International Journal of Social Science Research and Review

http://ijssrr.com
editor@ijssrr.com
Volume 6, Issue 9
September, 2023
Pages: 251-259

Challenges Experienced with Water Services Delivery in the Limpopo Province, South Africa: A Case Study of a Rural Community in Vhembe District Municipality

Sejabaledi A. Rankoana

Department of Sociology and Anthropology, University of Limpopo, Private Bag X1106, Sovenga 0727, South Africa

E-mail: sejabaledi.rankoana@ul.ac.za

http://dx.doi.org/10.47814/ijssrr.v6i9.1219

Abstract

Study purpose: One of the challenges for many local municipalities is the provision of basic water services to all South Africans. The purpose of this study was to explore water service delivery in the Mukondeni community in Limpopo Province. Materials and methods: Semi-structured interview questions were posed to communities and employees in a municipality in Limpopo Province to achieve this goal. The main study focus was on the responses of community members and local authorities in charge of water service delivery, and the nature of resources in the water supply. Results, Discussion and Conclusion: The findings show that community members are experiencing challenges with water service delivery, and workers in the water services department are dissatisfied with the current system. Direct involvement, coordination, and cooperation, as well as the development of a culture of a culture of empowering the local communities, should result in improved water service delivery to the community and Musina Local Municipality in general. The study suggests that water efficiency and effectiveness campaigns be launched to help alleviate and improve the current perilous situation.

Keywords: *Water Service Delivery; Water Access; Rural Area; Vhembe District; Limpopo Province*

Introduction

Water scarcity is one of the world's most pressing issues, and authorities are frequently faced with the challenge of ensuring that adequate water resources are available to meet the ever-increasing demand. Water scarcity is primarily a problem in semi-arid regions, where it is difficult to secure water supplies due to high population density. Several factors, such as settlement location, socio-economic and demographic variables such as household size, and environmental variables such as temperature and precipitation, have been found to influence water consumption at the household level in rural areas (Shan

et al., 2015; Murwirapachena, 2021; Priyan, 2021). Many rural areas in South Africa are becoming increasingly dissatisfied with the quality, quantity, accessibility, and frequency of interruptions in water delivery (Statistics South Africa, 2018). Limpopo is a water-scarce province that was declared a disaster area in November 2015 as a result of the drought that affected the majority of South Africa's provinces. Water scarcity is a significant development issue in Limpopo Province, limiting both economic and social activities (Emily & Muyengwa, 2021). Water-related challenges continue to affect communities throughout the province, but the Vhembe District Municipality is at the epicenter of this.

South Africa is a semi-arid country with limited water resources, and bringing safe drinking water to rural communities remains a challenge (Pindihama & Malima, 2022). Ngobeni and Breitenbach (2021) support the idea that South Africa is a water-scarce country, receiving an average of approximately between 450 and 465 mm of annual rainfall, almost half the world average. The country's water-related challenges for sustainable are exacerbated by its history and scarcity of water. The provision of basic water services to all, particularly the rural poor, is the country's most pressing challenge in terms of water and development (Thwala & Edoun, 2018). However, providing services to the poor is one of the long-term development in the water industry. Other challenges include the high level of non-revenue demand, the water services industry's weak institutional capacity, the economic viability, the environmental degradation of water resources, and the availability of sufficient water.

Although there is no agreement in the literature on the most effective ways to improve water service delivery (Matikinca et al., 2020), the current study presents the state of water resources and challenges with water service delivery, as well as recommendations to adopt local practices to manage water demand in a rural community. Due to a growing population, deteriorating water conditions, and the effects of climate change, ensuring rural water security has become a major challenge for sustainable development. Water resource management has become a top priority for development practitioners and national governments, particularly in the developing countries (Ananga et al.,2021).

Due to high levels of water demand, Musina Municipality, drought-stricken area located in Vhembe District Municipality in Limpopo Province, South Africa, is a resource-poor municipality. Lack of water for household consumption, livestock, and farming has long been a major concern for Musina communities (Musina Local Municipality Integrated Development Plan [IDP], 2020-2021). Water service delivery in Musina is poor, in addition to the effects of periodic water scarcity (World Bank, 2010). This is exacerbated by a lack of competent staff and difficulties with staff recruitment, poor maintenance of water resources, and community misuse of water resources. The current study was designed to explore water service delivery and the challenges that come with it.

