

GREEN BUILDERS PROJECT: KEY OUTPUTS AND WAY FORWARD

LIRA WEBINAR

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WASCAL CENTRE DE COMPETENCE, Ouagadougou, Burkina Faso

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Combating Climate Change. Improving Livelihoods



Objectives of the GREEN BUILDERS project (1)

- ❖ The overall goal of the project was to investigate how to better collect, recycle, and repurpose organic solid and liquid waste to benefit UPA and GUS for the urban and peri-urban population.
- ❖ Map out, study, and capitalize on advantageous aspects of existing UPA, GUS, and the efforts of public and private companies in Burkina Faso and Ghana involved in waste management, recycling and repurposing. Existing liquid and solid waste treatment plants and projects will be used as baseline.
- ❖ Profile constraints in system operationalization that impedes the success of both solid and liquid waste treatment, the use of repurposed in UPA and GUS.

Objectives (2)

- ❖ **Contribute to estimating socio-economic** and ecological values of key Ecosystem

Services (ESS) provided through UPA and GUS, and propose recommendations to improve not only waste composting for UPA, GUS.

- ❖ **Investigate the networks of relevant stakeholders** (researchers, extension agents,

community members, gardeners, city authorities, and company waste recycling and repurposing and the production of UPA and GUS.

- ❖ **Facilitate MSPs for sharing best practices, and producing and integrating new knowledge** to improve and sustain solid and liquid waste recycling and repurposing, ESS provision in UPA and GUS. These MSPs will lead to linking Ghanaian and Burkinabe stakeholders to share knowledge across borders.

Project Stakeholders

❖ Academic= UDS

❖ non-academic = Burkina's National Office for Water and Sanitation (ONEA), the National Biodigesters Program of Burkina Faso (PNB-BF), and the sanitation directorate (Direction de la Propreté, DP) of Ouagadougou City Council, and the Burkina's Environment Ministry, Decentralised Composting (DeCo) firm, Zoomlion Ghana Ltd, Biogas Technologies Africa Ltd (BTAL), municipalities, solid waste collectors, beneficiary households, municipal market gardeners, tree and flower nursery enterprises, and livestock farmers.

Activities (1)

1) Market Gardeners



- 1) Response of vegetables to fertilization by municipal and from-farm composts.
- 2) Statistical analysis of the recycling and repurposing household solid waste and waste water for peri-urban agriculture in Ouagadougou: the case of the market gardening areas of Kossodo and Boulmiougou
- 3) Assessment of vegetable production systems in the urban and peri-urban area of Ouagadougou.

Activities (2)

2) Plant Nurseries Operators



4) Floristic diversity and ecosystem services within green spaces of Ouagadougou: what contribution to the resilience of the city?



Activities (3)

- Waste recycling and repurposing stakeholders (Waste collectors, women composting)

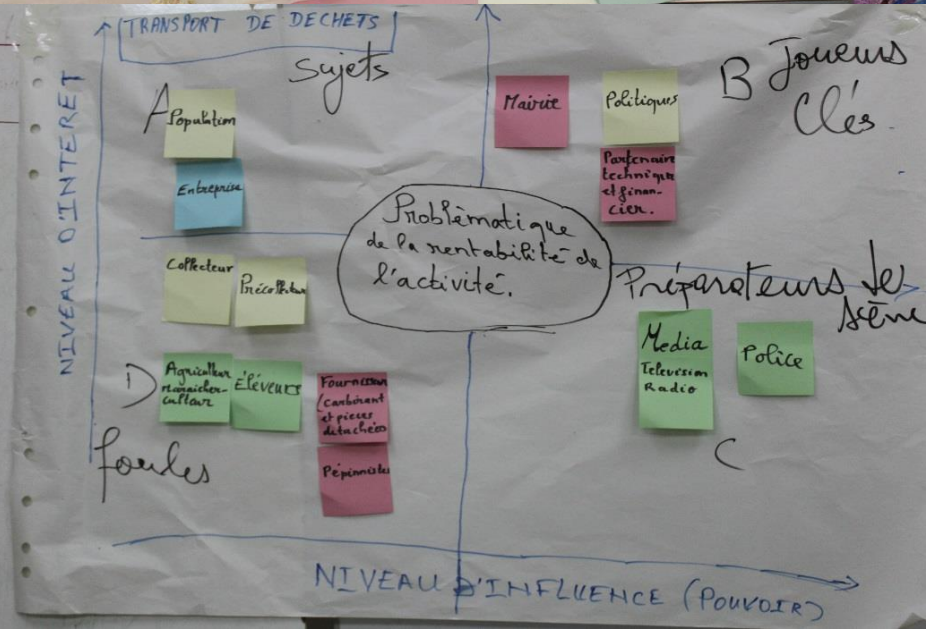


5) Ethnographic research/Socio-economics of the urban/peri-urban organic waste-UPA-GUS value web; and the marketing of value web products.

