

Lessons from Island of Mozambique on limits of acceptable change

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LESSONS FROM THE ISLAND OF MOZAMBIQUE ON LIMITS OF ACCEPTABLE CHANGE

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INTRODUCTION: PROTECTION AS TRANSFORMATION

Antoine Lavoisier (1743-1794), a French pioneer, father of modern chemistry, once stated: "Nothing is lost. Nothing is created. Everything is transformed"¹. Both nature and humankind contribute to this continuous transformation process, influencing each other, at their own pace and in their own manner. Mankind, however, can decide to challenge the laws of nature and strive to protect what is predestined to be transformed. However, such effort also requires transformation. Thus, rather than being opposites, as often echoed in cultural heritage management, protection needs to start being understood as a challenging form of transformation; a form of transformation whose main aims are to maintain and restore cultural significance, even when proposing to improve or partially replace cultural heritage properties.

Protection and conservation have proved to be most successful when they are community-led and community-based. Hence the strategic objective of the World Heritage Committee adding a fifth C of Communities, in 2007, to the four Cs of Credibility, Conservation, Capacity-building and Communication, which were adopted in 2002.

Over recent years, international organizations such as UNESCO and the European Commission have published a series of recommendations, resolutions and conventions, raising awareness of the protection of cultural heritage and its context, and providing guidance on how transformations should take place. Recently issued are the Recommendation on the Historic Urban Landscape (UNESCO, 2011); the 2005 Millennium Ecosystem Assessment (United Nations, 2005), and, with regard to Europe in particular, the Convention on the Value of Cultural Heritage, also known as the Faro Convention (COE, 2005). These documents aim to promote and raise awareness of the World Heritage Convention as a

vehicle for sustainable urban development, rather than solely for protection.

These doctrinal texts are most inspiring on "what" should happen, leaving the "how" open for national and local interpretation. This results in a lack of exact global targets for the protection of cultural heritage, whereas such precision is already in place for e.g. mitigation of climate change. The European Member States agreed to settle as goal the 20 – 20 – 20 targets, with a 20% reduction in EU greenhouse gas emissions from 1990 levels, raising the share of EU energy consumption produced from renewable resources to 20%, and 20% improvement in the EU's energy efficiency.²

On one hand, it can be argued that the absence of such exact targets offers countries the opportunity to work within their own set of resources and cultural traditions and habits. On the other, one cannot disregard the effect of not agreeing precisely on when, how and how many of the common goals are to be reached. The line between positive and negative transformations, and between sustainable and unsustainable urban development remains vulnerable to partiality (Sutherland et al., 2004). Its misuse to attain short-term goals has proved to affect the more long-term ambitions on which cultural heritage management is based worldwide (Labadi and Long, 2010).

The decision to protect while transforming natural and cultural environments, probably accompanies mankind since its genesis, as it is strongly linked to human ecology and on how humankind and nature relate. Hall (1997) argues that humankind conveys meaning to "our use of things, and what we say, think and feel about them – how we represent them". However, Hall (1997) also elaborates on the fact that as humankind changes, "meanings, will accordingly always change, from one culture or period to another".

Six centuries ago, Leon Battista Alberti, an Italian humanist, already complained about the abundance of incompetent contractors in Rome "who could not start a new building without demolishing everything on the site as the first operation" (Alberti, 1452). However, the same Alberti also stated it "to be a rare occurrence for a great building to be completed by the same person who began it"³. Thus, it is not a principal question of whether transformation should or should not occur. It is more an ethical question of how transformations should impact on the buildings under intervention.

In fact, transformation is inevitable and somewhat predictable through its varied life spans, such as the life cycle (durability), and the service, design and economic life cycles (Pereira Roders, 2007). Therefore, unless transformation is also targeting protection, the state-of-authenticity and integrity of cultural heritage properties will always decrease in time.

1 <http://www.antoine-lavoisier.com/>

2 http://ec.europa.eu/clima/policies/package/index_en.htm

3 Translated from the original Latin "Maxima quaeque aedificatio vox numquam dabitur per eundem absolvi possit, qui possuerit" by Cramer and Breiting (2001, pp. 9).

