/report/reference in the downloaded source
1	9 Prevalence and determinants of overweight and obesity among in-school adolescents in Harare, Zimbabwe	Nutrition	Referenced to support background
2	10 Impact of resilience building interventions in semi-arid rural agro-communities: lessons from Mberengwa and Zvishavane Districts in South Eastern Zimbabwe	Resilience building	Referenced to support background
3	11 From 'hydrology of hope' to 'hydrology of despair': a feminist review of Mushandike small-scale irrigation scheme in the semi-arid region of Southern Zimbabwe	Food security and livelihoods	Referenced to support background
4	12 Mitigating multiple vulnerabilities in Zimbabwean rural schools: An asset-based approach	Resilience building	Referenced to support background
5	13 Household survival and resilience to food insecurity through the drip irrigation scheme in dry rural areas	Resilience building	Referenced to support background
6	14 Rural Land-Use Planning and Livelihood Dynamics in Post-2000 Zimbabwe	Livelihoods	0
7	15 Gender attributes of the impact of informal savings and loans associations on food security in rural Zimbabwe	Food and nutrition security	Study based on ZimVAC data
8	16 Gender dimensions of the impact of HIV/AIDS on stunting in children under five years in Zimbabwe.	Nutrition	Study based on ZimVAC data
9	17 Women and Economic Production: Towards Sustainable Livelihoods in Zimbabwe	Livelihoods	Referenced to support background
10	18 Financial inclusion, nutrition, and socio-economic status among rural households in Guruve and Mount Darwin districts, Zimbabwe	Resilience building	Referenced to support background
11	19 The synergistic relationship between Amartya Sen entitlement theory and the systems theory in developing a food security implementation model in Matabeleland South Province, Zimbabwe	Food and nutrition security	Referenced to support background
12	20 Trends in production and consumption of selected biofortified crops by rural communities in Zimbabwe	Food and nutrition security	Referenced to support background
13	21 Participation of communal cattle farmers in drought risk reduction in Southern Zimbabwe	Disaster risk reduction	Referenced to support background
14	22 Household Perceptions on Factors Inhibiting the Adoption of Sustainable Coping Strategies in Chipinge District	Food and nutrition security	Referenced to support background
15	23 The impact of food fortification on stunting in Zimbabwe: does gender of the household head matter?	Nutrition	Study based on ZimVAC data
16	24 Impact of climate change and variability on traditional farming systems: Farmers' perceptions from south-west, semi-arid Zimbabwe	Climate change	Referenced to support background

17	25	Debunking the effectiveness of in-kind transfers in alleviating urban household food insecurity in Bulawayo, Zimbabwe	Food security	Referenced to support background
18	26	Trends in livelihoods options over a five-year period: A case of Murewa smallholder farmers	Livelihoods	Referenced to support background
19	27	Contribution of Sorghum Production towards Household Food Security in Jambazi, Zimbabwe	Food and nutrition security	Referenced to support background
20	28	Socio-economic challenges of unaccompanied minors seeking to cross Zimbabwe-south Africa border	Social protection	Referenced to support background
21	29	Diet Diversity and Nutritious Diets in Africa: Effects of Farm Input, Trade Policies, and Impact Profiling	Nutrition	Referenced to support the discussion
22	30	Role of NGOs in addressing agricultural challenges through certified organic agriculture in developing regions: A Zimbabwe case study	Agriculture production	Referenced to support background
23	31	Assessing seasonal weather forecasts and drought prediction information for rural households in Chirumhanzu district, Zimbabwe	Climate change	Used in data collection [literature review] and so support background
24	32	Coping with food and nutrition insecurity in Zimbabwe: does household head gender matter?	Food and nutrition	Data analysis
25	33	Adapting to climate change: Reflections of peasant farmers in Mashonaland West Province of Zimbabwe	Climate change	Referenced to support methodology
26	34	Building adaptive capacity: Reducing the climate vulnerability of smallholder farmers in Zimbabwe	Disaster risk reduction	Referenced to support background
27	35	Drought and the gendered livelihoods implications for smallholder farmers in the Southern Africa Development Community region	Climate change	Referenced to support background
28	36	The cultural and religious significance of indigenous vegetables: A case study of the Chionekano-ward of the Zvishavane-district in Zimbabwe	Food and nutrition security	Referenced to support background
29	37	A composite inherent resilience index for Zimbabwe: An adaptation of the disaster resilience of place model	Resilience building	Referenced to support background and methodology
30	38	An exploration of the knowledge of and involvement of fathers in the practice of complementary feeding of infants and young children in Tsholotsho District, Zimbabwe	Nutrition	Referenced to support background
31	39	Small grain production as an adaptive strategy to climate change in Mangwe District, Matabeleland South in Zimbabwe	Climate change	Referenced to support background
32	40	Examining barriers and opportunities for sustainable adaptation to climate change for smallholder farmers in semi-arid Buhera District, Zimbabwe	Climate change	Referenced to support background
33	41	Women's food security and conservation farming in Zaka District-Zimbabwe	Food and nutrition	Referenced to support background
34	42	Resilient rural Women's livelihoods for poverty alleviation and economic empowerment in semi-arid regions of Zimbabwe	Resilience building	Referenced to support background

