



JRC CONFERENCE AND WORKSHOP REPORT

STI Roadmaps for SDGs: Smart Specialisation for Territorial and Industrial Development in Rwanda

Kigali, January 9-10, 2020

Mafini DOSSO

2020

This publication is a Conference and Workshop report by the Joint Research Centre (JRC), the European Commission's science and knowledge service. It aims to provide evidence-based scientific support to the European policymaking process. The scientific output expressed does not imply a policy position of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of this publication. For information on the methodology and quality underlying the data used in this publication for which the source is neither Eurostat nor other Commission services, users should contact the referenced source. The designations employed and the presentation of material on the maps do not imply the expression of any opinion whatsoever on the part of the European Union concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

EU Science Hub
<https://ec.europa.eu/jrc>

JRC120181

PDF ISBN 978-92-76-18116-3 doi:10.2760/954014

Luxembourg: Publications Office of the European Union, 2020

© European Union, 2020



The reuse policy of the European Commission is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated. For any use or reproduction of photos or other material that is not owned by the EU, permission must be sought directly from the copyright holders.

All content © European Union, 2020, (unless otherwise specified)

How to cite this report: Dosso, M., STI Roadmaps for SDGs: Smart Specialisation for Territorial and Industrial Development in Rwanda, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-18116-3, doi:10.2760/954014, JRC120181.

Contents

- Acknowledgements 2
- 1 Setting the scene..... 4
 - 1.1 What is Smart Specialisation? 4
 - 1.2 Objectives and choreography of the workshop 5
- 2 Summary of the Sessions and World café..... 6
 - 2.1 Session 1. Innovation & Value Chains Policies for Sustainable Territorial Development 7
 - 2.2 Session 2. Smart Specialisation Strategies: Opportunities for Innovation and Industry in Sub-Saharan Africa..... 8
 - 2.3 World Café Session – Identifying local development challenges in multi-stakeholders frameworks 9
 - 2.4 Session 3. Smart Specialisation Strategies for local development: European Experiences 10
 - 2.5 Thematic Panels of Day 2 11
- 3 Conclusions..... 14
- Further reading..... 15
- Annexes 16
 - Annex 1. AGENDA: JANUARY 9 AND 10 2020 16
 - Annex 2. REPRESENTED INSTITUTIONS AND ORGANISATIONS (NON-EXHAUSTIVE) AND SOCIAL MEDIA LINKS . 19

Acknowledgements

The organisers thank the participants, speakers, chairs and moderators from Rwanda and abroad for their great commitment and unique contributions during the two days. The organisers are also thankful to the Digital Transformation Center and its community for hosting and facilitating Day 2.

The author/project coordinator would like to thank particularly her colleague Nikolay Denin (JRC-GEEL) for the throughout edition of the first version of this summary. The project coordinator is also grateful to Anne-Mette Jensen-Foreman (Joint Research Centre's Clear Writers' network) for her editing suggestions and advice for clear writing. Any views or mistakes remain entirely those of the project coordinator/author.

The author/project coordinator is also very thankful to her colleagues Anca Delia Croitoru and Sylvie Foucault from the administrative department of JRC Dir. B Unit B3. Territorial development (Seville, Spain). This event would not have been a success without your great support and personal involvement up to the last hours before the meeting and afterwards.

NB. This is an activity funded by the JRC Exploratory Research program and led by the Directorate B. Growth & Innovation, Unit B3. Territorial Development (Seville, Spain)

Author/Project coordinator:

Dosso Mafini

European Commission, Joint Research Centre,
Dir Growth and Innovation,
Unit B3. Territorial Development, Seville, Spain
Mafini.dosso@ec.europa.eu

Key Messages

- The International Workshop on Science, Technology and Innovation Roadmaps for Sustainable Development Goals (SDGs) took place in Kigali, January 9th-10th 2020. It was the first Workshop organised by the European Commission Joint Research Centre (JRC) in cooperation with the Ministry of ICT and Innovation of Rwanda (MINICT) that addressed Smart Specialisation for Territorial and Industrial Development in Rwanda.
- In line with the EU Green Deal and the objectives of the Government of Rwanda, the workshop emphasised the sharing of best practices between various countries and taking an evidence-based approach, with localisation of actions and prioritisation of efforts.
- A dedicated session successfully identified key challenges for the implementation of Smart Specialisation, in a World Café Session, and a brainstorming yielded concrete smart specialisation activities for solving the challenges linked to the national headline priority sectors of Rwanda.
- Follow-up Smart Specialisation cooperation with Rwanda is now taking place in the framework of the JRC Exploratory Research activity on “Smart Specialisation in Innovative and Informal African Economies”. The activity aims to develop a roadmap for launching a Smart Specialisation Strategy in Rwanda in order to contribute to the objectives of the Government to achieve sustainable territorial and industrial development.