Consensus on the limits of acceptable change, further explained, on how far transformations are allowed to deviate from the main aims to maintain and restore when changing cultural heritage properties is therefore crucial. The time of nomination is often referenced as the baseline to their state of conservation (ICOMOS, 2011), but seldom includes defined limits of acceptable change, beyond which the state of authenticity and integrity would be considered irreversibly damaged.

LIMITS OF ACCEPTABLE CHANGE

One of the notions bridging the ethical question between protection and transformation, and which could be settled as an exact global target, is the notion of *limits of acceptable change* (LAC). Developed in the context of designated wilderness in the United States of America, LAC is “the definition of acceptable social and environmental conditions in the management area and the prescription of measures to monitor and protect these conditions” (Stankey et al, 1985). LAC has already been applied in varied management fields. LAC has been mostly used for nature conservation (Diedrich et al, 2011), tourism management (Gössling, 1999) and its sustainability (Wallace and Pierce, 1996 and Ahn et al., 2002).

Stakeholders and scholars active in cultural heritage management do not often reference LAC directly. Instead, LAC is nearly always mentioned indirectly, whenever discussing theories, policy analysis or assessing the impact of transformation trends in the built environment. LAC in cultural heritage management concerns the defined limits to what can or cannot change in the built environment, often decreed in urban planning and conservation policies. The greatest difference in cultural heritage management might be that currently LAC are mostly found applied in binary scales (yes/no), to either allow or prohibit transformations to comprise certain changes. LAC are found applied in most varied levels. Two of the most common are the levels of change e.g. protected areas can hardly be changed, non-protected areas can even be replaced, and the building level, e.g. building interiors, can be replaced, building façades cannot be changed. Especially when applying LAC in extremes as per the examples provided, this binary scale can have serious repercussions in urban development, where the disparity between areas, protected and non-protected, and the escalation of urban planning-related disobedience are two of the main concerns.

The disparity between areas results from the attempt to compensate extremely high LAC in protected areas with extremely low LAC in non-protected areas. That has proven to cause situations such as the abandonment and non-use of protected areas (Shin, 2010), gentrification (Smith, 1998), the domestic migration of local communities and their investment to the non-protected areas (Marks, 1996), as well as the decline in architectural and urban planning quality outside protected areas. Attempts to mitigate such imbalance in use between

areas are being put into practice by scaling levels of change according to the importance of cultural heritage properties (e.g. order 1, 2, 3 monuments), though these scales seem to be based on weighting, ranging from more to less important, rather than on their cultural significance (Amsterdam, 2013). As such, areas conveying similar cultural significance are often found with variable scaling, reflecting the allowed level of change.

The escalation of urban planning-related disobedience, meaning the infringement of conservation and planning policies in urban contexts, results from the attempt to force transformations in protected areas which do not comply with the decreed LAC. Three of the most common patterns, referred to in contexts with a binary scale towards the LAC, are: the abandonment and non-use of protected buildings until they collapse, occasionally “helped” by arson (Chiou et al., 2009); the approval of development projects under exceptional circumstances, sometimes resulting in corruption (Trumbull, 2013) and illegal construction, often escaping criminal sanction (Boxem and Furhen, 2011).

Meanwhile, the latest debates explore the potential of more gradual scales of LAC (Pereira Roders and Van Oers, 2013), where changes are kept under observation through periodical monitoring and are only halted when reaching the decreed LAC. The main difference between a binary and a gradual scale is that the latter allows changes to occur, accepting the loss of attributes until reaching the minimum state of integrity required to keep cultural significance understood. Such an approach is illustrated in the Coliseum, in Italy. Its current state of authenticity and integrity is not the one that remained over time, but the one considered to be necessary – including parts restored – reclaiming an earlier state of integrity needed to convey its cultural significance. However, as ICOMOS puts forward in its guidance on Heritage Impact Assessments regarding cultural World Heritage properties, despite growing attention there is still a lack of consensus on the usefulness and operationalization of LAC (ICOMOS, 2011). Therefore, further research is very welcome, at both global and local levels, not only exploring variations in LAC but also their impact over time in cultural heritage management and in urban contexts, where transformations are expected to escalate in this urban century.