Research and Methodology

Study Area

The Mukondeni community is located in the southern part of Musina Local Municipality in Limpopo Province, South Africa at 22° 35´ S and 30° 40´ E. Mukondeni was identified as a case study because of the wide range of water service delivery challenges, which are so endemic to other communities found in the province's rural areas. The population of the community consists primarily of women due to the effect of migrant labor practiced by men from the area (Musina Local Municipality Integrated Development Plan (IDP) 2020–2021). The municipality receives its water supply from Vhembe District Municipality (VDM), which is a Water Service Authority, and it is the responsibility of the water service provider to ensure that all the communities within the municipality have access to clean bulk water resources (IDP 2020–2021). The area is supplied with water from two rivers: The Mutale River and the Nwanedi Lupepe. Although groundwater is a valuable resource in the study area, it is contaminated, putting residents at risk of getting waterborne diseases such as cholera.

Research Design

The population of the study was made up of key informants, including community development members or leaders and workers, civic members (groups), forum members of the Mukondeni community, and Mutale Water Supply Plant manager. Mutale Local Municipality officials were surveyed using the snowball sampling method so as to have as many key informants as possible. The study used primary data that was collected using a standardized questionnaire with questions that addressed water service delivery in the community. The following aspects or items were used to analyze the proposed study of the authorities responsible for water service delivery in the area: the types and status of water resources available in the community; the effectiveness of the authority in making water available to the community; and the challenges faced by the authority responsible for water supply. The sampling interval was between six and twelve informants of Mutale Water Supply Plant officials (workers). Within each household selected for the sample, the information was solicited from the households' guardians, for example, those people responsible for fetching water daily for domestic consumption. Data were analyzed descriptively using the Statistical Package for Social Science (SPSS 16.0) software. Informed consent was sought at the beginning of the study. In addition, the informants were asked to answer the questionnaire only to the best of their knowledge. There was no pressure to get them to respond to the questions posed.

Findings and Discussion

Sources of Water

The Republic of South Africa's Department of Water Affairs (2012) promulgated a minimum level of water supply of 25 liters per capita per day, which the local authorities are expected to provide to their residents without the residents incurring any costs or paying for the water charges within 200 m from their homes. According to the Republic of South Africa's Municipal Systems Act of 2000, the Integrated Development Plan (IDP) is a process in which a municipality and other local role players compile a blueprint that outlines how services will be delivered to the community and makes provisions that should be reviewed annually. The Musina Final Integrated Development Plan is a five-year strategic document that informs all the planning in the local municipality (IDP Plan, 2020–2021). According to this document, free basic water supply is subsidized by the municipality, with consumption above the free water limit of 25 liters per capita per day attracting payment by the consumer. In line with this strategic document, the municipality has initiated developmental projects that are aimed at increasing the quantity of water. The current water projects that the municipality has completed include the construction of a weir on the Mutale River to augment the raw water quantity. It has increased the pipe size from 200 to 400 mm in diameter to convey more water from the weir to the water treatment plant, and it has changed the water treatment plant from slowed filtration to a rapid sand filtration system with a capacity of 3.6 megaliters a day. Further, it has constructed two additional water reservoirs with a combined capacity of 13 megaliters.

Community members obtain water from a variety of sources, including the river, boreholes, rainfall, and piped water from neighboring communities. Mutale River is the most frequently used source of water (for 50% of respondents), most likely because it is a free resource. However, this river is ephemeral; hence, the second commonly used source (for 34% of respondents) is piped water from an adjacent community, which is more sustainable but has a cost factor associated with it. This is due to the fact that residents must hire vehicles, primarily pickups, to transport this water from the neighboring Mangaya and Maheni communities to Mukondeni.

It is thus clear that the Department of Water Affairs, which is mandated with managing and protecting the country's water resources, with the National Regulator in charge of accountability, is failing to fulfil its mandate because of the vast majority of residents continue to rely on the Mutale River as their primary source of water, with its associated health risks. Van Ginkel et al. (2001) add that the

availability of treated freshwater resources is critical to the provision of safe and sufficient drinking water in South Africa. However, Statistics South Africa Household Survey (2017) and Obi et al. (2002) noted that majority of the population in rural Africa relies on raw water resources such as rivers, wells, and ponds, which are feces-contaminated, rarely treated, and thus unsafe for human consumption. In the study, the productive uses of domestic water at the household level include beer brewing, small-scale food production, and household construction in low-income areas. Poor-quality irrigation water can affect crop growth and reduce yields or lead to increased salt loads in soils, which render them less productive (Ashton & Godfrey, 2014). Thus, it comes as no surprise that members of the Mukondeni community are deeply dissatisfied with the state of the water service supply in the community.