35	43	The BaTonga traditional Dispute resolution in Tonga communities: Lessons from Lusulu community	Food and nutrition security	Referenced to support background
36	44	Is Climate Change the Nemesis of Rural Development? An Analysis of Patterns and Trends of Zimbabwean Droughts	Climate change	Referenced to support background
37	45	Z. mauritiana fruits in the lower Zambezi Valley, Zimbabwe: uses and contribution to the income of harvesting households	Food and nutrition security	Referenced to support background
38	46	Home-based agricultural production as a food security coping strategy for urban households: A case of Bulawayo, Zimbabwe	Food and nutrition security	Referenced to support background
39	47	A comparative analysis of household food security measures in rural Zimbabwe	Food and nutrition security	Study based on ZimVAC data
40	48	Socio-economic differences between innovation platform participants and non-participants: the case of smallholder dairying in Zimbabwe	Food and nutrition security	Referenced to support discussion of results
41	49	Tillage, mulch and fertiliser impacts on soil nitrogen availability and maize production in semi-arid Zimbabwe	Agriculture production	Referenced to support discussion
42	50	The contribution of smallholder irrigated urban agriculture towards household food security in Harare, Zimbabwe	Food and nutrition security	Referenced to support background
43	51	An assessment of the government intervention strategies in ensuring food security in Zimbabwe District, ward 7	Food and nutrition security	Referenced to support background, methodology, and discussion
44	52	Nutritional vulnerability: An assessment of the 2010 feeding food programme in Mbire district, Zimbabwe, and its impact on pregnant women	Nutrition	Referenced to support methodology
45	53	Using Livelihood Profiles for Assessing Context in ICT4D Research: A Case Study of Zimbabwe's Highveld Prime Communal	Livelihoods	Referenced to support background
46	54	Socioeconomic inequalities in food insecurity and malnutrition among under-five children: within and between-group inequalities in Zimbabwe	Food and Nutrition security	Referenced to support background
47	55	Role of Small Grains in Adapting to Climate Change: Zvishavane District, Zimbabwe	Climate change	Referenced to support background
48	56	Climate Change in Zimbabwe's Vulnerable Communities: A Case Study of Supporting Enhanced Climate Action Project (SECA Project) in Bulilima District	Climate Change	Referenced to support background
49	57	More Than Urban Agriculture: A Case for Planning for Urban Food Security in Harare, Zimbabwe	Food and Nutrition Security	Referenced to support background
50	58	Food Availability, Preferences and Consumption in Zimbabwean Urban Spaces	Food and Nutrition Security	Referenced to support background
51	59	Sociocultural Impact of Climate Change on Women and the Girl Child in Domboshawa, Zimbabwe	Climate change	Referenced to support background