1 Setting the scene

1.1 What is Smart Specialisation?

Smart Specialisation Strategies (S3) are transformation agendas, which enable countries and regions to harness their Science, Technology and Innovation resources in order to achieve sustainable territorial development. The concept has been developed under the European Commission's Cohesion Policy in order to achieve a more balanced territorial development and to ensure growth across all European regions. In this framework, Smart Specialisation Strategies have been a prerequisite to receive funding from thematic regional development funds.

The distinctive character of S3 relates to its strong territorial or place-based dimension on the one hand; in other words, the strategy is designed to address the specific needs of the countries or the regions. On the other hand, the decisions about STI priorities rely on a participatory approach, which operates through the 'entrepreneurial discovery process' (EDP). EDPs bring together actors from the industry, the government, the research/academia and the civil society. Smart Specialisation enable territories to address questions such as:

- How to **select** a few strategic STI priorities for industrial and territorial development?
- How to **operationalise** STI policies for sustainable industrial and territorial development?
- How to harness STI potentials in order to **address** place-based or localised societal challenges? (challenges that are specific to a place/territory and to the local society/communities)

In practice a smart specialisation strategy unfolds in six fundamental steps:

- 1) Map of the potentials of the territory (economic, science and innovation);
- 2) Set up a governance structure;
- 3) Develop a shared vision for the future of the territory in the knowledge economy
- 4) Identify Science, Technology and Innovation priority domains;
- 5) Design and implement policy instruments and funding;
- 6) Establish Monitoring & Evaluation frameworks to assess progress towards the objectives.

In Europe, S3 are now implemented in more than 120 countries and regions. The worldwide outreach of S3 extends to the majority of continents through S3 pilots, policy cooperation, experts dialogues and exploratory scientific activities.

S3 Platform: <https://s3platform.jrc.ec.europa.eu/home>

Experts' Presentations

<https://s3platform.jrc.ec.europa.eu/-/sti-roadmaps-for-sdgs-smart-specialisation-for-territorial-and-industrial-development-in-rwanda?inheritRedirect=true>

1.2 Objectives and choreography of the workshop

The International Workshop on *STI Roadmaps for SDGs: Smart Specialisation for Territorial and Industrial Development in Rwanda* took place in Kigali, January 9th-10th 2020. It was the first Smart Specialisation Workshop organised by the European Commission Joint Research Centre in cooperation with the Ministry of ICT and Innovation of Rwanda (MINICT).

The objectives of the workshop were the following ones:

1. Stimulate exchanges and Raise awareness about Smart Specialisation Strategies (S3);
2. Identify synergies between smart specialisation policies and the policies supporting innovation and value chain development in Rwanda;
3. Discuss the relevance of smart specialisation as a Science, Technology and Innovation roadmap for achieving sustainable territorial development in Rwanda;
4. Stimulate local stakeholders' dialogues for a pioneering smart specialisation in Rwanda.

In order to meet this objectives, the workshop was organised around thematic sessions, a world café session (day 1), panel discussions and open innovation talks (day 2). The thematic sessions focused on experts' presentations with questions and answers around the following topics:

- Place-based policies for innovation and value chains development in the EU and Rwanda
- Opportunities of smart specialisation for sustainable industrial development
- International smart specialisation experiences

The World café on day 1 enabled small groups' discussions on predefined questions in two rounds. Each discussion group was moderated by two experts. This setting aimed at collecting the views of local experts on the potential challenges of smart specialisation in Rwanda's context and on the transformative activities to address sustainability challenges.

Panels and open innovation talks took place on day 2. The discussions focus on young innovators' solutions for Sustainable Development Goals and on STI roadmaps for sustainable development (policy perspectives).

The workshop targeted stakeholders who are professionally involved or interested in enhancing local or place-based innovation capabilities for sustainable development. It gathered officials from the public administrations and organisations and representatives from the academia/research, the industry/private sector and the civil society from Rwanda and abroad (see Annexes).

2 Summary of the Sessions and World café

Antoine Sebera, Government Chief Innovation Officer (Rwanda) and **Ben Nupnau**, Chargé d'Affaires, Deputy Head of European Union Delegation Rwanda opened the workshop on January 9th 2020.



ANTOINE SEBERA

BEN NUPNAU

Sources: see links in Annexes

Mr SEBERA welcomed this pioneering collaboration on Smart Specialisation between the European Commission and the Government of Rwanda. He stressed the central role of innovation in Rwanda’s ambitions to become a competitive knowledge-based economy. The MINICT’s goal is to achieve sustainable development and competitiveness with a systemic approach focusing on strengthening local innovation ecosystems, infrastructure and skills for innovation and entrepreneurship. In this integrated perspective, smart specialisation can support Rwanda’s development strategy by building institutional synergies on three aspects:

- Help delivering a shared long-term vision that is embedded in strong stakeholder collaboration and ownership; S3 requires collective commitment;
- Support the identification of the technological and non-technological innovative solutions in order to address local challenges and;
- Foster quality human capital; this is a pivotal component for the dual objective of achieving sustainable competitiveness and tackling pressing societal challenges.

