

Informal Economy and Sustainable Development Goals

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Informal Economy and Sustainable Development Goals: Ideas, Interventions and Challenges

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INVESTOR IN PEOPLE

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List of Acronyms

ABA	Alexandria Business Association
AI	Artificial Intelligence
ALMPs	Active Labour Market Policies
ARD	American Research and Development
CAGR	Compound Annual Growth Rate
CAPMAS	Central Agency for Public Mobilization and Statistics
CBFM	Community-Based Facilities Management
CDI	Cluster Development Initiative
CKCL	Clean Kerala Company Limited
CWS	Current Weekly Status
DAY-NRLM	Deendayal Antyodaya Yojana-National Rural Livelihoods Mission
DCYT	Decentralized Cotton Yarn Trust
DGT	Directorate General of Training
DMEs	Directory Manufacturing Establishment
DSD	Department of Social Development
EGDI	E-Government Development Index
EPA	Environmental Protection Agency
EPR	Extended Producer Responsibility
ERF	Economic Research Forum
FCS	Food Consumption Score
FII	Financial Inclusion Index
FTP	First Telecommunications Project
GARID	Greater Accra Resilient and Integrated Development
GATC	German Agency for Technical Cooperation
GB	Grameen Bank
GCSCA	Ghana Cooperative “Susu” Collectors Association
GDP	Gross Domestic Product
GEAR	Ghana Environmental Assessment Regulations

GIFEC	Ghana Investment Fund for Electronic Communications
GIS	Geographic Information Systems
GIZ	Deutsche Gesellschaft Fuer Internationale Zusammenarbeit
GVA	Gross Value Added
HDI	Human Development Index
ICDS	Integrated Child Development Services
ICLS	International Conference of Labor Statisticians
ICT	Information, Communication and Technology
ICT4AD	ICT For Accelerated Development
IFMEC	International Facility Management Expert Centre
IHDS	India Human Development Survey
IIA	Independence of Irrelevant Alternatives
IIPA	Indian Institute of Public Administration
ILO	International Labour Organization
IMF	International Monetary Fund
IS	Information System
ITC	Industrial Training Centres
ITI	Industrial Training Institutes
IWA	Informal Waste Actors
JLG	Joint Liability Group
JSS	Jan Shikshan Sansthan
LFPR	Labour Force Participation Rate
LFS	Labour Force Surveys
LGS	Local Government Service
LMPS	Labour Market Panel Surveys
M&E	Monitoring and Evaluating
MCF	Material Collection Facilities
MDAs	Ministries, Departments, and Agencies
MDG	Millennium Development Goals
MDM	Mid-Day Meal Scheme
MENA	Middle East and North African
MEUs	Micro Enterprise Units
MFI	Microfinance Institutions
MGNCRE	Mahatma Gandhi National Council of Rural Education

MLGDRD	Ministry of Local Government, Decentralization, and Rural Development
MLR	Multiple Linear Regression
MMDAs	Metropolitan, Municipal, and District Assemblies
MoC	Ministry of Communications
MOSPI	Ministry of Statistics and Programme Implementation
MoT	Ministry of Textile
MSDE	Ministry of Skill Development and Entrepreneurship
MSEs	Micro and Small Businesses
NABARD	National Bank for Agriculture and Rural Development
NAPS	National Apprenticeship Promotion Scheme
NCAER	National Council of Applied Economic Research
NCEUS	National Commission for Enterprises in The Unorganised Sector
NCF	National Curriculum Framework
NCO	National Classification Occupation
NDC	National Development Commission
NDMEs	Non-Directory Manufacturing Establishments
NEP	National Education Policy
NIC	National Industry Classification
NIESBUD	National Institute of Entrepreneurship and Small Business Development
NIFT	National Institute of Fashion Technology
NIRDPR	National Institute of Rural Development and Panchayati Raj
NPA	Non-Performing Assets
NRFIP	National Rural Financial Inclusion Plan
NRLM	National Rural Livelihoods Mission
NRO	National Resource Organization
NSFI	National Strategy for Financial Inclusion
NSSO	National Sample Survey Office
OBC	Other Backward Caste
OCYF	Operation Clean Your Frontage
OECD	Organization for Economic Cooperation and Development
OJT	On Job Training
OMEs	Own Account Manufacturing Enterprises

