



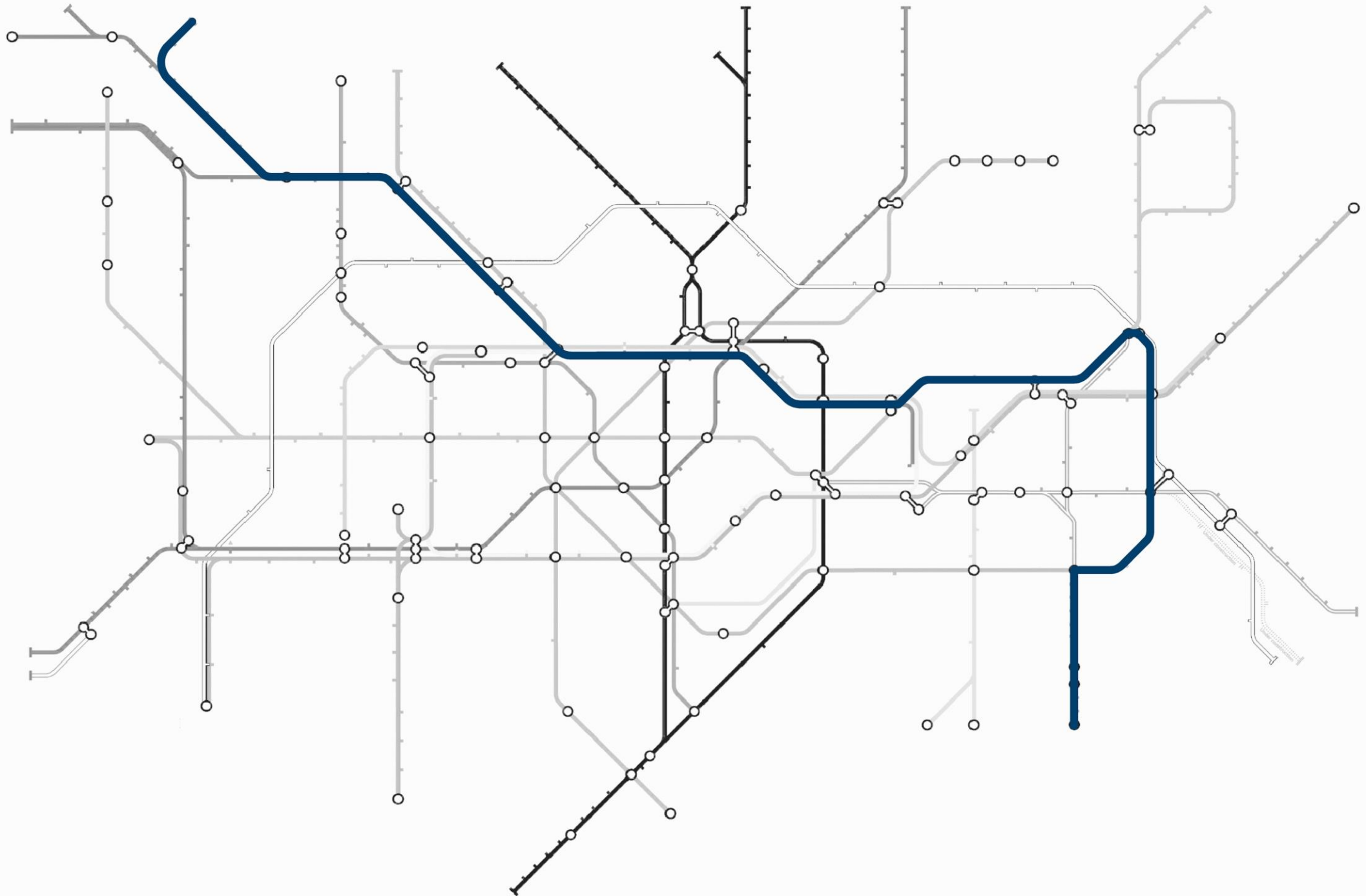
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SCIENCE, TECHNOLOGY AND INNOVATION FOR URBAN SUSTAINABILITY ENHANCEMENT: LEARNING FROM THE PRACTICE

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STI for urban sustainability enhancement: **learning from the practice**



11 SUSTAINABLE CITIES AND COMMUNITIES

Main urban sustainability challenges

- Inefficient and polluting urban energy systems
- Unsustainable urban production and consumption patterns
- Urban water scarcity
- Urban traffic congestion and vehicle emissions
- Limited access to decent urban employment opportunities and growing inequalities
- Unaffordable and poor-quality housing
- Uneven access to quality education
- Gender-based inequalities and violence against women and girls
- Defective urban planning practices
- Vulnerable healthcare systems
- Urban violence and insecurity
- Vulnerability to natural disasters