Mr NUPNAU thanked the Government of Rwanda and the MINICT for supporting the first Smart Specialisation workshop in Rwanda. Partnerships for science, technology and innovation (STI) are recognized as central means to bring Peace and Prosperity for the Planet and the People.

Mr Nupnau reminded the commitment of the EU to integrate and align its new growth strategy, the [European Green Deal](#), and its cooperation policy with the [Sustainable Development Agenda](#). In supporting this policy integration, smart specialisation can well complement the ongoing EU projects in Rwanda and help fostering digital-based employment, youth entrepreneurship and urban innovation hubs. The S3-enabled partnerships will thus further contribute to support the growth and jobs objectives of the Government of Rwanda.

Both speakers congratulated the organisers for gathering knowledgeable and experienced experts and organisations¹ to foster EU-Rwanda STI partnerships for sustainable development.



Sources: see links in Annexes

2.1 Session 1. Innovation & Value Chains Policies for Sustainable Territorial Development

The session covered the presentations of **Fernando Hervás Soriano** (European Commission JRC) and **Parfait Yongabo** (University of Rwanda and Lund University, Sweden) and was chaired by **Angelos Munezero**, (Ministry of ICT and Innovation, Rwanda).

Mr HERVAS SORIANO introduced the basic principles of a Smart Specialisation Strategy (S3): 1) place- and evidence-based and 2) no “one-size-fits-all” policy strategy, which is designed through multi-stakeholders dialogues. He further explained how S3 integrates key dimensions of the United Nations Agenda 2030 – which are *Localisation, Prioritisation, Customization, Mobilisation* – and their means of implementation.

Smart Specialisation is a step-based and flexible approach to help communities in the prioritisation of their innovation efforts for achieving sustainable development. They can relevantly contribute to the design and operationalisation of place-based or localised STI roadmaps for SDGs at different territorial scales (country, regions, cities).

The JRC contributes to the [UN-led Global Pilot Programme on STI for SDGs Roadmaps](#) initiative. It relies on its long standing expertise in the guidance and monitoring of Smart Specialisation in Europe and the [Smart Specialisation Platform](#)'s (S3P) cooperation.

The Joint Research Centre S3P's cooperation in Africa currently includes:

- a) Smart Specialisation pilots in Tunisia supported by the JRC and EU Neighbourhood Policy;

¹ See Section V for a list of represented institutions.

- b) Science-for-policy cooperation with Rwanda's institutions (JRC Exploratory Research's activity on *Smart Specialisation in Innovative & Informal African Economies*)
- c) Knowledge exchanges and policy dialogues with the Department of Science and Technology (Government of South Africa) and the Gauteng City-Region Observatory, GCRO (South Africa);
- d) International scientific activities to assess the transformative potentials of Smart Specialisation for innovation-led structural change (Côte d'Ivoire and Nigeria).

Mr YONGABO (University of Rwanda and Lund University, Sweden) presented an integrated view of the construction of Rwanda's National Innovation System (NIS). The evidence confirm that Rwanda has untapped potentials for growth, if one considers the diversity of innovation types and innovative socio-economic sectors. This variety requires to integrate a broader conception of innovation (beyond technology) and a more holistic approach to innovation support. Together with broader stakeholders' dialogues in place, NIS policies would be more impactful with a regulatory and institutional framework that incentivises:

- The diffusion of knowledge and innovation;
- The inter-institutional coordination and user-producer interactions
- The protection and exploitation of intellectual property
- The increase of innovation investments

Smart Specialisation can help building up synergies that support the construction of sustainable ecosystems and value chains. Nevertheless, institutional leadership and other building blocks need to be in place. These building blocks should help answering the following questions: 1) *Who should take action*, 2) *What actions should be taken* and 3) *What would be the cost?* In this way, "Smart Specialisation could close the loop" and foster innovation ecosystems across Rwanda.

2.2 Session 2. Smart Specialisation Strategies: Opportunities for Innovation and Industry in Sub-Saharan Africa

The session covered the presentations of **Mafini Dosso** (European Commission JRC) and **Tom Ogada** (African Centre for Technologies Studies) and was chaired by **Olivier Nsabimana** (National Industrial Research and Development Agency, NIRDA, Rwanda).

