The Malawi Priorities Project

POLICY BRIEF

The costs and benefits of Interventions to Increase Compliance with the Construction Permits Process in Malawi: Ensuring the Benefits of Urbanization

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KEY MESSAGES

- More than half of urban residents live in informal settlements or in informal dwellings in areas designated for housing. While regulations and housing permits are critical, compliance with these regulations is of equal importance.
- In the case of Malawi, if the costs or burdens associated with compliance are too high, non-compliance grows. Excessive costs of compliance can include: inaccessible or highly priced building materials; cost of engaging the requisite experts (architects and engineers); and high time-costs associated with compliance. A high burden of compliance placed on owner-developers flows on to consumers, and can effectively price poorer communities out of the formal housing market, making informal settlements or dwellings the only available option. Guidance on lower-cost and sustainable building materials, which would be more appropriate for owner-developers who are targeting lower-income residents, further compounds this issue.
- Non-compliance in Malawi's construction sector is rooted in three challenges: poverty; the costs of compliance imposed on the private sector; and, a lack of transparency in the permit-provision process. The proposed interventions reduce the costs of building low-income housing: they create access to architectural plans that make houses more resilient; they reduce the direct cost of the construction permit process and they reduce the time associated with engaging with public entities.
- The first intervention focuses on making prototype plans available for owner-builders with a view to substantially reduce the cost of architectural plans at the approval stage of the construction permit process. This intervention alone would yield 3.3 kwacha for every kwacha invested. The benefits principally accrue to the private sector in the form of avoided technical consultation costs and time saved, as well as avoided damage of sub-quality housing. Part of these benefits would flow to consumers and homeowners, primarily in the form of lowered housing costs and avoided costs associated with repairs over the longer term.
- The second intervention is the integration of ICT in the construction permit process, or e-permits, which would improve local council productivity and workflow and render the process more transparent, which yields 3.2 kwacha for every kwacha invested. Benefits of this intervention are primarily expressed in time saved from reduced transaction costs and shorter waiting times.

Context

Nationally, Malawians struggle with informal dwellings and a high number of informal settlements, leaving 33% of the population vulnerable to flooding and other climatic risks. Houses built with traditional materials are particularly vulnerable to damage, and exist in both designated and undesignated areas for building. The proportion of permanent or semi-permanent dwelling also varies greatly across the nation, from Mangochi, where 45% live in traditional homes to Mzuzu City, wherein only 6.6% live in traditional houses (Government of Malawi, 2019b).

Given Malawi's ecological zone and associated climatic risks,

the threat posed by vulnerable housing becomes a more urgent challenge. Nationally, there have been 19 major flooding incidents over the past 50 years (Government of Malawi, 2019). The 2019 Post Disaster Needs Assessment found that 89% of the affected houses were constructed of traditional materials.

Within the present infrastructure, owner-developers of low-income housing face several challenges in meeting the requirements of the construction permit process. The dearth of accredited experts, the cost of consulting them, and the time and resources required to coordinate with government officials effectively creates a 'barrier' to comply with building regulations. Consequently, the cost of compliance renders the construction permit process so expensive, that a significant percentage of houses are constructed with traditional materials, even in areas designated for housing construction.

Obtaining a construction permit in Malawi entails 13 procedures and begins with getting the architectural plans approved. Albeit straightforward, this process demands significant monetary and time costs. Among these 13 components, the most expensive component by far is the approval of the architectural plan. Where it relates to time, approval of the architectural plan from the local council takes 60 days, whereas the total time to obtain a construction permit is 172 days. The plans approval process alone takes up approximately 78% (MWK 941,000), of the total cost of obtaining a construction permit (MWK 1.2 million) (2020 Doing Business Survey).

Intervention 1: The use of prototype plans for housing

The intervention proposed is to make use of prototype (pre-approved architectural plans) to reduce the financial cost and time of the plans approval process. The intervention suggests that local councils are expected to have 5 prototype plans, upon which owner-developers may customize. Customization takes 5 working days and is estimated to cost 15% of the current cost of the plans approval process. Local councils are also expected to review prototype plans every 10 years. The focus of this intervention are owner-developers in areas designated for building as the analysis assumes no changes or special dispensations for those building in undesignated areas.

The benefits of prototype plans include the time and avoided expenses of engaging architects and engineers directly to create an original architectural plan. This accrues to the owner-developers of permanent housing, approximately 1500 houses in the first year, increasing to 1900 over ten years. These figures assume a conservative uptake rate of prototype plans equal to 10% of new construction. The cost savings is substantial, as the intervention reduces the costs associated with developing individual architectural plans by 84%.