➤ Recycling organic waste as compost in urban market gardening in Ouagadougou (Burkina Faso): perception of market gardeners and households



Activities (4)



- **Facilitating MSP: Landscape Workshops**
 - Consolidation of stakeholder partnership, creation of new partnerships.
 - Stakeholders see and understand different perspectives, the different capabilities and powers of different stakeholders, and the possibilities for addressing and solving the issues related to waste management in cities.
 - Stakeholders gained knowledge on the value network of liquid and solid organic waste and the value of bio waste for composting.

Activities (5)

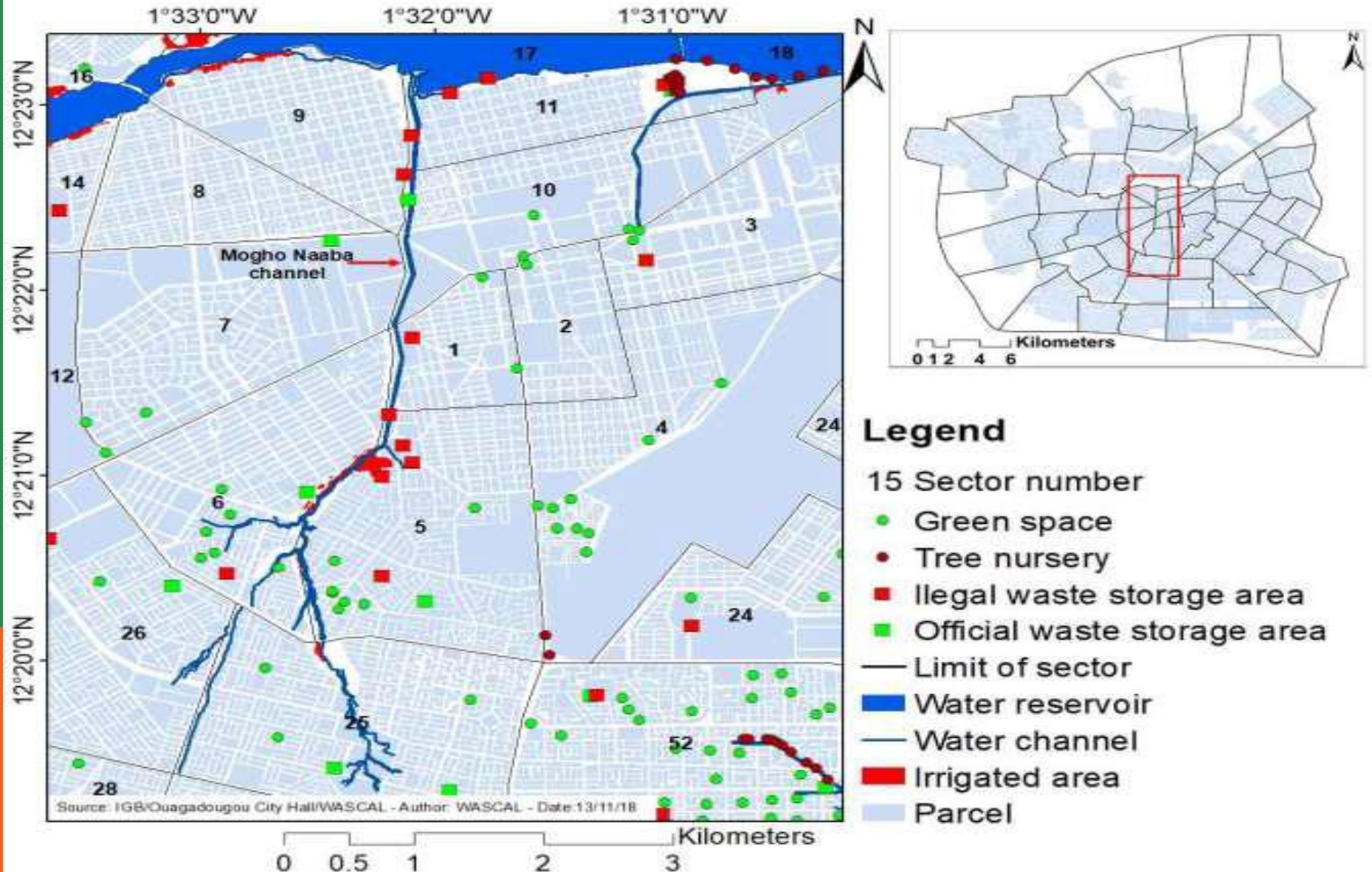
- Exchange Workshops : Two in Ouagadougou and one in Tamale