Dr DOSSO provided a background of the industry and innovation policies promoted by the UN, the African Union and the Regional Economic Communities for achieving sustainable development in Africa. These multilevel policies are also implemented under the UN Third Industrial Development Decade for Africa (IDDA III) of United Nations (2016–2025). These international and continental initiatives promote:

- Ecosystems for R&D, technology development and innovation
- Sustainable agricultural and industrial processes
- Local value-added and value-captured and trade competitiveness
- Innovation skills and skilled human capital for industrial development

Smart Specialisation builds upon multi-stakeholders discovery of new innovation and industry domains (Entrepreneurial Discovery Processes, EDPs). With an evidence- and step-based approach, Smart Specialisation allows a finer and gradual identification of challenges and priorities, often beyond the silos of existing industries.

These priorities are defined according to the concentration of knowledge, the availability of human capital and the market potentials (dynamic). The priorities can be revised. They should unfold into targeted transformative innovation activities that address local people challenges and business needs.

Dr Dosso showcased a few illustrations in the context of Sub-Saharan Africa. The uptake of smart specialisation could indeed pave the way for market-creating innovations,² new capabilities mixes, cross-sectoral domains and, also the emergence of novel value chains. What really matters is that the new transformative activities help solving local people and places challenges and constructing unique competitive advantages.

Prof OGADA presented the Kenyan National STI Roadmaps for the SDGs and its alignments with the country's 3rd Medium Term Plan 2018 – 2022. Kenya is among the 5 countries for the [Global Pilot Programme on STI for SDGs Roadmaps](#) led by the United Nations.

Kenya's STI roadmap focuses on industrial development in agriculture and food security, manufacturing, housing and health with ICT as a cross cutting enabler. The current thematic efforts target improving technologies, techniques and organisational skills to achieve food security (SDG 2: zero hunger) and industrial innovation (SDG 9: industry, infrastructure and innovation). Key roadmap recommendations for ensuring that STI are effectively harnessed to address the gaps towards sustainable development:

- Better Prioritisation and focus on a few SDGs;
- An active involvement of stakeholders in technology development and diffusion;
- Enhanced linkages between the supply and demand of STI;
- Scaling up of the process through expanded stakeholder engagement.

2.3 World Café Session – Identifying local development challenges in multi-stakeholders frameworks

Simultaneous roundtables were organised in order to enable discussions and focused views on the following questions:

What do you see as the main challenges for the implementation of Smart Specialisation in Rwanda?

(Selected messages)

- ✚ Awareness and understanding of 'innovation' (broad approach including technological and non-technological solutions)
- ✚ Ownership and accountability for the smart specialisation strategy in Rwanda's institutional framework
- ✚ Capacity-building for smart specialisation policy design & implementation
- ✚ Accessibility of data and toolbox for policy monitoring
- ✚ Accessibility of data and methods to map ecosystems and actors in order to inform a smart specialisation strategy
- ✚ Formulation of challenges and innovation priority domains within multi-stakeholders participatory settings
- ✚ Commitment and coordination of stakeholders beyond the 2-helix (industry-government or university-government)

² For instance, addressing malnutrition challenges with improvements in the traceability and variety of green children food (supply chains) through techno-organizational marketing innovations.

What could be the smart specialisation activities for solving the challenges linked to national headline priority sectors? (Selected activities)

- + Rural advisory services or extension services for farmers
- + Raise financial awareness and literacy
- + Harvest losses management and climate-adaptive farming
- + Supply of quality seed technologies
- + Agro-processing techniques, irrigation and mechanisation
- + Biomedical and e-health services
- + Research and research management skills
- + Foster business and marketing skills
- + Logistics and supply delivery services in remote areas
- + Incubation, local technology promotion and commercialisation/diffusion
- + Skill-building for market analysis and technology watch to support appropriate technologies

2.4 Session 3. Smart Specialisation Strategies for local development: European Experiences

The session covered the presentations of **Laura Polverari** (University of Padova, Italy) and **Juan L. Martinez Covarrubias** (Chief Economist of the Regional Assemblies, Ireland) and was chaired by **Prof. Nelson IJUMBA** (Deputy Vice-Chancellor for Academic Affairs and Research, University of Rwanda, UR)

Prof POLVERARI presented the framework and rationales of the implementation of smart specialisation strategies (S3) in the European Union (EU). Smart specialisation has come as a novel strategic approach to foster national and regional innovation systems under the EU Cohesion policy.

A series of surveys on 15 European countries underlined several strengths and positive experiences of the implementation of smart specialisation. S3 can support, for instance, the development of human capital building, new forms of collaborations and organisations and new capacities and spillovers. In some cases, S3 also enabled fostering local ownership of a shared vision for territorial development or branding. However, the evidence illustrates some key challenges of smart specialisation. These are 1) the complexity of the process, 2) the learning curve, 3) the continuation of the discovery, 4) the administrative and coordination capacities and, 5) a dominant sectoral thinking.