The 2020 Doing Business Survey estimates that the plans approval phase takes, on average, 60 days in Malawi. The time savings thus ranges from 90,000 to 113,000 days annually over the intervention period, valued at MWK 90 million in the first year, increasing to MWK 113 million in year 10.

Finally, improved housing quality reduces the risk of housing loss/damage due to flood or earthquake. This benefit accrues to those owner-developers, who would have otherwise constructed traditional-type dwellings, which are non-resistant to disaster, floods especially.. The total avoided damage from floods is valued at MWK 183.6 million (600 traditional houses damaged or lost) in Year 1, increasing to MWK 230.7 million (710 traditional houses damaged or lost) in Year 10.

The costs of the intervention include the direct cost of developing prototype plans (MWK 131.7 million) and the cost of customizing them (MWK 325.9 million in Year 2 increasing to MWK 409.6 million in Year 10). There is also the additional cost of construction. All things being equal, a dwelling that is disaster-resistant and meets building regulations is more expensive than a house built of traditional materials. The upgrades are valued at MWK 161.6 million in Year 1, increasing to MWK 203.1 million in Year 10. Customization and upgrade costs increase in proportion to housing demand.

Overall, costs and benefits together result in 3.3 kwacha of benefit for every kwacha invested. The use of prototype plans in particular encourages those, who could not afford architectural fees, to submit customized but pre-approved plans for approval, putting up structures that are properly guided. Although the intervention is specified for housing construction, prototype plans could be used for other building types, such as schools and business centres.

Figure 1: Prototype plan, benefits

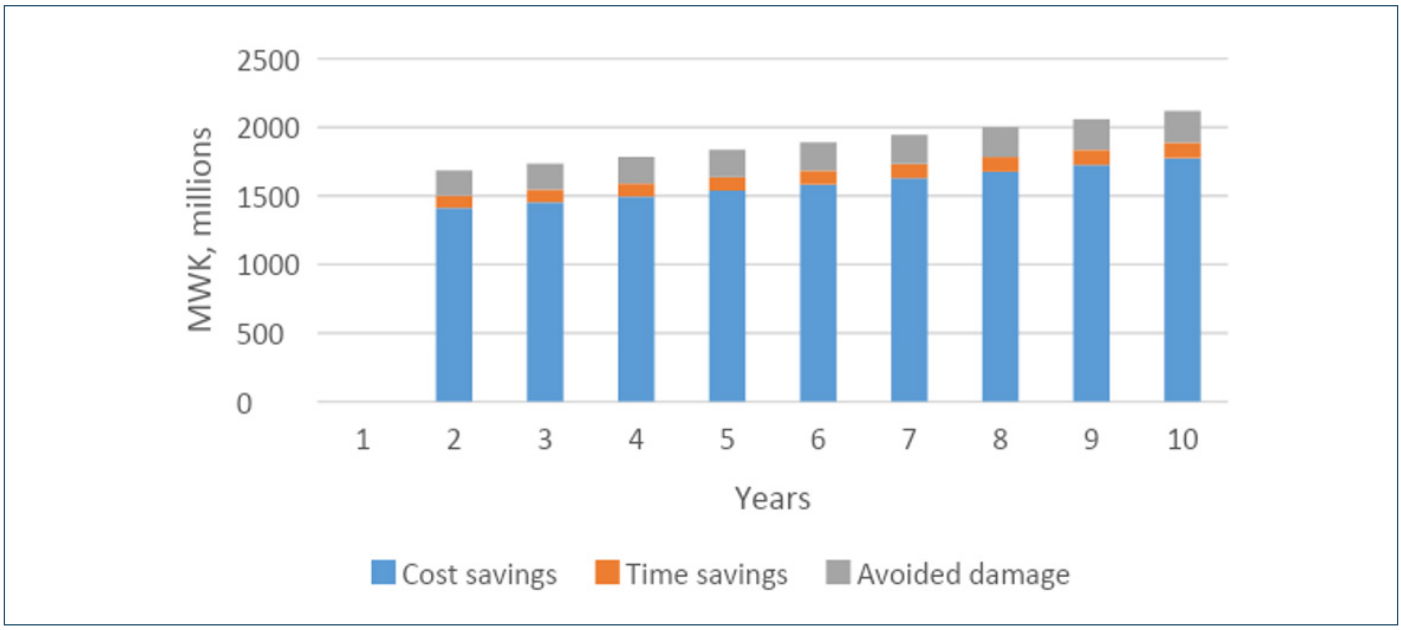
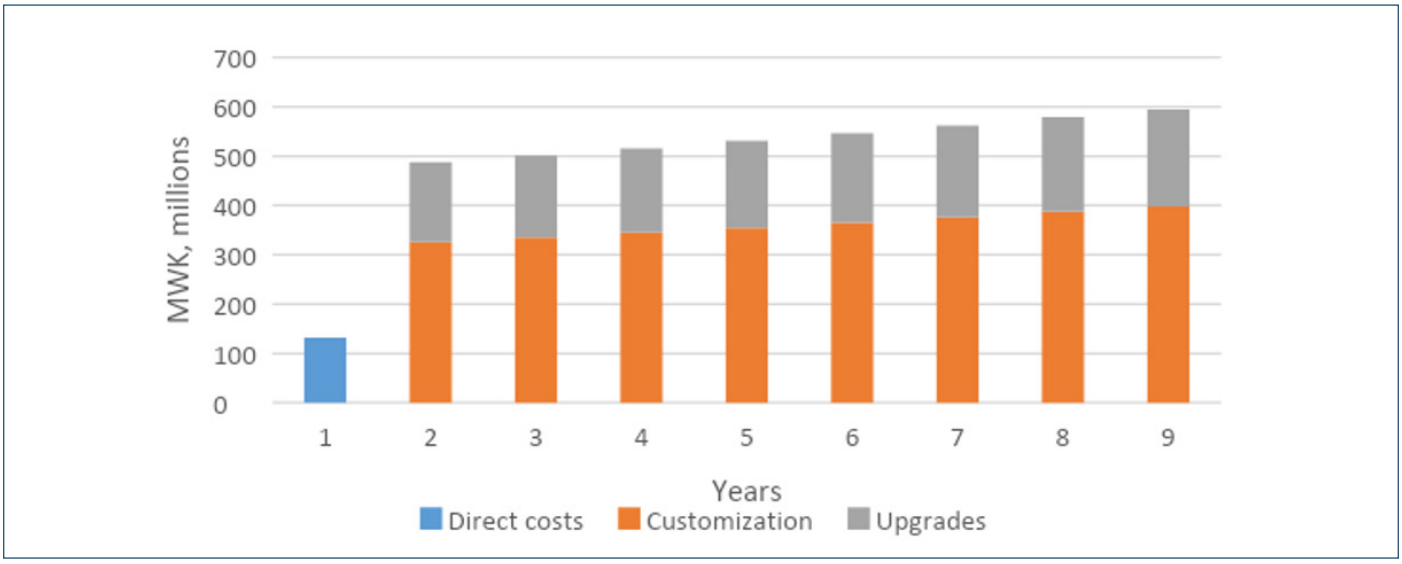