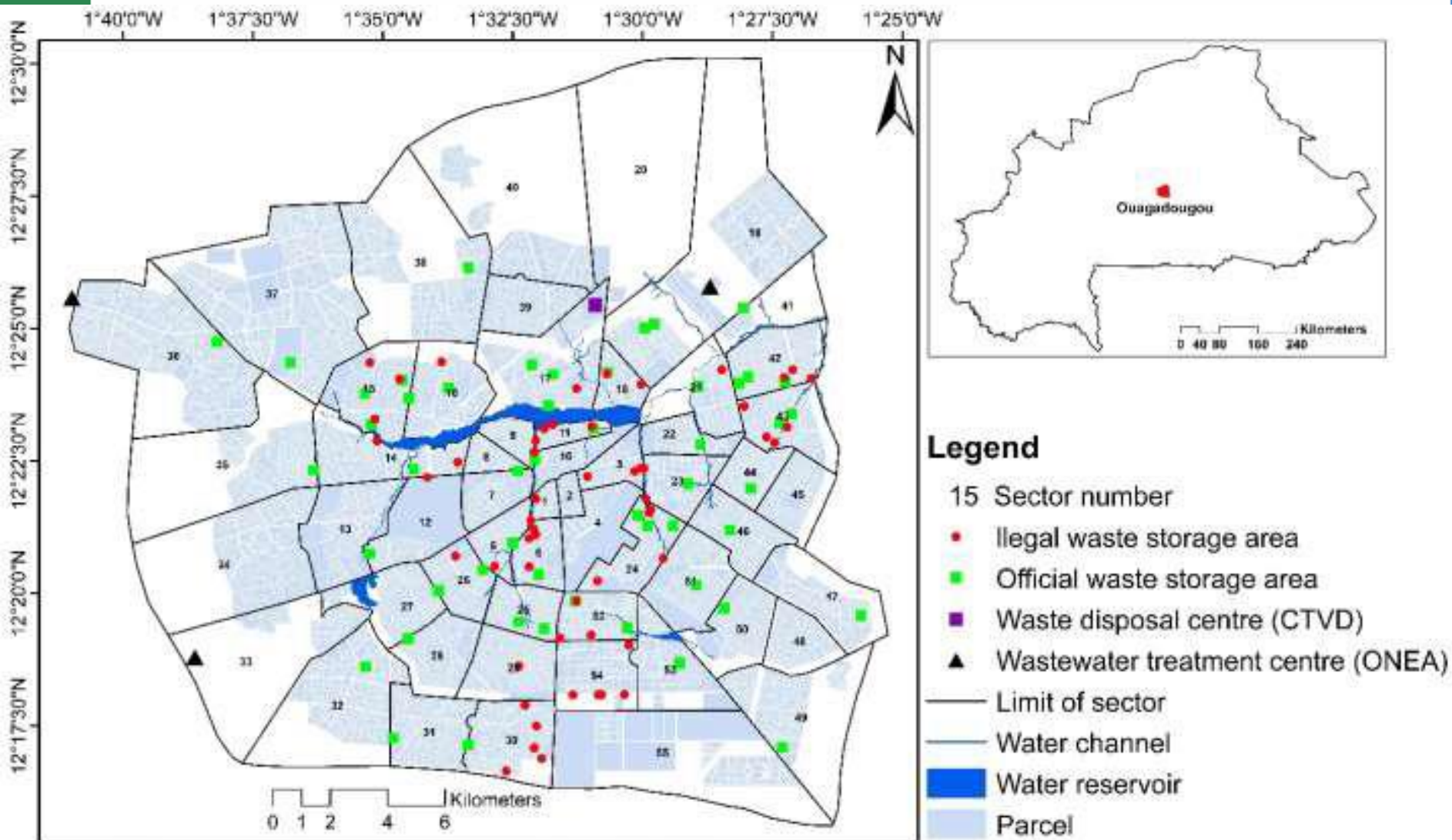


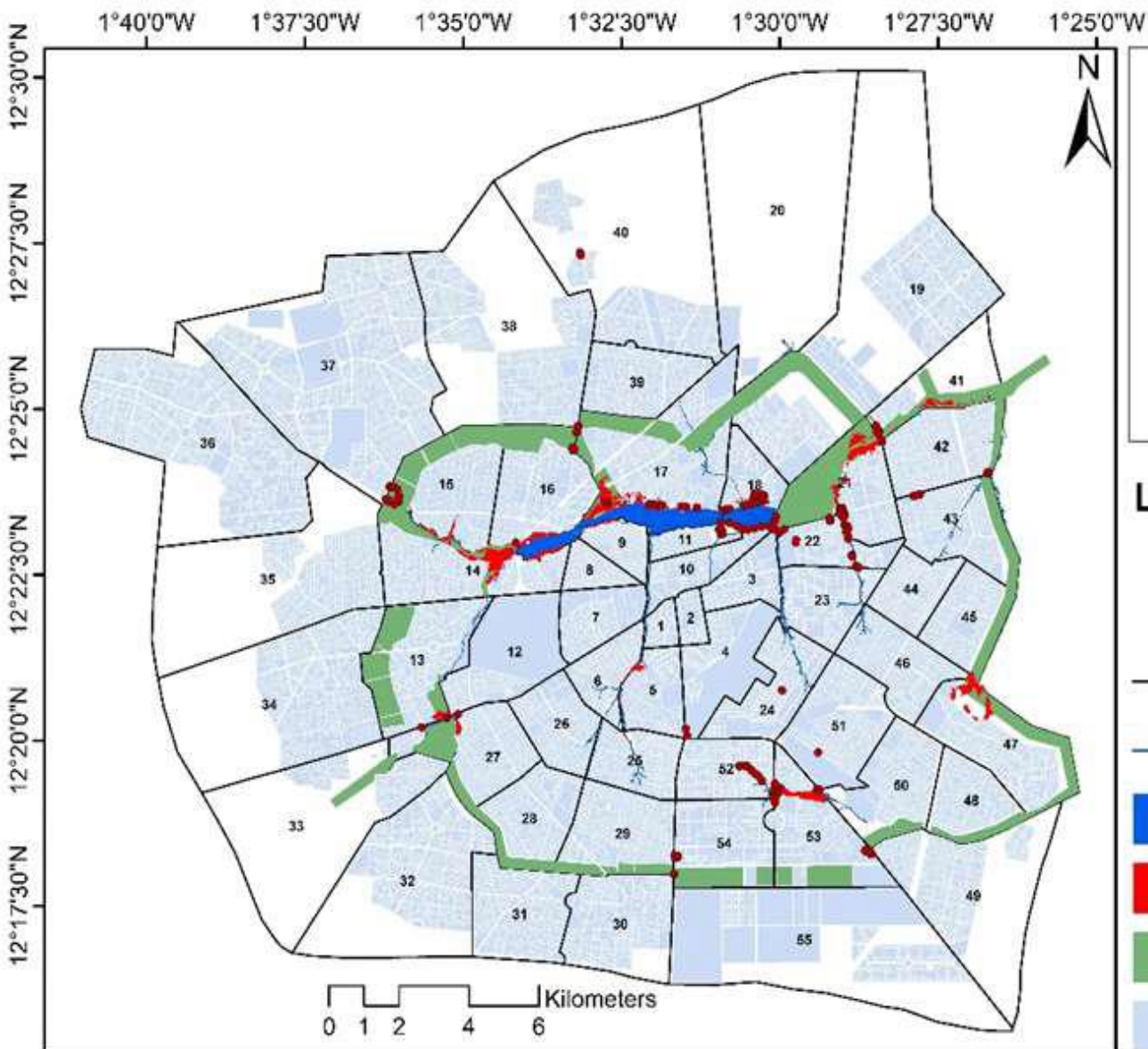
- Workshops facilitated knowledge integration and co-production
- Sharing information on city planning, better waste management, and enhanced ESS provision.