STI solutions can help boost all dimensions of sustainable urban development

URBAN SUSTAINABILITY DIMENSION	SUSTAINABLE DEVELOPMENT GOALS*																
ENERGY																	
CIRCULARITY																	
WATER																	
MOBILITY																	
ECONOMIC PROSPERITY																	
HOUSING																	
EDUCATION																	
GENDER EMPOWERMENT AND EQUALITY																	
URBAN PLANNING																	
HEALTHCARE																	
SAFETY AND SECURITY																	
PROTECTION FROM NATURAL DISASTERS																	

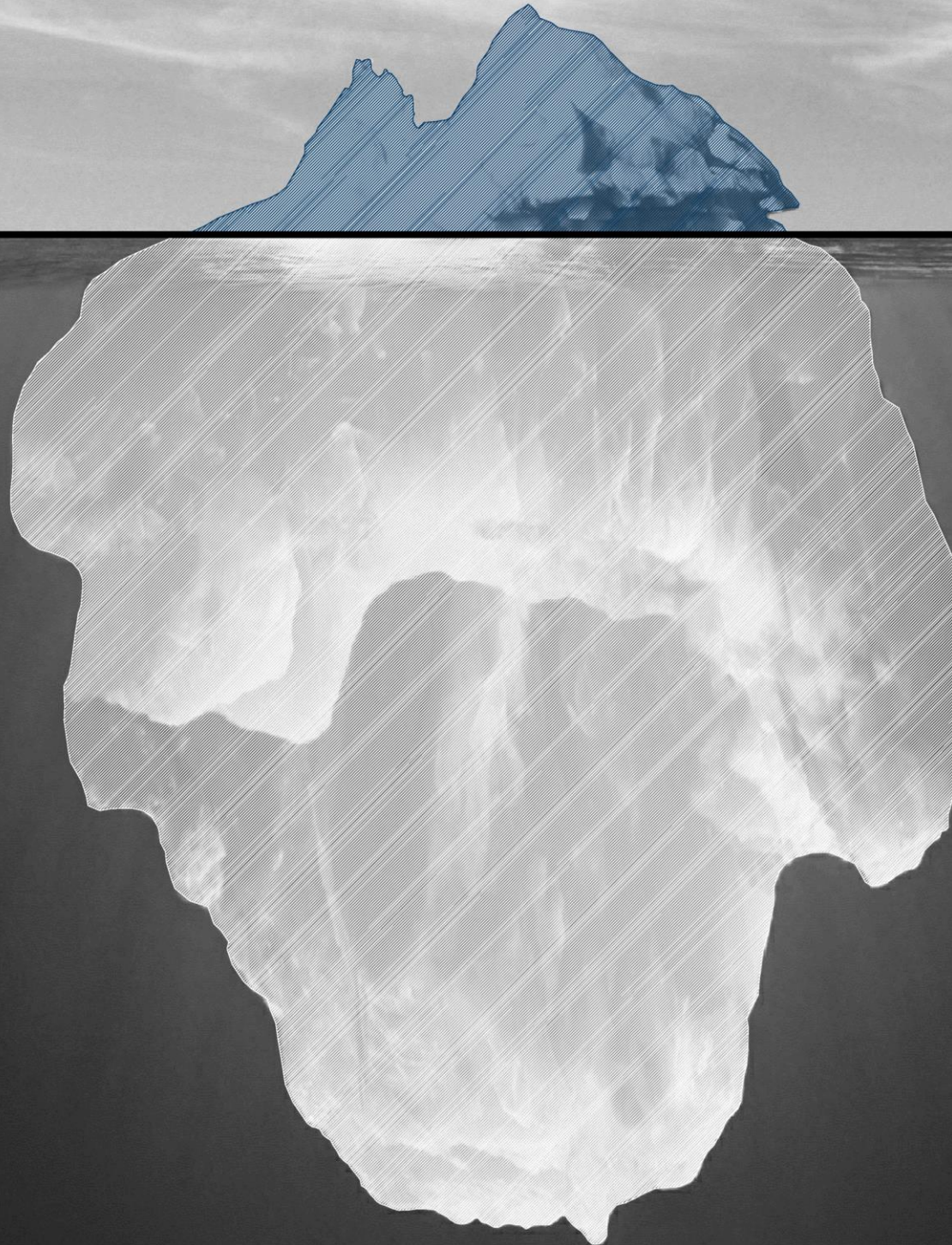
* Matching conducted by considering the selection of STI solutions presented in the "Issues Paper on Science, Technology and Innovation for Sustainable Urban Development in a Post-COVID World"