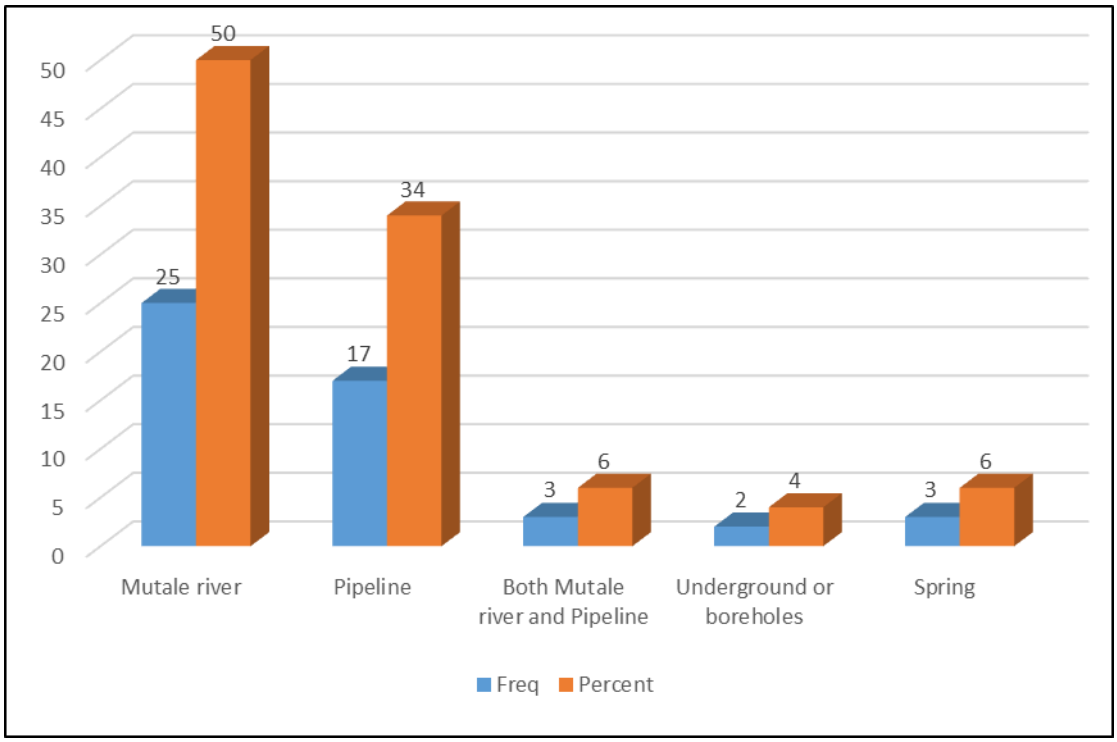

Figure 2. The main source of water supply in the community

Water Services Delivery

It is important to outline how regulations in the water sector work in South Africa. The DWA regional offices regulate municipalities within the provinces where they are situated, exercising authority on non-partisan lines. At the local level, a water service authority has oversight over a water service provider directly responsible for local operations. The Ward Committee has direct oversight over water services, raising any concerns with its mayors and ward councillors (Howard and Bartram, 2013). In practice and administratively, this division of labour has not worked. Local regulation in water services has been weak because municipal water departments are both referees and players at the same time. Politicians, ward committees, and ward councillors have become rife with patronage and are often insufficiently knowledgeable about water issues to adequately express matters raised in their constituencies at the city council level (Obi et al., 2002). Thus, it is no wonder that at the grassroots level, there seems to be no clear view as to who is responsible for water service delivery. Most community participants identified the Vhembe District Municipality as the responsible body for water supply, while community councillors fingered the technical manager of the Department of Water Affairs as the person responsible for water service delivery. Thus, it is no wonder that when it comes to satisfaction, some

community members said workers were not doing enough to make sure that water was always available in all areas, while others said enough was done. In contrast, councillors were of the opinion that the municipality is doing well.