Scientific Outputs

• GIS Maps







Legend

- 15 Sector number
- Tree nursery
- Limit of sector
- Water channel
- Water reservoir
- Irrigated area
- Green belt
- Parcel

Database



Socio-economic, agronomic, soil and biodiversity and ecosystem services datasets available.

1)Généralité				2)Identification de l'enquêté						
N	se	Nom de	Situat							
fiche	code	Arr	c	l'enquêté	Quartier	sexe	Age	Profession	Ethnie	ion M Etude
1	2	1	5	Kaglan Nina	Samandi	F	2	5	Togola	1 5
3	1	5	Boro Abdoulaye	Samandi	M	2	6	mécanicien	samo	1 1
3	4	1	5	Tabsoaba aicha	Samandi	F	2	3	Mossi	1 4
4	1	1	5	Zoungrana mamounata	Samandi	F	2	3	Mossi	1 4
5	3	1	5	Seydou	Samandi	M	3	1	Mossi	1 1
6	2	1	4	0	Kamsonghin	F	2	3	Mossi	1 1
7	3	1	4	0	Kamsonghin	F	4	6 ménagère	samo	1 4
8	4	1	4	Ouédraogo ali	Kamsonghin	M	3	3	mossi	2 4
9	1	1	4	Mme Séré	Kamsonghin	F	2	3	Dafi	1 5
10	3	1	4	Sinaré issa	Kamsonghin	M	2	3	mossi	1 4
11	2	1	6	Ouédraogo tousain	cissin	M	3	3	mossi	2 5
12	3	1	6	Yanago florence	cissin	F	2	6 étudiante	Mossi	2 6
13	4	1	6	Soma fanta	cissin	F	2	3	Dagara	4 4
14	1	1	6	Ouédraogo marceline	cissin	F	4	6 petit commerce	Mossi	1 3
15	1	1	6	Simporé wendgoundi	cissin	M	2	5	Mossi	1 6

- Two Master Thesis Defended
 - One in progress

- Assess the optimal rates of compost application per unit area of land;
- Evidence of increase in the quantity and quality of yield from use of compost but during the rainy season
- Evidence of high residual effects of compost as against inorganic fertilizer; benefits from using compost in Ghana



Societal outputs (1)



- ❖ All stakeholders better understood and identified issues they faced.
- ❖ Co-found solution to existing problems. e.g.: GREEN BUILDERS project helped plant nursery owners in Ouagadougou to keep their sites temporally instead of being immediately relocated by the city authorities for security reasons.

Societal outputs (1)

- ❖ Proposed new Landscape Features: e.g: Garbage collectors and sorters
- ❖ First Workshop Issue: Incivility of garbage producers
- ❖ Second Workshop Issue: the non-renewal of the contracts between the GIEs and the municipality; How to reduce the amount of sand and dirt in the collected garbage
- ❖ New Landscape Features: Publicity in the various media leads to better sweeping of courtyards and street sides resulting in less sand and dirt in the garbage and the bins fill less quickly.

Societal outputs (2)



Green Builders project has offered a scale to the women producing compost. This is to: i) deep our collaboration with our stakeholders producing compost, ii) help them for their measurement and iii) to collect measurement data for statistic analysis.



In Ouagadougou there are reports of improved treated waste water quality by ONEA to market gardeners

Societal Outputs (3)



Planting of Green Builders experimented plants in front off WASCAL and ANEREE offices.



Plant Nurseries operators signed a contract with ANEREE. They supplied plants to ANEREE for its reforestation campaign.

Key learning & Way Forward

- ❖ **Conducting TD research requires:**
 - ❖ **Patience**
 - ❖ **Time**
 - ❖ **Open mind and readiness to accept critics not only from other scientists but also from non-academics**
 - ❖ **Innovation**
- ❖ **Proposal on Waste to Energy to the EU H2020 call for proposal (City council, Ministry of Energy, Water and sanitation, Environment, SONABEL, ONEA, NGOs and SME)**
- ❖ **WASCAL has been invited by the city council to participate to its Project on BIG WATA STATION for the city of Ouagadougou.**

Thank you for your attention