The embeddedness of S3 takes various forms such as clusters, working groups, networks, calls for projects or roadmaps. Smart Specialisation can better support the development strategy of Rwanda if the design and implementation are built upon:

- Coherent funding roadmaps;
- Capacity-building and political commitment;
- Ensure mobilisation and the society commitment;
- Monitoring and evaluation (quantitative and qualitative);
- Institutional and administrative capacity building.

Dr MARTINEZ COVARRUBIAS presented the vision Project Ireland 2040 comprising the National Planning Framework to 2040 and the National Development Plan. Ireland has a long experience of territorial competitiveness strategies. In addition, the country constitutive Regional Assemblies have developed dedicated spatial and economic strategies that are specific to Ireland's regions. Likewise, smart specialisation strategies belong to these place-making or place-based policies, which should enable building functionality, attractiveness, embeddedness and ensuring multi-level policy coherence.

Strategy roadmaps with clear governance settings, public consultations and long-term plans are required to address the sustainability challenges that different places are facing. Place-making policies should rely upon evidence-informed mappings of ecosystems with the objective to promote key locational drivers and co-location advantages. These advantages relate for instance to the urbanisation, the connectivity, the availability of talent and innovation, the scale of agglomeration and investment opportunities. Lessons from the Irish experience in implementing regional strategies are:

- The use of evidence to inform innovation strategies;
- The mobilisation and commitment of relevant stakeholders;
- The exploitation of local strengths and potentials;
- The account and assessment of territorial imbalances and inequalities.

Day 1 closed with bilateral exchanges with institutional representatives and wrapping up meetings.

2.5 Thematic Panels of Day 2

Olaf Seidel, Programme Director, GIZ - Digital Solutions for Sustainable Development project (DSSD) and **Dr Mafini Dosso** (European Commission, JRC) opened the second day.

Mr SEIDEL welcomed the participants and thanked the European Commission JRC for the organisation of this workshop at the Digital Transformation Center in Kigali. The DigiCenter is a Rwandan-German initiative aimed at developing impact driven digital solutions and strengthening the local ecosystem capacities.

Dr DOSSO thanked the community of the Digital Transformation Center and its youth community for their warm welcome and commitment in the organisation of Day 2. Dr Dosso set the scene of Day 2 organised around two panels and open innovation talks with young entrepreneurs and scientists. She briefly presented the broader project ("Smart Specialisation in Innovative and Informal African economy: the case of Rwanda") and provided the main messages from Day 1's discussions and presentations.



Sources: see links in Annexes

Panel 1. Youth Panel “Local Technological and non-Technological Solutions for achieving the Sustainable Development Goals (SDGs)”

Alex NTALE, CEO of Rwanda ICT Chamber, Private Sector Federation (PSF) moderated the panel of young scientists and entrepreneurs:

Dr. Ir. Noella Karemera UMUHOZA, University of Rwanda, Agriculture and crop research

Ing. Stella MURUNGI, PIVOT, Machine learning

Audace NIYONKURU, DIGITAL UMUGANDA, Artificial Intelligence

Kevin KABERA, Seed Technology Engineering and Science, IoT

The panellists presented their innovative solutions and explained their contribution the achievement of Sustainable Development Goals (SDGs). Examples of guiding questions were:

- Which SDG(s) or societal challenges your innovation(s) is addressing?
- What is the scalability of your business models (can it be upscaled? How and under which conditions)?
- Can your innovative solutions be replicated in close contexts (replicability)?
- What are the barriers to extend your market scope in Rwanda, in Africa and beyond?

The panellists provided a rich panorama of existing transformative innovation activities, which address societal challenges of their communities and beyond.

Their innovations range from

- Bringing in science to tackle malnutrition and farming challenges;
- Enhancing community access to ICT-enabling solutions;
- Building common digital infrastructure;
- Creating from or Adding value to indigenous knowledge and assets;
- Training and supporting the access to emerging or disruptive technologies.

They design home-grown solutions relying on combinations of indigenous and external knowledge. Their business models show different degrees of scalability that refers here to their capacity to expand their operations in order to reach a growing number of customers and to generate greater revenues. Both internal and external factors influence the replicability of their innovation and the business model scalability, which also feature strong industrial specificities.

Besides the long term policy commitment, key innovation barriers are appropriate infrastructure and funding, critical masses of skilled human capital, market access and the diffusion of knowledge.