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P&T	Posts and Telecommunications
PDS	Public Distribution System
PLFS	Periodic Labour Force Survey
PMGKAY	Pradhan Mantrigaribkalyan Anna Yojana
PMJDY	Pradhan Mantri Jan Dhan Yojana
PMKY	Pradhan Mantri Kaushal Vikas Yojana
PMO	Prime Minister's Office
PNSDP	Per Capita Net State Domestic Product
PPE	Personal Protective Equipment
PSI	Private Sector Initiative
PSIRU	Public Services International Research Unit
RC	Rural Cooperatives
RCC	Regional Coordinating Council
RDESE	Regional Directorates of Skill Development and Entrepreneurship
RIDF	Rural Infrastructure Development Fund
RSETIs	Rural Self Employment Training Institutes
SC	Scheduled Caste
SCBFM	Sustainable Community-Based Facilities Management
SDGs	Sustainable Development Goals
SEDGs	Socially and Economically Disadvantaged Groups
SEM	Structural Equation Modelling
SHG	Self-Help Groups
SPSS	Statistical Package for Social Sciences
SRLMs	State Rural Livelihoods Missions
SSA	Sub-Saharan Africa
SSI	Social and Sustainable Institutions
STP	Second Telecommunications Project
SVEP	Start-Up Village Entrepreneurship Programme
SWM	Solid Waste Management
SWTS	School-to-Work Transition Survey
TDGW	Tethered On-Demand Gig Workers
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNSD	United Nations Statistics Division
UNTFHS	United Nations Trust Fund for Human Security

UR	Unemployment Rate
USSD	Unstructured Supplementary Service Data
VVGNLI	V.V. Giri National Labour Institute
WAAPP	West African Agriculture Productivity Programme
WBES	World Bank Enterprise Surveys
WCED	World Commission on Environment and Development
WEDP	Women's Entrepreneurship Development Programmes
WHO	World Health Organization
WMD	Waste Management Department
WFPR	Workforce Participation Rate

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Preface

In the vast landscape of global economic systems, the informal economy is a vibrant yet often overlooked realm, teeming with resilience, innovation, and dynamism. Within this intricate tapestry of informal transactions, unregistered enterprises, and marginalised labour forces, we find both profound challenges and immense opportunities for sustainable development. As editors of *Informal Economy and Sustainable Development Goals: Ideas, Interventions and Challenges*, it is our privilege to present a collection of scholarly contributions that delve deep into the heart of this complex domain, shedding light on its multifaceted dimensions and its critical role in the pursuit of sustainable development goals (SDGs).

The chapters within this volume represent diverse perspectives, methodologies, and empirical insights, offering a comprehensive exploration of the informal economy's intersections with key themes such as food security, financial inclusion, digital transformation, waste management, gender disparities, and rural entrepreneurship. Through empirical studies, theoretical frameworks, and policy analyses, our contributors navigate the labyrinthine complexities of informal economies, presenting innovative ideas, effective interventions, and pressing challenges that demand our attention and action.

The journey begins with exploring the invisible pathways of informal lending, a bibliometric study that unveils the intricate networks and dynamics underpinning informal financial transactions. From there, we embark on a journey across continents, examining the digital transformation of economies and its implications for the informal sector, from the bustling streets of Ghana to the vibrant textile sectors of India. Along the way, we encounter the resilience and vulnerabilities of migrant women workers, the persistent challenges of industrial concentration, and the impacts of foreign capital inflows on informal economies, offering nuanced analyses that deepen our understanding of these complex phenomena.

As we delve deeper into the book, we encounter chapters that present interventions aimed at addressing the myriad challenges faced by informal economies. From initiatives to enhance food security and financial inclusion to collaborations for climate action and waste management, our contributors offer practical strategies and innovative approaches to empower informal workers and enhance their socio-economic well-being. Through case studies, policy analyses, and stakeholder collaborations, these interventions provide a roadmap for policymakers, practitioners, and researchers striving to foster inclusive and sustainable growth in diverse socio-economic contexts.

However, amidst the wealth of ideas and interventions, we must recognise the stark realities and pressing challenges confronting informal economies and the communities they support. From the gig economy's impact on labour rights to the gender disparities that pervade informal employment, our contributors highlight the persistent inequalities and structural barriers that hinder the realisation of SDGs. They challenge us to confront these injustices and advocate for meaningful change through rigorous research and critical analysis, offering insights and perspectives that inspire action and transformation.

As editors, we are deeply grateful to our esteemed contributors for their scholarly rigour, intellectual curiosity, and unwavering commitment to advancing knowledge and promoting social change. Their collective efforts have enriched this volume with invaluable insights, innovative ideas, and practical solutions that have the power to shape policy, inform practice, and inspire future research in the fields of informal economy and sustainable development.