LEARNING FROM PRACTICE

“Outstanding Universal Value, World Heritage Cities and Sustainability” is a step forward in raising understanding for LAC integrated into heritage impact assessments applied in World Heritage properties located in an urban context. It is an international research project, which since 2009 has been jointly executed by Eindhoven University of Technology (TU/e), the Netherlands, and UNESCO’s World Heritage Centre. The main research aim is to gain a better understanding of the role heritage impact assessment practices will play in

protecting the cultural significance of heritage properties and in facilitating decision-making as regards sustainable development of their urban setting and context, by means of evidence-based research.

The purpose is to develop a groundbreaking tool, Protected Urban Planet⁴ (PUP), which enables academics and practitioners to learn from practice. PUP is being developed to assist the comparison of protected urban areas worldwide and to underline best practices. Besides locating the World Heritage cities and their cultural significance of outstanding universal value (OUV), PUP inventories heritage impact assessment practices, and reveals their sustainability and effectiveness in mitigating the adverse effects of specific change agents related to urban development.

A global and a local line of research were defined in parallel for this research project. The global line focuses on the entire selection of World Heritage cities and aims at the identification of geographical and temporal patterns. The local line concerns the case studies, where PhD researchers, trainees and MSc students are challenged to focus on specific issues in World Heritage cities. The comparison between local and global data allows validation and knowledge sharing. The case studies, 13 so far⁵, have proved to assist governments and their heritage managers with monitoring the OUV of their World Heritage city, when performing heritage impact assessments on proposed development projects.

LEARNING FROM THE ISLAND OF MOZAMBIQUE

The main objective of the case study on the Island of Mozambique was to reveal and debate the impact of the socio-

4 www.protectedurbanplanet.net

5 2009: Evora, Porto and Guimarães (Portugal); Salamanca (Spain) and Willemstad (Curacao); 2010: Galle (Sri Lanka) and Zanzibar (United Republic of Tanzania); 2011: Island of Mozambique (Mozambique) and Amsterdam (Netherlands); 2012: Macao (China); Valparaiso (Chile); Queretaro (Mexico); Edinburgh (Scotland) and Amsterdam (Netherlands).

economic changes on the protection of the cultural heritage of the Island of Mozambique. The changes were caused by the legislation decreeing the ownership regime, implemented after independence from Portugal in 1975. The team looked at the property regime and use, the properties themselves, how they have changed in time and their condition. By comparing and relating the results it became possible to distinguish patterns and identify the impact of these national governance strategies on the protection of cultural heritage properties.

The research team comprised a group of students from TU/e and from Universidade de Lúrio (Unilúrio), coordinated by Ana Pereira Roders (TU/e), Jaime Aguacheiro (Unilúrio) and Jens Hougaard, on behalf of the Conservation Office of the Island of Mozambique (GACIM), part of the Ministry of Culture in Mozambique. An incompatibility of timeframes prevented direct cooperation between the two groups of students. Nonetheless, they did use similar methods and tools. Priority was given to "Stone Town", as this urban area was the most affected by the changes in the governance strategies concerning the ownership regime. While TU/e students completed the research on "Stone Town", Unilúrio students began research on "Macuti Town" (see figure 1).

Previous research in 1982-85 by the School of Architecture of Aarhus, Denmark (coordinated by Jens Hougaard) in cooperation with the Ministry of Culture in Mozambique, was crucial in providing a base for comparison with the present research. The research report, generally known as the "Blue Book" (Aarhus, 1985), is very important for cultural heritage management on the Island of Mozambique. Besides, having supported the inclusion in the UNESCO World Heritage List in 1991, it became the reference book for interventions on the Island of Mozambique. Last, it provides a snapshot in time on the property rights and context, cultural significance and condition of the Island of Mozambique, during nationalization, the first ownership regime phase after independence.