52	60	Physico-chemical and sensory quality evaluation of an extruded nutrient-dense termite (<i>Macrotermes natalensis</i>) and millet (<i>Eleusine coracana</i>) instant porridge	Food and nutrition security	Referenced to support background
53	61	Regime Survival: Poverty Creation, Mass Migration and Elite Enrichment	Social protection	Referenced to support background
54	62	Gendered Impacts of Climate Change: The Zimbabwe Perspective	Climate Change	Referenced to support background
55	63	Characteristics of herbaceous vegetation on abandoned fallow fields in south central Zimbabwe	Food and nutrition	Referenced to support background
56	64	The paradox of complex systems: managing multiple vulnerabilities in Zimbabwean rural learning ecologies	Social protection	Referenced to support background
57	65	Evaluation of the child-growth-monitoring programme in a rural district in Zimbabwe	Food and nutrition security	Referenced to support background
58	66	Forage and maize yields in mixed crop-livestock farming systems: Enhancing forage and maize yields in mixed crop-livestock systems under conservation agriculture in sub-humid Zimbabwe	Climate Change	Referenced to support background
59	67	Covid-19 impact on Zimbabwean agricultural supply chains and markets: A sustainable livelihoods perspective	Climate change	Referenced to support background
60	68	Depoliticizing disaster response in a politically saturated context: the case of the 2016 – 2019 droughts in Zimbabwe	Food and Nutrition Security	Referenced to support background
61	69	Labour after Land Reform: The Precarious Livelihoods of Former Farmworkers in Zimbabwe	Food and Nutrition Security	Referenced to support background
62	70	Adolescent pregnancy and young motherhood in rural Zimbabwe: Findings from a baseline study	Climate change	Referenced to support background
63	71	The social and cultural dynamics of Zimbabwe's land reform programme on the 'new generation' of farmers: a transformative social policy perspective	Food and nutrition security	Referenced to support background
64	72	An assessment of the impact of disaster risks on dairy supply chain performance in Zimbabwe	Social protection	Referenced to support background
65	73	Understanding climate smart agriculture and the resilience of smallholder farmers in Umguza district, Zimbabwe	Climate Change	Referenced to support background