Panel 2. Science for Policy Panel "Localised STI roadmaps for SDGs: leaving no-one and no-place behind"

Dr Mafini DOSSO, European Commission, JRC, moderated the policy discussions between the following panellists:

Prof. Tom OGADA, African Centre for Technologies Studies (ACTS), Kenya

Dr. Youssef TRAVALY, Next Einstein Forum (NEF)

Fernando HERVAS SORIANO, European Commission JRC

Muyambi FORTUNATE, EASTECO

The policy representatives introduced their STI policy framework and initiatives. STI are key means for the implementation of the sustainability agenda at the global, regional and local levels

The support to STI policy and policy makers can take the form of evidence-based diagnostics, technical advice and guidance, monitoring and evaluation, regulatory proposals as well as policy instruments or frameworks. The beneficiaries and desired impacts generally encompass the various stages of the research, development and innovation processes, entrepreneurial journeys and industrial value chains. The institutional programmes also aim at stimulating a broader access and diffusion of knowledge, of local and disruptive technologies and innovations and critical levels of skills, funding and infrastructure.

STI for SDGs roadmaps as policy tools require the localisation and customisation of actions, concrete funding plans and stakeholders engagement to ensure that 'no-one and no-places' are left behind. With this integrative view, roadmaps inspired from smart specialisation experiences can enable illuminate novel paths for achieving sustainable territorial and industrial development in Rwanda and beyond. They should nevertheless be coherent with national and continental development plans in Africa. This will ensure that greater benefits from STI materialise for local communities, while smart specialisation contributes to strengthen policy coherence for development.



Sources: see links in Annexes

3 Conclusions

The first international **Smart Specialisation workshop in Kigali** has stimulated many exchanges and knowledge sharing about place-based policies for territorial and industrial development in Rwanda and abroad. The discussions and the high level of commitment of participants confirm the great interest for in-depth and longer term collaboration for launching Smart Specialisation in Rwanda.

The objectives of the workshop have been achieved as follows:

- Awareness about Smart Specialisation Strategies (S3) has been raised; nevertheless additional focus groups or thematic workshops are needed to expand the awareness beyond the participants of the workshop, and especially next to the civil society.
- Several areas for synergies exist between Smart Specialisation and the policies supporting the development of innovations and value chains in Rwanda. Smart Specialisation can help fostering institutional coordination, stakeholders' mobilisation, prioritisation of STI domains and human capital for innovation. An evidence-based roadmap is a preliminary requirement to provide the basic institutional conditions to launch a smart specialisation.
- The workshop allowed stakeholders dialogues for a pioneering smart specialisation in Rwanda. S3 raised interest as a STI roadmap approach for territorial development. That is the governance and methodology of S3 can help integrating and targeting the policy initiatives that aim to strengthen innovation ecosystems and capabilities.

The international Smart Specialisation experiences confirm that **there is no “one-size-fits-all” smart specialisation solution. The customisation and localisation of STI strategies is crucial for realising concrete impacts on local territorial and industrial development.**

What really matters is that the new transformative activities help solving local people and places challenges and constructing unique territorial and industrial advantages.

The project “*Smart Specialisation in Innovative and Informal African Economies*” aims at exploring the relevance and potential of the smart specialisation approach and governance principles in sub-Saharan Africa. The first pilot of Rwanda is performed under S3 international cooperation and is funded by the JRC Exploratory Research programme. Expected outcomes are:

1. Improve the understanding of smart specialisation and place-based governance for innovation;
2. Contribute to enhance evidence-based STI policies and inclusive dialogues on innovation;
3. Support the launch of a smart specialisation championed by Rwanda in East Africa.
4. Advance the JRC's in-house knowledge on smart specialisation with lessons from sub-Saharan African contexts, with lower institutional coordination and important informal sector ;
5. Foster the Africa-EU joint efforts to support innovation for sustainable development

The pilot phase consists of two workshops in Rwanda, an international scientific study and experts and policy dialogues. The ongoing phase focuses on an international scientific study, which aim to provide a preliminary policy and ecosystems mapping and key roadmap recommendations for launching a S3 in Rwanda. The 2nd workshop will discuss and validate the conclusions of the study and propose a smart specialisation methodological guidance for the country.

Further reading

European Commission (2012), *Guide to Research and Innovation Strategies for Smart Specialisations (RIS 3)*, Available at <https://s3platform.jrc.ec.europa.eu/home>

European Commission, Joint Research Centre, *Science for the AU-EU Partnership: building knowledge for sustainable development*, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-86961-7, doi: 10.2760 /360029, JRC107753.

Available at <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/science-au-eu-partnership>

Smart Stories at <https://s3platform.jrc.ec.europa.eu/smart-stories>

The Smart Stories provide a direct account from managing authorities on the ways in which they implement their Smart Specialisation Strategies. They reflect how managing authorities have used the S3 concept to develop their own innovation-driven economic transformation agendas at national and regional level.