Lesson 1: Look beyond technology

Technological Innovation

Non-technological innovation

VISIBLE FACTORS
HIDDEN FACTORS





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Solar home systems and energy services
on a **pay-as-you-go** basis for urban
populations in Mozambique and Malawi

Lesson 2: Similar yet different



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One size does not fit all : Framing smart city policy narratives within regional socio-economic contexts in Brussels and Wallonia



ARTICLE INFO

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Socio-economic context

ABSTRACT

Smart city initiatives are increasingly dominating urban policy scripts worldwide, and their diffusion is centered upon different regional strategies. Adopting the Narrative Policy Framework as methodological basis, this article examines the smart city strategies developed by the Wallonia and Brussels-capital regions during the 2014–2019 period. Moving away from corporate-led deterministic models of smart city development, it shows that there is no one-size-fit-all approach to smart urbanism. Regional governments attribute different meanings to urban innovation and formulate place-based strategies of smart city development in relation to their socio-economic contexts, seeking to advance technological solutions to what they perceive as the most pressing problems of their territories and populaces.

1. Introduction

Smart city initiatives are complex transformational processes consisting of profound modifications of ‘soft’ and ‘hard’ components of existing urban regimes (Angelidou, 2014; Wahlström et al., 2020). These initiatives can be understood as urban strategies to advance techno-

technological deployment (Mora, Deakin, Reid, 2019a). Nevertheless, despite its ambiguity, the smart city concept is increasingly dominating urban policy scripts through narratives that shape the strategic development of urban technologies (Lorquet & Pauwels, 2020; Söderström et al., 2014; Visser, 2019). Within this context, this article explores how narratives, while reducing the ambiguity of the smart city concept,



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Nigeria Remote Learning Program's radio school (launched during the COVID-19 pandemic)

Lesson 3: There is more than advanced and emerging technology



MINECRAFT





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Block by Block Workshop in Wuhan, China



BLOCK BY BLOCK™

Lesson 4: Knowledge transfer mechanisms

STI INITIATIVE

Good practices,
success stories and
lessons learned





Changing lives by pumping water uphill

DESCRIPTION | **SDGS & TARGETS** | DELIVERABLES & TIMELINE | RESOURCES MOBILIZED | FEEDBACK

Intro

This practice is about pumping water uphill to waterless villages and farms with the AIDFI ram pump, a device which pumps water from lower to higher elevation without the use of fuel or electricity 24/7 and without emission of GHG's. The water volume delivered by the AIDFI ram pump increases changes the lives of the villagers, especially the women who need water for most of their activities. Upland farms which were in the past rainfed, can survive their first crop, add a second crop or diversify their farm. The upland beneficiaries we reach with the AIDFI ram pump can be considered poorest of the poor and mostly engaged in agriculture. The ram technology covers most of the SDG's.

Description

For drinking and household to: - Save time and money from manually fetching and spent it on other productive activities - Improve health, nutrition and sanitation by growing of vegetables, eradication of waterborne diseases through water filters, raising of animals and construction of toilets - Have kids follow uninterrupted education by no longer having to skip classes for water fetching - Diminish skin diseases by regular bathing - Unburden the women by providing possibility to do laundry near the house For irrigation to: - Survive dry periods during first crop - Add a second crop - Diversify the farm - Provide option for kids to become farmer For environment to: - Provide Green Jobs through manufacturing and installation of ram pumps - Avoid destruction of environment like charcoal making etc. by providing economic alternatives.

Contribution to SDG Implementation

AIDFI is a Social Enterprise which is tackling social problems with focus on lack of easy access to water. Nearly all SDG's are related or dependent on water. The work of AIDFI with the water powered non-polluting ram pump with its huge impact on the lives of upland villagers and farmers started

Organization/entity

AIDFI

SDGs

1 2 3 4 5 6 7 8 9 10 13 15

Geographical coverage

Philippines, Afghanistan, Nepal, Colombia

Timeline

Lesson 5: Integration, systemic thinking, programmatic approach





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Improving nutrition outcomes in
Madagascar by using the **Multiphase
Programmatic Approach (MPA)**





Thank you for your attention

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