The Island of Mozambique was placed on the UNESCO World Heritage List, under criteria (iv) and (vi). When justifying the selection criteria, ICOMOS (1991) highlighted under



Fig.1. Division between Macuti Town on the left and Stone Town on the right (Damen et al., 2012)

criterion (iv) “the town and the fortifications on the Island of Mozambique, and the smaller Island of St. Laurent, are an outstanding example of an architecture in which local traditions, Portuguese influences and, to a somewhat lesser extent, Indian and Arab influences are all interwoven”. Under criterion (vi), the Island of Mozambique was considered to bear “important witness to the establishment and development of the Portuguese maritime routes between Western Europe and the Indian subcontinent and thence all of Asia”. According to ICOMOS (1991), “the incredible architectural unity of the Island derives from the uninterrupted use of the same building techniques, with the same materials and the same decorative principles”. This paper elaborates on the limits of acceptable change and respective application in practice to protect the architectural unity of the Island of Mozambique.

ARCHITECTURAL UNITY AND LIMITS OF ACCEPTABLE CHANGE OF THE ISLAND OF MOZAMBIQUE

There are two main governmental institutions involved in protecting the architectural unity of the Island of Mozambique. These are the Local Authorities of the Island of Mozambique and the Office of Conservation of the Island of Mozambique (GACIM), affiliated to the Ministry of Culture in Mozambique. In accordance with No. 2 of Article 15 of Decree No. 27/2006 of 13 July 2006, on the Special Status of the Island of Mozambique, with its constitution, GACIM was given responsibility to:

- (a) promote and plan scientific research activity about the Island of Mozambique;
- (b) analyse, evaluate and authorize new construction projects;
- (c) review, evaluate and advise on plans for the conservation and restoration of listed buildings or those in the process of classification;
- (d) propose programmes for the conservation and restoration of listed buildings;
- (e) promote awareness and respect for the laws and national and international policies on the preservation and conservation of built heritage;
- (f) provide technical assistance and supervise activities related to research, preservation and enhancement of the heritage of the Island as a whole;
- (g) supervise the specialized agencies in monitoring, surveillance and inspection of underwater research activities, as well as the restoration of movable and immovable property of the Island;
- (h) promote educational programmes on cultural heritage and environment on the Island of Mozambique;

- (i) organize a file of information on the heritage of the Island, by creating a computer database or similar;
- (j) promote cultural tourism;
- (k) promote partnership for advice and technical assistance and support for projects of conservation, rehabilitation and sustainable development of the Island;
- (l) manage the rental contracts of the classified buildings or those under classification.

The policies and regulations protecting in general the architectural unity of the Island of Mozambique are varied.⁶ In principle, no new construction is allowed on the Island of Mozambique. It thus adopts an extremely high LAC towards transformation. Exceptions can be made if there is evidence of indisputable public interest, and in the absence of disregard for the principles of conservation. Thus, in those exceptional cases, LAC has been defined in more detail in the *Código de Posturas* – Code of Postures (AMCIM, 2011).

It follows a binary scale approach (yes/no), and regards the following rules for construction works: maintain and restore are the main aims. Replacements are only recommended in cases where materials other than the traditional ones have been used e.g. cement. Damaging vegetation is also recommended to be removed. It is forbidden to demolish building façades, as well as any other historical elements, such as stones, doors, windows, chandeliers and structural beams. That also includes the ruins or abandoned buildings. The LAC focus is:

Macro scale	Micro scale
▶ Pattern of streets and streetscapes e.g. heights and street alignment	▶ Building area, volume, morphology and structural plan
▶ Parks and open spaces in existing developed areas	▶ Traditional building techniques
▶ Street pavement on the main streets;	▶ Traditional building materials
▶ Lighting systems	▶ Traditional decorative principles and elements (architectural expressions)
▶ Work buildings, public roads, non-built spaces, walls, vegetation and natural formations, ensuring its preservation	▶ Traditional colours
	▶ Water storage

⁶ Resolução n. 22/AMCIM/2010, Código de Posturas; Lei n. 19/2007 e Decreto n. 23/2008, Ordenamento do Território; Lei n. 19/1997 e Decretos complementares, Lei de Terras; Diploma Legislativo n. 1976 e Decretos complementares, Regulamento Geral Das Edificações Urbanas (RGEU); Lei n. 10/88 e Decreto n. 27/2006, Património Cultural, and, Decreto n.º 2/2004 e Decreto n.º 2/2008, Licenciamento.