The above varied response is also tied to viewpoints on the sufficiency of water. For example, community members believed that the Musina Municipality was not providing sufficient water, while municipal workers believed it was supplying water. Councillors believed that the municipality provided adequate water. In response to the community's complaints about the lack of adequate water supply, councillors stressed that the municipality was planning to drill boreholes to supply more water, while municipal workers noted that the municipal authority was planning to upgrade the water scheme to bring more effectiveness to the water supply. This was in direct response to the community's complaints about the poor maintenance of existing pipelines to households by the Vhembe District Municipality. All the above issues created the impression that the municipality did not care about water service delivery to the community. The Statistics South Africa Household Survey (2017) validates that despite the improvement in providing access to water and sanitation facilities, there has been a steady decrease in the number of households that are satisfied with the water services they receive.

Types and Status of Water Supply Resources Available

The above poor image of the Vhembe District Municipality as a water authority is further enhanced by comments from the municipality that water tank trucks supply water for drinking, cooking, washing, or doing laundry when there is a shortage, and then only once a month. It would seem that this constitutes the municipality fulfilling their mandate on water provision. However, participants noted that even when tankers are sent out, there are no fixed times for water delivery, with this endeavour being most notably undertaken when there are funerals. On the question of how water service delivery can be improved, vastly different responses were obtained from the community, councillors, and the municipality. For the community, the repair and maintenance of the water reticulation system was a top priority, while councillors indicated that new state-sponsored housing will have running water. The municipality indicated that it needs more resources to assist the community. However, due to a culture of non-payment and high unemployment, the very low levels of payment for services delivered make it very difficult for the municipality to fulfil its mandate on water supply. This can lead to service delivery protests. Atkinson (2007) has provided some qualitative analyses on the causes of protests, and both studies showed that inadequate service delivery is at the core of nearly all protests in South Africa. Gurr (1970) emphasizes the role of relative deprivation as the key driver of protests. He argues that poverty, economic want, and poor living conditions rouse feelings of resentment that are responsible for the protest generation.

Challenges Experienced by the Municipality in Ensuring Consistent Water Supply

An outstanding observation is that, as eluded to above, the problem faced by the municipality is mired, ranging from inadequate communication to the community on when water tankers would be available to a lack of financial resources to ensure adequate maintenance of the water reticulation system and the appointment of additional technical staff. The situation is further complicated by illegal connections on supply pipelines. This phenomenon is not unique to Mukondeni. Unauthorized connections, for instance, connecting a hosepipe to a communal tap, are becoming an increasingly common sight in South Africa. For example, Seshoka et al. (2014) report on one community where 1,700 illegal connections were counted, the majority of which were being used to irrigate garden plots. The result of this will be that while the 'connectors' have more than their share of water, the water pressure is lowered to such an extent that communal taps furthest from the reservoir run dry (Koekemoer, 2009). The issue of low water pressure was confirmed by officials of the municipality. In resolving the above issues, in addition to the request for more resources, the municipality also noted that it needs the active

participation of ward councillors and tribal authorities to act as intermediaries between them and the community, especially with regard to eliminating the culture of non-payment. Councillors, on the other hand, were of the opinion that community members needed to be educated on how to save and use water efficiently, that community members must erect boreholes and store water in tanks, and lastly, that community members must take the initiative to inform the municipality on water service challenges.

Algotsson and Murombo (2009) noted that Vhembe District Municipality is responsible for water supply in their area of jurisdiction. They further indicated that the provincial government has not provided sufficient ongoing support to the various districts in order for them to accomplish their mandate. Obi et al. (20002) recommended that the municipality strengthen its administrative capacity and enhance its technical capacity by upskilling its staff, in addition to making its administrative system accessible and receptive to the public. The water service delivery challenges faced by the Musina Local Municipality will only increase in the future in the face of an ever-increasing population and an older reticulation system. Thus, based on the findings above, the study makes the following recommendations: The municipality should introduce the reallocation of the water services department. Thus, it is envisaged that the municipal authority and the municipality's water workers should jointly work together as a single municipality, rather than the current situation where municipal water services departments are controlled by Vhembe District Municipality. This creates a long channel of communication between the municipal authority, water workers, and end-users of water in general. Equally, this causes unnecessary delays when community members report poor water service supplies. Direct communication must be established between the Musina municipality and the community or end-user of water. The provision and maintenance of water services should also be done by Musina Local Municipality (MLM) rather than Vhembe District Municipality (VDM). However, the challenge facing a significant number of municipalities is that in the majority of South Africa's rural communities, poverty is high and infrastructure is limited, with little or no reliable bulk water sources. Furthermore, these communities are located in hard-to-reach areas where it is geographically not feasible to provide in-house connections and people are unable to pay for municipal services (Smith, 2009).