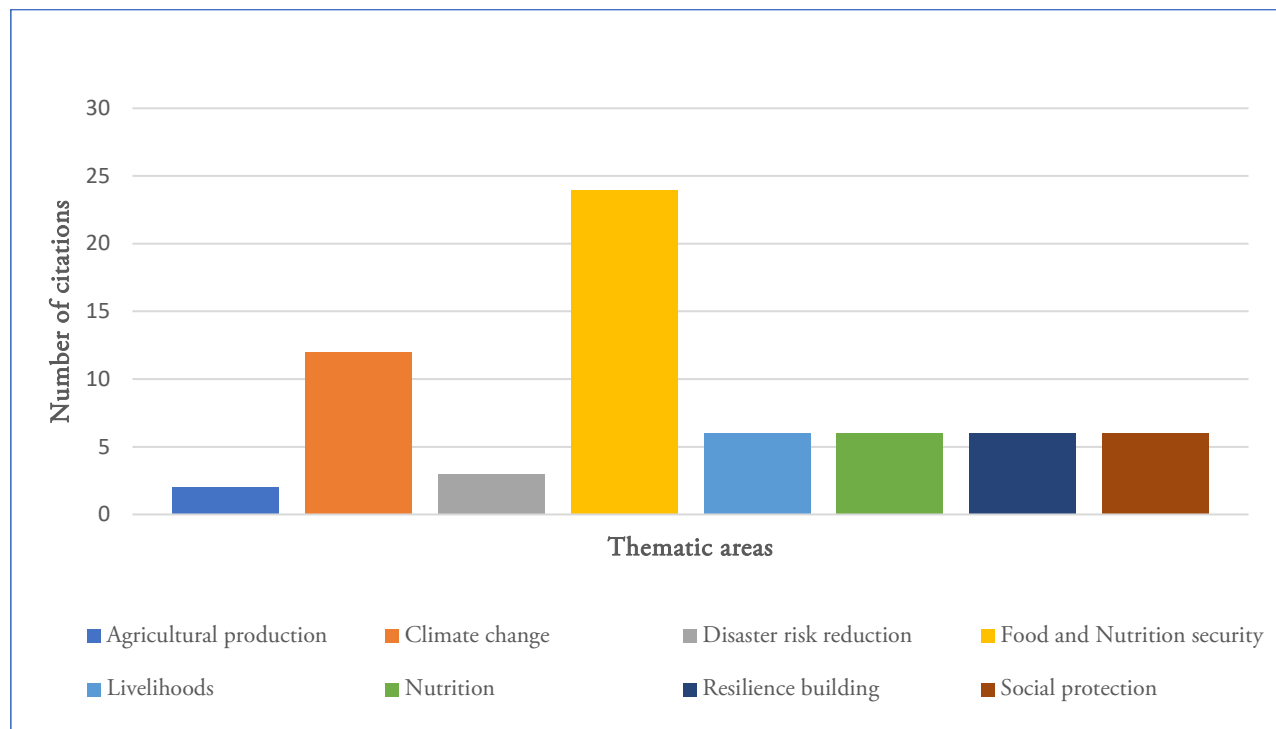


Figure 1. Thematic areas from academic literature

In grey literature, VAA information from ZimVAC documents has been used mainly for instrumental purposes for example in a Humanitarian report by UNICEF 2020 it is reported: “ZIMVAC 2020 showed that the global acute malnutrition (GAM) prevalence had increased to 4.5% from the 3.6% in 2019 with severe acute malnutrition (SAM) reported at 2%”. However, there are cases of symbolic usage where the information has been used to confirm choices e.g., in justifying selection of vulnerable communities, and conceptual used to shed more light on food insecurity problems e.g., in the Ministry of Finance budget report (GoZ 2021): “More than 6 million people are seeking food assistance in rural areas and an additional 2.2 million in urban areas according to the ZIMVAC reports”.

3.6 Characterization of main users of ZimVAC information

The organizations citing VAA information or ZimVAC documents in scientific literature comprised mostly local, regional, and international universities (n=41). Examples of regional and international universities included the University of Zimbabwe, the University of the Free State South Africa, and Bournemouth University, Bournemouth, United Kingdom respectively. These affiliate institutions comprised multi-country research collaborations, multi-

organization collaborations, and research consortiums, e.g., African Economic Research Consortium as well as other research organizations, e.g., International Crops Research Institute for the Semi-Arid Tropics ICRISAT (n=2), government departments (n=3), USAID (n=1) and lastly standalone research organizations (n=4). Grey literature was cited mainly by government departments and ministries e.g., Ministry of Finance (n=12), UN Resident Coordinator Humanitarian Office (n=4), FAO (n=5), WFP (n=3), UNICEF (n=13) and other (n=1) that is the Community Technology Development Organization.

3.7 Evidence of program and policy influence

The organizations citing VAA information or ZimVAC documents in scientific literature comprised mostly local,

In Zimbabwe, several government programs have been informed by ZimVAC data. Specific examples are as follows:

- i. The Pfumvudza/ Intwasa cropping program by the Ministry of Lands Agriculture Water and Rural Resettlement was adopted by the Government of Zimbabwe in the 2020-2021 and 2021-2022 cropping season as a measure to address the