The field research results of 1982-1985 clarify the origin of such architectural unity by stating that “the homogeneity is emphasized by the fact that through the centuries the builders have employed the same materials (limestone and wood), the same building methods (masonry and wooden beam constructions), the same surface treatment of façades (render and lime), together with consistent detailing (cornices, window surrounds, and pilaster strips). In addition, the same façade arrangement has been used (rectangular rhythmically placed windows in restrained wall surfaces) and the same method of water supply (collection of rain water on flat roofs). It is also of interest that the plan arrangement and functions of the buildings have been preserved through the years. What is remarkable in this connection is that the same plan arrangement can be found in building in Macuti Town (Aarhus, 1985; pp. 59).

PROTECTION AND TRANSFORMATION ON THE ISLAND OF MOZAMBIQUE

Despite the efforts to establish a high LAC on the Island of Mozambique, research revealed that the state of authenticity and integrity of its protected areas has decreased since its nomination. Not only has its general condition decreased (-15%), but also its architectural unity is being changed (Damen et al, 2013). A lack of earlier data on the state of conservation of the specific traditional building techniques, materials and decorations under protection rules out more exact conclusions. However, it was noted that other building techniques, materials and decorations –not necessarily more modern – are being used on the Island of Mozambique (Pereira Roders et al, 2012). Tradition does seem to prevail in most cases. As we can see in fig. 2, research results confirm the large majority of buildings with external walls constructed in coral limestone masonry (orange, 96%) and as much cement block masonry (green, 2%) as other materials (light green, 2%). However, figs. 3 and 4 evidence the patterns of change on roof construction and façade colour schemes, discrediting the architectural unity in traditional building techniques, materials and decorations.

Traditional flat terrace roof constructions (see fig. 3) are still the most prominent (orange, 48%), but no longer the majority. These are closely followed by industrial processed roofing sheets (light green, 45%) and by few exceptions in tiles (dark green, 3%), macuti roofs (green, 2%) – attribute of cultural significance in Macuti Town – and a combination of varied dominant roofing materials (grey, 2%). Following a similar proportion, traditional white decorations (see fig. 4) on coloured façades remain prominent (orange, 45%); but already less than all other deviations together. The most common deviation is white decorations and façades (red, 45%). The exceptions are coloured decorations on white façades (yellow, 3%) and coloured decorations and façades (green, 2%).

Patterns on new buildings, built over the last decades, raise more concern (see figs. 5-10). Twenty-three new buildings were identified in Stone Town, built for recreational purposes. Their volume and isolated urban morphology contrast greatly with the existing dense and consolidated patterns. They mix different types of roofs, built with new materials, which besides disrupting the traditional wooden beam building method, also prevent rainwater collecting and storage. They also discontinue opening forms, their accessories and traditional decorations (Pereira Roders et al, 2012).

LIMITS OF ACCEPTABLE CHANGE IN PRACTICE

The regulations show high LAC in the conservation and urban planning policies. In addition, hardly any new building or non-traditional typologies, techniques, materials and decorations are allowed. This contrasts greatly with how LAC are being monitored or enforced, whenever transformation takes place on the Island of Mozambique. The low rate of technical staff, hardly existent, was common in both GACIM and the local authorities (one person per institution in January 2012). As a result, they were quickly overloaded and transformations would occur without being checked as to their infringement of the defined LAC.

It seemed normal to apply for a building permit in case of transformation, as one was expected to pay a fee to the local authorities and that seemed to be under control. However, the nature of transformations did not seem to matter. Against the legal requirements, some projects were being annexed to applications for building permits, assuming the construction works were all “small” in scale, even when changing the pre-existent building (or ruins) almost completely. These project proposals hardly reached GACIM for advice and, when they did, the advice was not made mandatory.

The Island of Mozambique is also a small and friendly community. There is strong social control, probably due to the familiarity and strong social relations among the relevant stakeholders; confrontations seem difficult, unless there are external parties that can be used as protection shields. However, the “bad habits” return the moment these external parties leave the Island. Compromises are rapidly reached, even in infringement of conservation and urban planning policies, which causes a snowball effect of subsequent cases, hard to stop without collateral damage.