Figure 2: Prototype plan, costs



Intervention 2: E-permits

Doing Business 2020 data show that, on average, it takes 172 days to complete the Construction Permit Process in Malawi, with no digital features. Tackling time costs and bureaucratic inefficiencies within the Construction Permit Process would contribute to a decrease in building costs, primarily expressed in time costs, and thus an increase in compliance. When more than 5 digital features are available, this time decreases by 32 percent, to an average of 114 days. That is, the availability of

digital features is associated with less time. The five most common functions of e-permitting systems are on-line applications for construction/demolition with the capability of uploading plans; on-line plan reviews; access to the system by multiple authorities; data exchange between government agencies, and on-line fee payments (World Bank, 2018).

For the purposes of this analysis, principally because of the absence of a pilot in Malawi, the sole benefit measured is the reduction in time to complete the construction permit process. It is assumed that the uptake rate is 35%; this is the proportion of future owner-developers who will use the digitized services offered. Benefits accrue over a five-year period, after which replacement of capital equipment, license renewals, etc. are required. Time savings (in days) begin at 491,000 in Year 4 of the intervention and terminate at 551,000 in year 8.

The benefit is valued by using a proxy for willingness to expedite the construction permit approvals process, MWK 1000 per day. Thus, the total willingness to pay is MWK 2,604 million over five years. The cost of rolling out the e-permits process is assumed to be MWK 553 million, the high end of costs from international experience from Africa and Latin America. The high end value was chosen due to the low internet penetration and the higher-than-average number of days to obtain a construction permit. It is further assumed that the Government of Malawi rolls out the intervention nationally, over 3 years and that the costs are evenly incurred during that time.

E-permitting reduces transaction time and cost, generating 3.2 kwacha for each kwacha invested. It also renders the construction permit application system more transparent, fostering confidence in the process.