- problems of poor agricultural outputs as recommended in the 2019 ZimVAC Rural Livelihoods Assessment Report. The Pfumvudza/Intwasa cropping program aims at improving food security at the household level with subsequent improvements in nutrition security in livelihoods in general.
- ii. The diversification of agricultural input support to also include legumes pulses and traditional grains as compared to the maize seed only was informed by the ZimVAC reports (2017-2019) which indicated that government support had been for energy-dense cereals and there was a need going forth to diversify the form of support to promote micronutrient dense diet.
 - iii. Most of the social protection programs in Zimbabwe, mainly for food aid, are programmed based on annual ZimVAC reports. The food insecurity figures and projection and geographic location, which are part of every ZimVAC report are used by both the Government of Zimbabwe, Donors, and Development partners in their planning for social protection. This information is vital for targeting and budgetary purposes for the various food and other aid programs. A case in point is the Ministry of Public Service Labour and Social Welfare program called The Food Deficit Mitigation Strategy which was initially called the Drought Relief Programme. Targeting of beneficiaries based in VAA is done in order to ensure that only the most vulnerable are assisted.
 - iv. The 2020 National Budget of Zimbabwe was also informed by the 2019 ZimVAC Rural and Urban Livelihoods Reports, particularly the social protection budget allocation. The 2017, 2018, and 2019 joint humanitarian appeals by the Government of Zimbabwe and the development partners were based on the food insecurity figures projected and reported in the respective ZimVAC reports.
 - v. Nutrition intervention programs by the Ministry of Health and Child Care, such as the school feeding programs are informed by the ZimVAC data and response strategies. A specific example from the Ministry of Health and Child Care was the Development of a Response Strategy of 2018.

Table 2: Policy documents citing ZimVAC

Author/Organization	Title	Description of document	Theme	Nature of use of VAA data/report/reference in the downloaded source
1 Government of Zimbabwe and UN Office for the Coordination of Humanitarian Affairs	Humanitarian Response Plan, Zimbabwe	Zimbabwe Humanitarian Response Plan [2020]	Food and nutrition security	Referenced ZimVAC reports
2 Food and Nutrition Council	ZimVAC Cabinet Policy Papers for Rural and Urban Livelihoods Assessments, Nutrition Surveys, and Lean Season [Rapid] Assessments	Cabinet Memos [2017-2020]	Food and nutrition security and livelihoods	
3 Government of Zimbabwe	Zimbabwe Domestic and International Appeal for Assistance 2020-2021	Government document [2020]	Food and nutrition security; Social Protection	Referenced ZimVAC reports
4 Government of Zimbabwe	Zimbabwe Domestic and International Appeal for Assistance 2019-2020	Government document [2019]	Food and nutrition security; Social Protection	Referenced ZimVAC reports
5 Government of Zimbabwe and the United Nations Resident Coordinator's Office in Zimbabwe	Revised Humanitarian Appeal	Humanitarian Appeal [2019]	Food and nutrition security; Social Protection	Referenced ZimVAC reports
6 Humanitarian Country Team and the United Nations Resident Coordinator's Office in Zimbabwe	Flash Appeal	Humanitarian Appeal [2019]	Food and nutrition security	Referenced ZimVAC reports
7 Food and Nutrition Council	Progress Report on SDG 2 prepared for the Thematic Committee on Sustainable Development Goals	Report [2018]	Food and nutrition security	
8 Food and Nutrition Council	Parliamentary Paper on Food and Nutrition: Presented to the Parliamentary Portfolio Committee on SDGs	Report [2017]	Food and nutrition security	
9 Government of Zimbabwe	Zimbabwe Drought Disaster Domestic and International Appeal for Assistance	Government document [2016-2017]	Food and nutrition security	Referenced ZimVAC reports