In conclusion, *Informal Economy and Sustainable Development Goals: Ideas, Interventions and Challenges* is more than just a book; it is a testament to the resilience, ingenuity, and potential of informal economies to contribute to a more just, equitable, and sustainable world. We hope readers find inspiration, knowledge, and motivation within these pages to join us on this journey towards a future where informal workers are empowered, and communities thrive. Sustainable development has become a reality for all.

Thank you for embarking on this journey with us.

Sincerely,
A. Vinodan
S. Mahalakshmi
S. Rameshkumar

Ideas

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Chapter 1

A Conceptual Framework for Managing Public Services Delivered by Environmental Enterprises in Informal Settlements

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Abstract

Informal settlements are frequently located in hazardous areas with a high risk of natural disasters. Upgrading informal settlements can be difficult due to the time and expense needed to complete the process. This chapter advocates using a management framework of public services in informal settlements. In doing so, it addresses 17 of the 17 UN sustainable development goals (SDGs). The study reviewed the literature to investigate current ways of managing environmental enterprises in informal settlements in South Africa. Thereafter, the challenges of managing public services were explored, and a conceptual framework for managing public services by social enterprises in such communities was developed. The chapter found that environmental enterprises are classified as ‘green spaces’ and infrastructure, water and sanitation services, energy systems, and recycling initiatives. Essential aspects of sustainable community-based facilities management (SCbFM) for managing public services are maintenance, governance, community project management, environment service delivery, service performance, governance, community project management, environment service delivery, service performance, well-being and health and safety, disaster management, and finance. Some of the problems of managing public services in informal settlements include the limited skills of managers, the focus of government on new projects rather than managing existing projects, not choosing the right indicators to measure service performance, and limited guidelines for the health and safety of managers

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and disaster management. Thus, a new conceptual framework was needed and developed based on the principles of social capital and capability for managing services in informal settlements in South Africa.

Keywords: Community-based facilities management; environmental enterprises; informal settlements; public services; sustainable development goals; South Africa

1. Introduction

Community-based facilities management (CbFM) can be applied regionally to achieve socio-economic objectives. Facilities management can considerably contribute to community infrastructure and service provision, regeneration, the creation of skilled job opportunities, and trade skill development. Additionally, it could allow communities to correctly participate in planning and administering services and the urban environment (Alexander & Brown, 2006). Facilities management in informal settlements will promote access to infrastructure, sustainable real estate, and people's safety by working with communities to design and administer services and the urban environment (Bertotti et al., 2011; Bolinger & Brown, 2015; Napier, 2007).

In the global South, informal settlements are home to almost one billion people, which have grown over the past several decades. The creation and survival of informal settlements are influenced by the many social, economic, and even political forces/dynamics of the cities that serve as homes in these communities (UN-Habitat, 2013). Informal settlements have several traits in common (Gancarczyk & Ujwary-Gil, 2021). Informal settlements often house vulnerable people in unstable housing conditions that lack tenure security with limited access to essential basic services. Informal settlements also have a beneficial impact on urban life by being a shelter for the disadvantaged. These informal settlements possess sizeable storage of newly constructed homes, excess human resources, and 'dead capital' – legally unrecognised and undervalued land holdings (De Soto, 2001). According to Chigbu and Onyebueke (2021, p. 116), informal settlements: 'provide unique city life experiences such as slum tourism to many rural–urban migrants that have rights to the city'. Also, low-income citizens do not tolerate the decreasing environmental conditions in their areas. Instead, they start to initiate and support initiatives to produce and upgrade public services, generate new livelihood opportunities and are encouraged to improve their living conditions (Thieme, 2015).

Good urban governance must have 'processes and procedures for managing a city and its activities which have at their core the participation and involvement of all citizens of informal settlements for transparency and accountability' (McAuslan, 2011, p. 5). When local community members collaborate to create and exchange commodities and services using the current social framework for running such activities, the community behaves as a social enterprise (Carvalho et al., 2012).

According to [Van Belle et al. \(2020\)](#), environmental and social enterprises should be equal and need knowledge of urban governance systems for adequate measures and accountability of informal settlements. Persistence, leadership, the appropriate culture, careful planning, familiarity with formal processes, and primarily financial resources are required to organise an environmental community enterprise ([Weppen & Cochrane, 2012](#)). The difficulties occur when funding for management services stops and puts environmental enterprises' services at risk ([Chen et al., 2020](#); [Denoon-Stevens & Ramaila, 2018](#)).

