

OPINIONISTA

Alternative building technologies may be a boon to South Africa's informal human settlements crisis, but are not a panacea

By Ronnie Siphika [Follow](#)15 Jan 2023 [2](#)

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It's not enough to turn to technology to solve the crisis of fire in informal settlements. But as part of a holistic socioeconomic strategy, some novel options can make a huge difference to the quality of life of those living in crowded areas.

While it is commendable that the Minister of Human Settlements, Mmamoloko Kubayi, is calling for urgent interventions to mitigate against the devastating losses caused by runaway fires in informal settlements, it is important to note that even the most innovative building techniques may not be enough.

Addressing the root causes of these fires, such as poverty and lack of access to basic services, should also be considered. Providing emergency relief and rebuilding homes is important, but does not address the underlying issues that led to the fires in the first place. There needs to be a comprehensive approach that includes addressing socioeconomic issues, providing access to basic services, and involving the affected communities in the decision-making process.

It's in the context of a broad vision for fixing the socioeconomic setting that we should consider approaches that include Alternative and Innovative Building Technology (known in the industry as ABT/IBT) for building safe and durable housing, and reblocking strategies to prevent fire spread. ABT/IBT approaches could include the use of fire-rated materials and designs for houses that are more resistant to fires, as well as incorporating features such as ventilation and natural light.

They could also be used in the development of infrastructure and services in informal settlements. For example, the use of alternative sanitation systems such as urine-diverting toilets, could improve sanitation. Novel heat-source technologies could reduce the risk of fires caused by open flames used for cooking and lighting.

Not a one-size-fits-all option

While ABT/IBT can provide some benefits, it is not a panacea. More research is needed on the suitability of specific ABT/IBT technologies in preventing fires in the different settings found in informal settlements. It is not a one-size-fits-all option.

It is also important to note that financing for the implementation of ABT/IBT projects in informal settlements can be a significant challenge. These projects often require a significant investment upfront, and traditional funding sources such as banks may be unwilling to provide loans for informal settlements due to the perceived risks. Furthermore, many residents of informal settlements may not have the financial means to contribute to the cost of such projects, making it difficult to secure funding from the community.

One potential solution to this challenge is to explore alternative financing mechanisms such as crowdfunding, impact investing, or public-private partnerships. These mechanisms can provide the necessary funding to implement projects while also involving the community and private sector in the development process.

Another solution would be to create incentives for the private sector to invest in ABT/IBT projects in informal settlements. This could include tax breaks, subsidies or other financial incentives.

Funding for these projects should also be accompanied by long-term support and maintenance programs, to ensure sustainability and continuity of these projects. Alternative funding mechanisms and incentives for the private sector should be considered, along with long-term support and maintenance programs.

In addition to addressing the financing challenges, alternative and innovative technologies can also be used to make the construction process more labour-efficient. This can be achieved by using prefabrication and modular construction methods, which allow for the majority of the work to be done off-site in a factory-like setting. This can increase efficiency and reduce the amount of labour required on-site, which can help to lower the overall cost of the project.

Prefabrication and modular construction methods can also improve the quality and durability of structures, as the work is done in a controlled environment, and the materials are protected from the elements. This can be especially beneficial for informal settlements, where the conditions can be harsh and structures are often exposed to the elements.

Construction with ABT/IBT can also provide job opportunities for the local community. The manufacturing and assembly of prefabricated and modular structures can create jobs and help to reduce unemployment in the area. These can play a role in improving living conditions and safety of informal settlements.

The benefits must, however, be weighed against how well the technologies suit the setting. The ABT/IBT technologies may be fire-rated, but they may not necessarily be the most appropriate for the specific conditions and needs of any one community. Additionally, reblocking strategies, while they may help with preventing fires, could also lead to displacement and loss of community cohesion.

Multi-faceted approach

Above all, informal settlements are complex systems that require a multi-faceted approach. It is important to involve the communities themselves in the design and implementation of ABT projects. This would help to ensure that these are appropriate for a community's specific needs and that those who use them are able to maintain and repair what is built. It can be achieved through involving the community in training and education, and creating opportunities for community members to participate in the design and construction process.

An additional benefit of involving the community in the design and implementation process is that it may ensure that projects are sustainable in the long-term, and able to meet the needs of the community, as these change over time.

Other countries have successfully implemented interventions to address the challenges of informal settlements. In Brazil, the “Favela-Bairro” program was launched in the 1990s, which aimed to improve living conditions in informal settlements through the provision of basic services, the construction of infrastructure, and the involvement of the community in planning and implementation.

The “Slum Upgrading” program in India also aims to improve living conditions of informal settlements through similar strategies.

The experience of other countries can help us shape successful, comprehensive policy interventions that can be adapted to the South African context.

While the minister’s call for urgent interventions is important, a more holistic approach is needed in addressing the recurring fires in informal settlements. This should include research on the effectiveness of new technologies, addressing root causes and involving affected communities in decision-making. **DM**