Table 3: Citation of ZimVAC reports by non-government organizations

Authors	Title	Description of document	Theme	Nature of use of VAA data/report/reference in the downloaded source
1	FAO [2021]	ZIMBABWE Food security and agricultural livelihoods in the context Monitoring report of COVID-19 Monitoring report May 2021	Food and Nutrition Security	Reference ZIMVAC reports
2	FAO [2020]	Early Warning Early Action Report on Food Security and Agriculture Report	Food Security and Agriculture	Reference ZIMVAC report
3	FAO [2019]	Early Warning Early Action Report on Food Security and Agriculture Report	Food Security and Agriculture	Reference ZIMVAC report
4	FAO [2019]	Global Information and Early Warning System Update	Food security and early warning systems	Reference ZIMVAC report
5	FAO [2017]	National Gender Profile of Agriculture and Rural Livelihoods – Zimbabwe:	Gender, Agriculture, and Livelihoods	Reference ZIMVAC report
6	UNICEF [2020]	Country Office Annual Report 2020, Zimbabwe	Report	Reference ZIMVAC report
7	UNICEF [2019]	Country Office Annual Report 2019	Report	Reference ZIMVAC report
8	UNICEF [2021]	Zimbabwe Humanitarian Situation Report [June 2021]	Report	Reference ZIMVAC report
9	UNICEF [2020]	Humanitarian Situation Report [Jan-Dec 2020]	Report	Reference ZIMVAC report
10	UNICEF [2020]	Humanitarian Situation Report [Oct-Nov 2020]	Report	Reference ZIMVAC report
11	UNICEF [2020]	Humanitarian Situation Report [Aug-Sept 2020]	Report	Reference ZIMVAC report
12	UNICEF [2020]	Humanitarian Situation Report [Mid-year 2020]	Report	Reference ZIMVAC report
13	UNICEF [2020]	Humanitarian Situation Report [May 2020]	Report	Reference ZIMVAC report
14	UNICEF [2019]	Humanitarian Situation Report [End of year 2019]	Report	Reference ZIMVAC report
15	UNICEF [2019]	Humanitarian Situation Report [July-Sept 2019]	Report	Reference ZIMVAC report
16	UNICEF [2019]	Humanitarian Situation Report [Mid-year 2019]	Report	Reference ZIMVAC report
17	UNICEF [2019]	Humanitarian Situation Report [March 2019]	Report	Reference ZIMVAC report
18	UNICEF [2021]	Independent Impact Study of the School Improvement Grant [SIG] in Zimbabwe	Report	Reference ZIMVAC report
19	Humanitarian Country Team and the United Nations Resident Coordinator's Office [2019]	Humanitarian 2019-2020 Appeal Revision	Report	Reference ZIMVAC report

20	WFP [2020]	Zimbabwe Annual Country Report 2020	Report	Food Security	Reference ZIMVAC report
21	WFP [2019]	Zimbabwe Annual Country Report 2019	Report	Food Security	Reference ZIMVAC report
22	WFP [2018]	Zimbabwe Annual Country Report 2018	Report	Food Security	Reference ZIMVAC report
23	CTDO [2019]	CTDO Annual report 2019	Report	Food and Nutrition security and livelihoods	Reference ZIMVAC report

WFP: World Food Program; CTDO: Community Technology Development Organization; FAO: Food and Agriculture Organization; UNICEF: United Nations International Children's Emergency Fund; ZimVAC: Zimbabwe Vulnerability Assessment Committee

4 Discussion

This study set out to investigate the use and influence of vulnerability assessment data and resultant ZIMVAC products in Zimbabwe. Though results show more usage in academic literature than grey literature, use in the latter is in the highest national policy-making instruments. Users of ZimVAC products consist of government departments, academia, the NGO sector, donor network, and civic society. The popularity of the food and nutrition security theme can be explained by the fact that VACs were established with a mandate of emergency response and disaster management in food and nutrition insecurity. Though they have diversified on thematic focus, it has taken a long time to break out of this initial mandate. This finding is substantiated by global trends in the developmental sector where most programs are focused on food and nutrition security, with some components on climate change and resilience building.