The municipality conducts public meetings at the end or beginning of each year to get the respondents' reports on their performance on water supply services in the previous year. Such an exercise brings qualitative improvement as people will discuss pertinent issues related to the supply of water, thus collectively seeking new ways of managing the situation. The introduction of a prepaid meter system at the household level was suggested. The system would discourage the misuse of water via illegal connections and can lead to efficient usage of water in the community, while at the same time meeting the standard of free basic water needs for the indigents. Lastly, the municipality should adopt a business model for water service delivery. Thus, water service delivery units or departments must be structured on good business principles. This implies a properly staffed organization that includes all the skills and experience required for the effective management and operation of the service, covering both technical and financial responsibilities. Ward councilors have an important role to play in this organization as the equivalent of the board of directors. Venter (2010) reports that in order to improve the delivery of public services, especially on the part of local government, the government of the day has to address the challenges that hamper service delivery in a more coordinated and proactive manner, focusing on macro-goals in order to develop the country's infrastructure and ensure that all citizens benefit. Poor water service delivery, according to Beyers (2016), is a result of many small municipalities in South Africa struggling to operate and maintain their infrastructure in a cost-effective and sustainable manner.

Conclusion

The study describes the community's satisfaction with the current water supply services, source of water, challenges faced or experienced by the municipal authorities in providing water consistently to

the Mukondeni community, and the type and status of water resources available. The study findings demonstrate that tare water service delivery in the Mukondeni community is real, which is compounded by a lack of clear understanding of the division of labor and responsibilities. Musina Municipality will need to invest in institutional strengthening, information management, and (natural and man-made) infrastructure development to strengthen water security in the face of increasing demand, water scarcity, growing uncertainty, greater extremes, and fragmentation challenges.

Acknowledgements

The Musina Local Municipality and its officials are acknowledged for participating and providing access to their staff. The residents of Mukondeni are thanked for their participation in the study. Vhembe District Municipality's Water Services Department's senior officials are recognized for their assistance during the data collection phase.

References

Algotsson, E. & Murombo, T. (2009). Water Supply and Sanitation in South Africa: Environmental Rights and Municipal Accountability. LHR Publication Series (1/2009), funded by Developed Bank of South Africa.

Ananga, E.O., Naiga, R., Agong', S.G. et al. (2021). Examining the contribution of community participation in water resource production and management: perspectives from developing countries. SN Soc Sci, 1, 37. https://doi.org/10.1007/s43545-020-00050-0.

Ashton, P.J. & B. Haasbroek, B. (2001). Water demand management and social adaptive capacity: A South African case study. In: (A.R. Turton & R. Henwood (Eds), "Hydropolitics in the Developing World: A Southern African Perspective". African Water Issues Research Unit (AWIRU) and International Water Management Institute (IWMI).

Emily, M.M. & Muyengwa, G. (2021). Maintenance of Municipality Infrastructure: A Case Study on Service Delivery in Limpopo Province at South Africa. American Journal of Operations Research, 11, 309-323. https://doi.org/10.4236/ajor.2021.116019.

Atkinson, D. (2007). Taking to the streets: Has developmental government failed in South Africa? South Africa: State of the Nation.

Beyers, L.J.E. (2015). Service Delivery Challenges Facing Municipalities: A Case Study of Fetakgomo Local Municipality in Sekhukhune District Municipality, Limpopo Province. Bangladesh e-Journal of Sociology, 13,121-127.

Gurr, T.R. (1970). Why men rebel. Princeton, New York: Princeton University Press.

Hirschowitz, R. & Orkin, M. (1997). Inequality in South Africa: Findings from the 1994 October Household Survey. Soc. Indicator Res, 41, 19-136.