Annexes

Annex 1. AGENDA: JANUARY 9 AND 10 2020

JANUARY 9th, 2020 (DAY 1) - Venue: Kigali Marriott Hotel, Rwanda

8h00-9h00 Welcome coffee & Registration

9h00-9h15 HIGH LEVEL POLICY OPENING SESSION

Antoine SEBERA, Government Chief Innovation Officer, Republic of Rwanda

Ben NUPNAU, Chargé d’Affaires, Deputy Head of European Union Delegation to the Republic of Rwanda

Presentation of the objectives and timeline of the project – *“Smart Specialisation in Innovative & Informal African Economies: the case of Rwanda”* : Dr. Mafini DOSSO, Project Coordinator, European Commission, JRC, Dir. B. Growth & Innovation, Unit B3, (Spain)

9h15-10h00 SESSION I.

Innovation and Value Chains Policies for Sustainable Territorial Development –

CHAIR: Angelos MUNEZERO, Ministry of ICT and Innovation, Rwanda

Speakers

Fernando HERVAS SORIANO, European Commission Joint Research Centre (JRC), Deputy Head of Unit B3 Territorial Development (Seville, Spain)

Title of Presentation: *Smart Specialisation³ for innovation-led territorial development*

Parfait YONGABO, University of Rwanda (UR) and University of Lund, Sweden

Title of Presentation: *National Innovation System: construction process in Rwanda*

10h00-10h45 SESSION II.

Smart Specialisation Strategies: Opportunities for Innovation and Industry in Sub-Saharan Africa

CHAIR: Olivier NSABIMANA, National Industrial Research and Development Agency (NIRDA), Rwanda

Speakers

Dr Mafini DOSSO, European Commission, JRC, Project coordinator, Seville, Spain

Title of Presentation: *Smart Specialisation in Sub-Saharan Africa: unlocking industrial and technological opportunities for sustainable development*

Prof. Tom OGADA, Executive Director, African Centre for Technologies Studies, Kenya

Title of Presentation: *STI Roadmap for SDGs in Kenya*

Coffee & Tea break 10h45-11h15

³ or Innovation Strategies for Smart Specialisation

11h15-12h30 **WORLD CAFÉ SESSION – Identifying local development challenges in multi-stakeholders frameworks.** (Introduction by Dr Mafini Dosso)

Simultaneous roundtables discussion

Moderators: M Dosso, F Hervás, J Martinez, T. Ogada, L. Polverari, C. Trimborn

QUESTION 1:

WHAT DO YOU SEE AS THE MAIN CHALLENGES FOR THE IMPLEMENTATION OF SMART SPECIALISATION IN RWANDA?

QUESTION 2:

WHAT WOULD BE THE SMART SPECIALISATION ACTIVITIES FOR SOLVING THE CHALLENGES LINKED TO THE 3 NATIONAL HEADLINE PRIORITY SECTORS: AGRITECH, ACCESS TO QUALITY HEALTHCARE, FINTECH?

Lunch 12h30-14h30

14h30-15h30 SESSION III.

Smart Specialisation Strategies for local development: European Experiences

CHAIR: Prof. Nelson IJUMBA, Deputy Vice-Chancellor for Academic Affairs and Research, University of Rwanda

Speakers

Prof. Laura POLVERARI, University of Padova, Italy

Title of Presentation: *Implementing Smart Specialisation in Europe: Lessons for Rwanda?*

Dr. Juan Luis MARTINEZ COVARRUBIA, Chief Economist Eastern and Midlands Regional Assembly, Ireland

Title of Presentation: *The Irish Experience, Smart Specialisation for innovation-led territorial development*

Coffee & Tea 15h30-17h00 (with bilateral and wrap up meetings)

JANUARY 10th, 2020 (DAY 2) - Venue: DSSD - Digi Centre – Career Center Building, Gasabo, Kigali, Rwanda

9.30-10h30 Registration at DSSD - Digi Centre., Career Centre and Welcome Coffee

10h30-10h50 WELCOME SPEECHES

Olaf SEIDEL, Programme Director, GIZ - Digital Solutions for Sustainable Development

Dr Mafini DOSSO, European Commission, JRC, Project Coordinator: *“Smart Specialisation in Innovative & Informal African Economies”*

10h50-12h00 PANEL

Local Technological and non-Technological Solutions for achieving the Sustainable Development Goals (SDGs)

MODERATOR: Alex NTALE, CEO of Rwanda ICT Chamber at the Private Sector Federation (PSF)

Panellists

Dr. Ir. Noella J. Karemera UMUHOZA, UNIVERSITY OF RWANDA, College of Agriculture, Animal Sc. & Vet. Med., Crop Sciences Dpt. (CAVM) – Lecturer, AWARD China Agricultural Council 2016 & NCST AWARD Next Einstein Forum 2019

Ing. Stella MURUNGI, PIVOT, Software Product Manager (Machine Learning, ML) | Emerging Technologies and space Enthusiast, Rwanda

Audace NIYONKURU, DIGITAL UMUGANDA, Chief Executive Officer (Artificial Intelligence, AI), Rwanda