With respect to geographical coverage, except for the publication by van Wesenbeeck and Sarpong (2020)²⁹ and Mapedza et al. (2019)³⁵, all other publications are in Zimbabwe. The main use of ZimVAC products in the background sections means it is mainly used to provide context. Zimbabwe has infrequent surveys conducted at the national level. The national vulnerability assessment which is conducted yearly has been relied on for national-level data on food insecurity status and other indicators to inform the design and conduction of research.

The results revealed that ZimVAC products were cited in the country's highest strategic documents, such as the National Development Strategy 1, which directs Zimbabwe's aspirations to be a middle-income country by 2030. More importantly, the national budget documents since 2017 have cited ZimVAC products, indicating that ZimVAC products are instrumental in generating evidence-based policies and informing national budgets. In addition, the results indicate the confidence the government and development partners have in the quality of information produced by the ZimVAC. These results corroborate with findings by Pronk et al. (2017)⁷ that vulnerability assessments have consequences for the insights and information that enter the process of policymaking and policy implementation. More so, the same authors concluded that vulnerability assessments provide powerful data useful for all stages of the policy and project cycle.

Policy Implications

It is interesting and commendable to notice that VAA information and products can provide evidence to influence a country's national budget and national strategic goals. It is therefore important to strengthen tools used for VAA such

that the VAA products and information can provide enough evidence to influence policy and programming of social protection and food and nutrition security interventions, among others. Regarding the conduction of vulnerability assessments, national VACS must broaden the scope of geographical coverage of the VAA program at the country level to accommodate demand at the subnational level. One way would be to invest in more advanced analytical techniques such as small area estimation to provide lower-level estimates and thus increase relevance to stakeholders at the local level. In addition, VAA tools should take into consideration topical issues such that these are captured, and evidence generated for policy and programming. For example, this study revealed that climate change is a key thematic area dominating in literature citing ZimVAC products, hence, data on climate change indicators needs to be collected during vulnerability assessments. More so, the vulnerability assessments should also collect data on resilience building as this is a key component of adaptation to the various shocks being faced by both urban and rural communities. Such data can help inform policy and programming. Topical issues must be incorporated into the surveys in a timely manner such as disease incidence (pandemics) and effects thereof in order to influence policy and programming in a more urgent manner as dictated by circumstances.

Although there is extensive use of ZimVAC products in both academic and grey literature, we recommend the systematic introduction of recommended citations in ZIMVAC products and sensitization on citation among users. We recommend investment in targeted and innovative dissemination and advocacy strategies, which will strengthen the policy and programming influencing ability of ZimVAC. The Food and Nutrition Council of Zimbabwe must undertake steps to document the ZimVAC program/policy influence in real-time as well as to incorporate diversified information needs from various stakeholders. Realizing that food and nutrition security appears to be the most important theme informed by ZimVAC data, ZimVAC needs to speak to a wider spectrum of policymakers and programmers by illuminating other themes, such as risk reduction and resilience. There is therefore a need to intentionally disseminate VAA products much more broadly to different sectors that may make use of this information under diverse themes such as climate change.

Our study had some strengths. Citation analysis is a method widely used to investigate the extent of use and influence of literature resources. It is a quick method and based on the assumption that authors have cited sources due to 'usefulness' of a source it can be used to judge the importance of the cited source, the validity and reproducibility of the methods used, and confidence in the process in this case vulnerability

assessment⁷⁴. It however has some limitations e.g.; this method captures formal levels of scientific communication and resources with a digital footprint⁷⁵. We therefore tried to harvest as much 'grey literature' as possible through key informant interviews using a framework (Scaling Up Nutrition network) plus the snowballing sampling approach.

5 Conclusion

In conclusion, the use of VAA information (ZimVAC) by academia, researchers, and other information providers in Zimbabwe is significant and growing in importance. Users of ZimVAC products consist of government departments, academia, the NGO sector, donor networks, and civic society. The most common theme informed by ZimVAC was food and nutrition security. ZimVAC needs to find more relevance to policymakers and programmers by illuminating other themes and being responsive to topical issues such as pandemics.

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