As such, it can be concluded that a binary scale approach (yes/no) for establishing LAC in conservation and urban planning policies was adopted on the Island of Mozambique. However, this did not seem to work well. It was not being applied, or taken into consideration when transformations took place on the Island of Mozambique. Related decision-making took place, regardless of GACIM advice. GACIM seemed reluctant to advise against projected action.



Fig. 2. Map of building techniques applied in external walls, Stone Town, Island of Mozambique, 2011-2012.

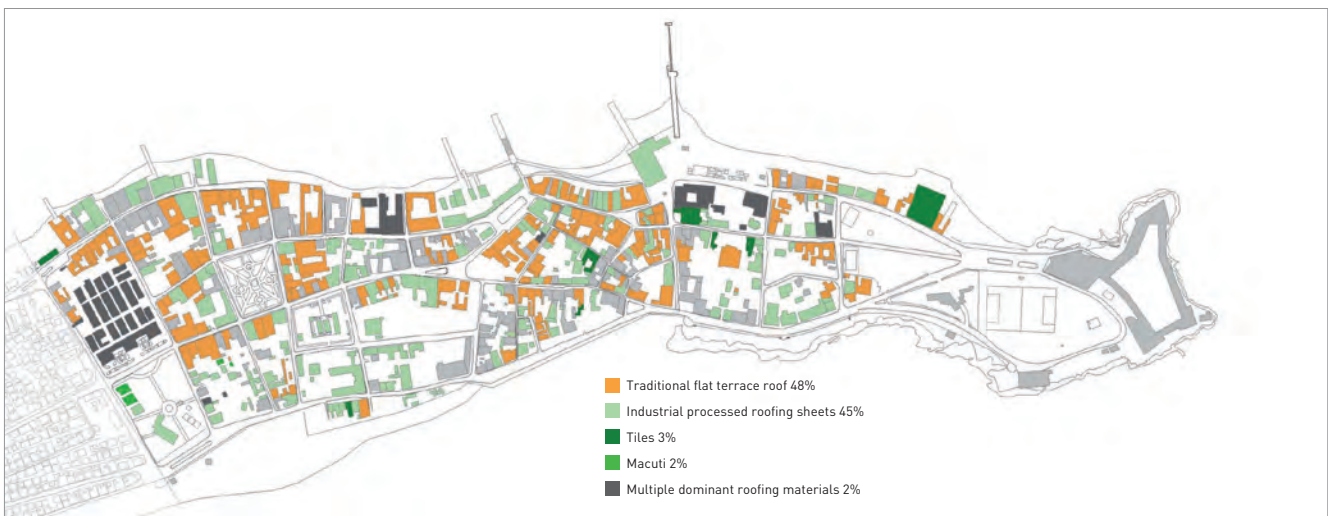


Fig. 3. Map of building techniques applied in roofs, Stone Town, Island of Mozambique, 2011-2012.