Kevin KABERA, Business Development, SEED TECHNOLOGY ENGINEERING AND SCIENCE, STES GROUP (Internet of Things, IoT), Rwanda

+ Q&A

Coffee & Tea break (available all day)

12h15-13h30 PANEL

Localised Science Technology and Innovation (STI) roadmaps for SDGs: leaving no-one and no-place behind

MODERATOR: Dr Mafini DOSSO, European Commission, JRC

Panellists

Prof. Tom P. OGADA, Executive Director, African Centre for Technologies Studies, Kenya

Dr. Youssef TRAVALLY, V.P. of Science Innovation & Institutional Partnerships, African Institute for Mathematical Sciences - Next Einstein Initiative (NEI)

Fernando HERVAS SORIANO, European Commission Joint Research Centre (JRC), Dir. Growth & Innovation, Dep. Head of Unit B3 Territorial Development (Spain)

Muyambi FORTUNATE, Principal Officer Innovation, Technology Development and Acquisition, East African Science & Technology Commission (EASTECO), East African Community (EAC)

+ Q&A

Open Innovation Talks + *Meetings with Lunch*

Farewell Cocktail

Annex 2. REPRESENTED INSTITUTIONS AND ORGANISATIONS (NON-EXHAUSTIVE) AND SOCIAL MEDIA LINKS

African Centre for Technology Studies (ACTS), Kenya
African Institute for Mathematical Sciences (AIMS) - Next Einstein Initiative (NEI)
Digital Umuganda (Artificial Intelligence, AI) (*youth entrepreneur*)
East African Science & Technology Commission (EASTECO), East African Community
European Commission, EU Delegation in Rwanda
European Commission, Joint Research Centre (JRC) (Seville, Spain)
German Cooperation, GIZ - Digital Solutions for Sustainable Development (DSSD) project
Japan International Cooperation Agency (JICA)
Ministry ICT and Innovation (MINICT) – Rwanda
Ministry of Education (MINEDUC) – Rwanda
Ministry of Finance & Economic Planning (MINECOM) – Rwanda
National Council for Science and Technology (NCST) – Rwanda
National Industrial Research and Development Agency (NIRDA) - Rwanda
PIVOT, Software Product Manager (Machine Learning, ML) – Rwanda (*youth entrepreneur*)
Rwanda Academy of Sciences
Rwanda Development Board (RDB)
Rwanda Development Board (RDB)
Kigali Innovation City (KIC) – Rwanda
Rwanda ICT Chamber at the Private Sector Federation (PSF)
Rwanda Information Society Authority (RISA)
Rwanda Utilities and Regulatory Authority (RURA) – IREMBO
Seed Technology Engineering & Science GROUP (Internet of Things, IoT) (*youth entrepreneur*)
Strategy & Policy Council, Office of the President - Rwanda
Sustainable Growers – Rwanda
The SDG Centre for Africa
University of Lund
University of Padova, Italy
University of Rwanda (UR)
Westerwelle Startuphaus

TWITTER LINKS

<https://twitter.com/MafiniDosso/status/1215183510715150336>
<https://twitter.com/MafiniDosso/status/1216652647555633152>
https://twitter.com/Laura_Polverari/status/1215176492835057664
<https://twitter.com/alerainy/status/1215349835127304192>
<https://twitter.com/MafiniDosso/status/1215263518200664065>
<https://twitter.com/MafiniDosso/status/1215256040582918144>
https://twitter.com/Laura_Polverari/status/1215264698855239683
<https://twitter.com/MafiniDosso/status/1215263518200664065>
<https://twitter.com/DigiCenterRW/status/1215585854237876225>
https://twitter.com/Laura_Polverari/status/1215555809507147776
<https://twitter.com/DigiCenterRW/status/1215559818146189312>
<https://twitter.com/DigiCenterRW/status/1215561989377921026>
https://twitter.com/Laura_Polverari/status/1215581166075551744
<https://twitter.com/MafiniDosso/status/1215561864928747520>

GETTING IN TOUCH WITH THE EU

In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696, or
- by electronic mail via: https://europa.eu/european-union/contact_en

FINDING INFORMATION ABOUT THE EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: https://europa.eu/european-union/index_en

EU publications

You can download or order free and priced EU publications from EU Bookshop at: <https://publications.europa.eu/en/publications>. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en).

The European Commission's science and knowledge service

Joint Research Centre

JRC Mission

As the science and knowledge service of the European Commission, the Joint Research Centre's mission is to support EU policies with independent evidence throughout the whole policy cycle.



EU Science Hub

ec.europa.eu/jrc



@EU_ScienceHub



EU Science Hub - Joint Research Centre



EU Science, Research and Innovation



EU Science Hub



Publications Office
of the European Union

doi:10.2760/954014

ISBN 978-92-76-18116-3