Hence, this chapter recommends a conceptual framework for managing public services by environmental enterprises in informal settlements. The use of the framework will help communities have services that are effective and efficient and aligned to the UN SDGs. This chapter examined the types of environmental enterprises in informal settlements and the management framework used by public services/social enterprises in South Africa. In doing so, we examined the challenges of managing public services and developed a framework for managing public services by social enterprises in such under-resourced communities. This section introduces the chapter, whilst the next section looks at the role and forms of environmental entrepreneurship in informal settlements. The third section covers aspects of SCbFM. The fourth section covers informal settlements in South Africa, whilst the fifth section proposes a framework for the management of informal settlements, and the sixth section discusses the conceptual and application challenges of the proposed framework. The last section focuses on the recommendations.

2. Role and Forms of Environmental Entrepreneurship in Informal Settlements

Sustainability concerns are mainly focused on the environment in less developed markets. Some broad environmental elements include energy efficiency, environmental concerns, purchasing, reusing and recycling, and the ecosystem. Energy efficiency, as defined by the United Nations Environment Programme (UNEP) (UNEP, 2007 quoted in [Adewunmi et al., 2012](#)), is the capacity to provide the same (or greater) level of energy services, such as thermal comfort and high-quality lighting, at a lower cost and with less energy usage. Some of the main challenges affecting informal settlements are desertification, environmental pollution, biodiversity loss, urban environmental degradation and slum expansion, gully erosion and floods and deforestation. One particularly serious challenge is the problem of properly managing waste. Whilst there are several types of solid waste, waste recycling is an interesting strategy for attaining an integrated, effective method of managing municipal solid waste ([Adewunmi et al., 2012](#); [Temeljotov Salaj & Lindkvist, 2021](#)). Environmental entrepreneurs provide waste services in informal settlements ([Gutberlet et al., 2016](#)). Environmental entrepreneurship seeks to generate income by addressing environmental problems, including the lack of dependable waste collection services in informal settlements. In many large cities, urban planners do not see the need to prioritise economic liberalisation processes

and public management changes as these are commonly linked to the lack of essential public services in informal settlements (Otsuki, 2016). As a result, many private efforts are available to fill the gap left by a deficiency in governmental infrastructure management, such as the activities of environmental enterprises providing sanitation, water, and waste services. Through such innovative entrepreneurial activities, these environmental enterprises market these services/resources for profit.

In this section, 'green space' infrastructure, landscaping, hygienic practices, waste disposal, and energy management were the primary topics of this study on environmental entrepreneurial efforts in informal settlements.

2.1. Green Spaces and Infrastructure

This includes governance of urban green infrastructure in institutional frameworks, agents and alliances, resources, processes, and social enterprises, including collective gathering places, crafts, leisure, and tourism. There is a need for 'green spaces' that can be provided by low-cost techniques (Cheshmehzangi et al., 2021).

2.2. Waste and Sanitation Services

These enterprises offer waste removal and cleaning services. Examples of this type of environmental enterprise in informal settlements that incorporate social and environmental challenges include social, environmental, institutional, mixed-economic, and waste entrepreneurship (Uzairiah Mohd Tobi et al., 2013). Opportunities for waste and sanitation include community cleaning, the construction of facilities that treat waste, and informal pit-emptiers (Gutberlet, 2010; O'Keefe et al., 2015; Thieme, 2015). Pit-emptiers exceeded the institutional and practical parameters/mandate required to offer sanitation services (Mallory et al., 2021). Another entrepreneurial opportunity is providing a transfer station that a private company maintains to transport waste from informal settlements. Some incentives, institutions, and power relationships can contribute to or hinder the effectiveness of sanitation services (Mallory et al., 2022).

2.3. Energy Systems Enterprises

Energy enterprises use solar energy and other efficient energy systems. The study discovered that home-based small- and medium-sized businesses benefit from energy availability in terms of employment and expansion potential. Electricity costs can exceed those of charcoal and kerosene, frequently bought in modest amounts each day by informal settlers. Rising daily expenditures might impact the capacity of households to pay for other vital services (Christley et al., 2021). Opportunities can come from solar energy systems that contribute to the development of local jobs, reduce operational costs, increase end-user affordability, and provide economic advantages (Conway et al., 2019). There are also opportunities to use IoT to improve energy infrastructure and promote the growth of businesses (Chambers & Evans, 2020). Planning and regulations can be used to coordinate

access to energy to help families access affordable energy through financial incentives. Incentives and subsidies support informal settlements' access to energy. Through government-coordinated loans and subsidies, connection costs for power can be reduced. A lifeline tariff that pays less than the normal tariff can cover monthly payments, which can be established using prepayment techniques (Christley et al., 2021).