Howard, G. & Bartram, J. (2013). Domestic Water Quantity, Service, Level and Health. Geneva: World Health Organization.

Koekemoer, R. (2009). Community participation in the planning of water service delivery in a rural community in Limpopo Province. Unpublished Master's dissertation. South Africa: University of Johannesburg.

Kleiner, S. M. (1999). Water: An Essential but Overlooked Nutrient. Journal of the American Dietetic Association, 99(4), 411-410.

Matikinca, P., Ziervogel, G. & Enqvist, J. P. (2020). Drought response impacts on household water use practices in Cape Town, South Africa. Water Policy, 22(3), 483–500.

Murwirapachena, G. (2021). Understanding household water-use behaviour in the city of Johannesburg, South Africa. Water Policy, 23(5), 1266. doi: 10.2166/wp.2021.157.

Ngobeni, V. & Breitenbach, M. C. (2021). Production and scale efficiency of South African water utilities: the case of water boards. Water Policy. doi:10.2166/wp.2021.055.

Obi, C.L., Potgieter, N., Bessong, P.O. & Matsaung, G. (2002). Assessment of the microbial quality of river water sources in rural Venda communities in South Africa. Water in South Africa, 28 (3), 287-292.

Pindihama, G.K. & Malima, T.P. (2022). Potable Water Security in Rural South Africa: A Case Study of Vhembe District. oai:ojs.ojstest.ukzn.ac.za:article/2580.

Priyan, K. (2021). Issues and challenges of groundwater and surface water management in semi arid regions. In: C. B. Pande & K. N. Moharir, eds. Groundwater Resources Development and Planning in the Semi-Arid Region. Springer Nature Publication, 1–17.

Republic of South Africa's Department of Water Affairs (DWA). (2010). Annual report of the Department of Water Affairs 2009-2010. Pretoria: Department of Water Affairs and Forestry. National Water Resource Strategy. Available at: www.dwaf.gov.za/docs/NWRS.

Republic of South Africa's Local Government: Municipal Systems Act, No. 32 of 2000. Available at: https://www.gov.za.

Republic of South Africa's Musina Local Municipality Integrated Development Plan (IDP) 2020 2021. (2021). Available at: htttps://www.musina.gov.za/official-documents/idp.

Republic of South African's National Water Act 36 of 1998. Available at: https://www.gov.za.

Republic of South Africa. (1997). Water Services Act. Act 108 of 1997. Government Gazette No. 18522. Cape Town: Office of the President.

Seshoka, J., De Lange, W. & Faysse, N. (2004). The transformation of irrigation boards into water user associations in South Africa. Case studies of the Lower Oliphants, Great Letaba and Vaalharts water user associations. Working paper 72(1), International Water Management Institute.

Shan, Y., Yang, L., Perren, K. & Zhang, Y. (2015). Household water consumption: insight from a survey in Greece and Poland. *Procedia Engineering* 119(1),1409–1418. doi: 10.1016/j.proeng.2015.08.1001.

Smith, L. 2009. *Municipal compliance with water services policy: A challenge for water security*. Development Planning Division. Working Paper Series No.10 , DBSA: Midrand.

Statistics South Africa. (2017). *General Household Survey*. Available at: http://www.statssa.gov.za/publications/P0318/P03182017.pdf.

Stats SA, 2018, Non-financial census of municipalities for the year ended 30 June 2017, at p 4, accessed a:t http://www.statssa.gov.za/publications/P9115/P91152017.pdf.

Thwala, M. D. & Edoun, E. (2018). The effectiveness of water conservation based on water demand in South Africa. In: The 2018 WEI International Academic Conference Rome: Proceedings.

Water Supply and Sanitation in South Africa (WSSSA), Health and environment of South Africa. (February 2014). Water supply and sanitation in South Africa.

World Economic Forum. (2016). The Global Risks Report 2016, 11th Edition. Geneva: World Economic Forum.

Wright, J. A., Yang, H., Rivett, U. & Gundry, S. W. (2012). Biomed Central (BMC): Public Health. Public perception of drinking water safety in South Africa: Available at:http://www.biomedcentral.com.

Van Ginkel, C.E. (2001). Eutrophication: Present reality and Future challenges for South Africa. Available at: http:www.wrc.org.za.

Venter, A. (2010). Government and politics in South Africa. Pretoria: Van Schaik.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).