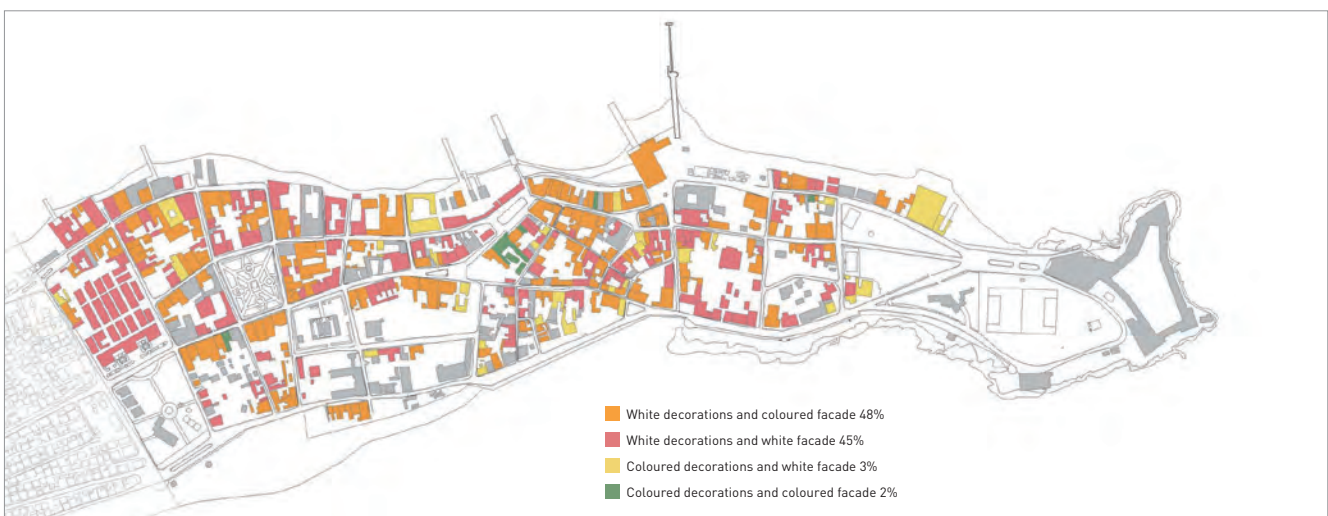


Fig. 4. Map of colour schemes applied in main façades, Stone Town, Island of Mozambique, 2011-2012.



Figs. 5 to 10. Impressions of Stone Town, Island of Mozambique, 2011-2012

CONCLUSIONS

The Island of Mozambique is undergoing change, inflicted by both nature and humankind. Nature may be accelerating the degradation process of its built environment, but also the involved stakeholders are doing their share in the transformation. Unfortunately, not all stakeholders aim chiefly to restore and maintain the cultural significance of the Island of Mozambique, and clearly disregard the defined LAC or any other targets concerning its protection. Thus, logically, they also have no interest in verifying the impact of their changes, other than checking achieved success in their own aims.

The Island of Mozambique has proved to be a case relevant to the eternal dilemma between protection and transformation; however, mostly on the challenges of applying conservation and urban planning policies, especially with high LAC. Imposing high LAC on the Island of Mozambique seems useless since the defined LAC are either not understood or not respected by the stakeholders involved. The lack of technical staff might indeed contribute to such escalation of partiality, but it is not the only problem for the application of high LAC on the Island of Mozambique.

Stakeholders on the Island of Mozambique first need to accept that there are two sets of goals coexisting in the transformation process: short- and long-term goals. LAC and related conservation and urban planning policies make sure the long-term goals are respected, for the benefit of present and future generations. If those are neglected, short-term goals will overrule, often providing benefits to a limited group of individuals. Unless this difference is understood, there is no point in developing tools to assist in protecting the Island of Mozambique. Instead, it is relevant to keep monitoring the transformation so that patterns of change can be better understood.

Actions of dissemination and awareness-raising work can also help the local community to better understand the importance of protecting the attributes and values considered of cultural significance on the Island of Mozambique, including those of outstanding universal value. The more aware it is, the better is the understanding why certain transformations should or should not take place, rather than making it a personal and subjective discussion. Ongoing social control could be most profitable when used to help monitor protection on the Island of Mozambique.

Similarly, the snowball effect could be redirected to help maintain or even restore the architectural unity, as it has been helping over the last four centuries. If there are traditional techniques, materials and decoration principles which seem impractical or logical to target, new patterns of techniques, materials and/or decoration principles could be agreed in consensus among the relevant stakeholders to protect architectural unity on a more intangible dimension. Based on consensus, the development and adoption of tools such as a "Structural Plan" and a few "Detail Plans" would make clearer for the involved stakeholders and outsiders what the guidelines are to be followed when proposing transformations.

Further research can assist the Island of Mozambique and its LAC on many levels. Besides inventorying resources and monitoring transformations, it could also eventually assist stakeholders in raising more understanding for the role of the architectural typologies and urban morphologies, e.g. roof terraces for water collection and cross-ventilation on the floor plan, which seem to be forgotten and include very creative solutions that previous generations developed to cope with their context, natural and cultural. Surely, more lessons on sustainable urban development are to follow.

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