SUMMARY TABLE

Intervention	BCR Rating	Costs	Benefits
Prototype plans	**3.3 Fair** *(100% economic benefits)*	*MWK 3,506 million Total costs including: MWK 131.7 million over 10 years (Cost to local councils for development of prototype plans Customization and housing upgrades are private costs.*	*MWK 14,287 million over 10 years (Avoided cost of architectural plans) MWK 911 million over 10 years (Time Savings); MWK 1857 million over 10 years (Reduced risk of housing damage)*
E-permits	**3.2 Fair** *(100% economic benefits)*	*MWK 553 million (National roll out over a 3-year period)*	*MWK 1,775 million over five years, beginning in Year 4 (Time saved from eliminated waiting time, and reduced human interactions)*

***Note:** BCRs are based on costs and benefits **discounted at 8%** (see accompanying technical report). BCR ratings are determined on the following scale Excellent, BCR > 15; Good, BCR 5-15; Fair, BCR 1-5; Poor, BCR < 1. This traffic light scale was developed by an Eminent Panel including several Nobel Laureate economists for a previous Copenhagen Consensus project that assessed the Sustainable Development Goals.*

[1] Government of Malawi (2020). Fifth Integrated Household Survey, National Statistical Office, 2020. Government of Malawi, Malawi 2019 Floods Post Disaster Needs Assessment (PDNA), 2019.
[2] UN-Habitat (2020b). Sub-Saharan Africa Atlas. https://unhabitat.org/sites/default/files/2020/07/atlasroaf_v02_final-compressed.pdf
[3] Government of Malawi (2019b). 2018 Malawi Population and Housing Census: Main Report, National Statistical Office, May 2019. http://populationmalawi.org/wp1/wp-content/uploads/2019/10/2018-Malawi-Population-and-Housing-C ensus-Main-Report-1.pdf
[4] Kloukinas, P., Novelli, V., Kafodya, I. et al. (2020). A building classification scheme of housing stock in Malawi for earthquake risk assessment. J Hous and the Built Environ 35, 507–537 (2020). https://doi.org/10.1007/s10901-019-09697-5
[5] World Bank (2020). From Paper to the Cloud – Improving Building Control through E-permitting, World Bank Malaysia Hub, no. 2, May 2020. http://documents1.worldbank.org/curated/en/705331592344507733/pdf/From-Paper-to-the-Cloud-Imp roving-Building-Control-through-E-permitting.pdf
[6] World Bank (2018). Leveraging Technology to Support Construction Regulation and Permitting Reform: Insights from recent country experience, June 2018. http://documents1.worldbank.org/curated/en/720591529605551181/pdf/Leveraging-technology-to-sup port-construction-regulation-and-permitting-reform-insights-from-recent-country-experience.pdf
[7] World Bank (2018b). Dealing With Construction Permits: private sector participation in construction regulation, Doing Business 2018.

Malawi Priorities: Background

Malawi Priorities is a research-based collaborative project implemented by the National Planning Commission (NPC) with technical assistance from the African Institute for Development Policy (AFIDEP), and the Copenhagen Consensus Center (CCC) to identify and promote the most effective interventions that address Malawi's development challenges and support the attainment of its development aspirations. The project seeks to provide the government with a systematic process to help prioritize the most effective policy solutions so as to maximize social, environmental and economic benefits on every kwacha invested. Cost-benefit analysis is the primary analytical tool adopted by the project. Cost-benefit analysis will be applied to 20-30 research questions of national importance. Research will take place over the course of 2020 and 2021.

Research questions were drawn from the NPC's existing research agenda, developed in September 2019 after extensive consultation with academics, think tanks, the private sector and government. This sub-set was then augmented, based on input from NPC, an Academic Advisory Group (AAG) of leading scholars within Malawi, and existing literature, particularly previous cost-benefit analyses conducted by the Copenhagen Consensus Center. The research agenda was validated and prioritized by a Reference Group of 25 prominent, senior stakeholders. The selection of interventions was informed by numerous consultations across the Malawian policy space, and one academic and two sector experts provide peer review on all analyses.

Cost-benefit analyses in Malawi Priorities consider the social, economic and environmental impacts that accrue to all of Malawian society. This represents a wider scope than financial cost-benefit analysis, which considers only the flow of money, or private cost-benefit analysis, which considers the perspective of only one party. All benefit-cost ratios (BCRs) reported within the Malawi Priorities project are comparable.

The cost-benefit analysis considered in the project is premised on an injection of new money available to decision makers, that can be spent on expanding existing programs (e.g. new beneficiaries, additional program features) or implementing new programs. Results should not be interpreted as reflections on past efforts or the benefits of reallocating existing funds.

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