2.4. Recycling

These are social enterprises that relate to different recycling efforts. Research has also shown that opportunities for recycling enterprises also exist for e-waste (Gutberlet, 2012). There are variables driving the creation and expansion of informal e-waste operations (Asibey et al., 2021). Employees can be encouraged to participate in such activities (Ssekamatte et al., 2019). Recycling scavengers are at the bottom of the e-waste ladder, and re-use and open disposal of e-waste are regular practices. Poverty is the key motivator for getting involved in the processing of e-waste.

Another opportunity for job creation is to encourage the youth to recycle manufactured goods. For example, research conducted in Namibia by Winschiers-Theophilus et al. (2017) that employed the Havana Entrepreneur technique of social enterprises to examine youth entrepreneurship in informal settlements and found that recycling of manufactured goods (e-waste) may be a feasible entrepreneurship opportunity amongst young people to earn an income whilst preserving green infrastructure.

Previous studies on environmental papers on the management of environmental enterprises such as Campos and Zapata (2014) focused on waste management. Thieme (2015) also studied environmental enterprises. Studies on sanitation enterprises were mainly from Kenya, including those of Tsinda et al. (2015), Otsuki (2016), Mallory et al. (2021), and Mallory et al. (2022). Gutberlet et al. (2016) studied socio-environmental enterprises. Green infrastructure was the focus of Adegun (2016), Gashu et al. (2019), and Wijesinghe and Thorn (2021). Christley et al.'s (2021) study was on electricity and liquefied petroleum gas, whilst Conway et al.'s (2019) study was on solar energy systems. Chambers and Evans (2020) focused on the Internet of Things (IoT). Cheshmehzangi et al.'s (2021) paper on environmental enterprises was conceptual. Other contexts besides those where the investigations above were conducted have particular environmental difficulties. Future studies can also examine environmental enterprises from the viewpoint of climate change and take more inclusive and participatory positions.

3. Management of Services in Informal Settlements

3.1. Sustainable Community-based Facilities Management

Essential aspects of SCbFM for managing public services enhance all mentioned SDGs through maintenance, governance, community project management, environment service delivery, service performance, well-being and health and safety,

disaster management, and finance. As explained in Alexander and Brown (2006, p. 263), CbFM enables the management of facilities and the delivery of services to reflect the community and environment in which they reside and operate. It is the process by which all the stakeholders in a community work together to plan, deliver, and maintain an enabling environment within which the local economy can prosper, quality services can be delivered, and natural resources can be protected so that citizens can enjoy a quality of life.

The aspects of sustainable development are environmental, social, and economic sustainability (Nielsen et al., 2016). Including socio-technical systems at the building level, buildings and their operation, usage, maintenance, and management procedures is critical to sustainable facilities management.

A look at the previous studies on sustainable community facilities management shows that none focused directly on SDGs and the capabilities of the manager/management skills. Some of these papers were from the United Kingdom, such as Alexander and Brown (2006), Tammo and Nelson (2014), and Hutchings et al. (2015), which were focused on service, economics, and water. Boyle and Michell (2018) in South Africa considered the process-based approach, but it was not implemented. In Serbia, Vukmirovic and Gavrilovi (2020) used place-making and public participation geographic information systems but were not comprehensive and focused on using Geographic Information Systems. Also, Grum and Kobal Grum (2020) focused mainly on social sustainability. Temeljotov Salaj et al. (2020) in Norway explored sustainable community FM through action research and the design of a Facebook interactive tool.

3.2. Aspects of Sustainable Community-based Facilities Management

Sustainable facilities management contributes to the realisation of 17 SDGs, (Lok et al., 2013). A study by the International Facility Management Expert Centre (IFMEC, 2018, cited in Opoku & Lee, 2022) in the Netherlands showed that strategic Sustainable Facilities Management (SFM) can achieve the 17 SDGs because the facilities manager can integrate SDGs at all levels of the community, from strategic to the operational levels and can influence behavioural changes of individuals in the community. The facilities manager can contribute to the realisation of SDG 12 (responsible consumption and production) by promoting policies and practices that source resources through sustainable and circular procurement strategies to ensure that only healthy are used in communities; they also prevent the loss of biodiversity (Goal 15: life on land, biodiversity). Such policies and actions will reduce the sector's CO₂ emission and carbon footprint (Goal 13: climate action), which could be absorbed into oceans and seas (Goal 14: life below water). The facilities manager partners with people, organisations, and authorities (Goal 17: partnership for the goals) to maintain safety and security (Goal 16: peace, justice, and strong institutions) in communities.

Also, the facilities manager provides economic and social improvement for individuals in communities through job creation (SDG 8: decent work and economic growth). It can also help address SDG 1: no poverty. The FM profession, through support services, health and safety, and supply chain, helps institutions