Supporting inclusive growth on the sub national level: A stage model for supporting the development of inclusive innovation systems

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Semi grounded – some ongoing work in this area

- Research on the role of the university.
- How regional government could leverage existing instruments for supporting innovation.
- Globelics paper – university-driven technology based inclusive innovation.
- Developing an institutional framework to integrate / institutionalise “inclusive innovation” practices in university.
- Innovation platforms project – various models and roles for actors.
- NRF Centre of Excellence: sciSTIP projects:
  - Analytical approaches to inclusive innovation
  - Evaluation frameworks and mechanisms for inclusive innovation systems – considering systems change

The problem statement – perceived difficulties for provincial government to support traditional strategic innovation?

- Many economic development specialists in SA remain **unsure of how best to approach this** on the regional government level.
- **Systemic weaknesses** of the regional innovation system have **not been assessed systematically**
  - Weaknesses unknown
  - Prioritisation of activities not clear
- The **development of strategic plans** for innovation on the regional level new focus in SA
  - Initiatives implemented on regional level individual projects without coherent overarching framework
- The **innovation support function is cross-cutting** and not a separate function with major governmental support mechanisms mostly centred in national government
  - This makes the support on the provincial level difficult but there are mechanisms to regional government's disposal outlined in our case study

Inclusive innovation

- Inclusive innovation refers to the **improvement of living conditions** and **creation of employment opportunities for the poor** through the development of **new products, services, processes and business models** aimed at resource poor communities.
- Conceptualisations of inclusion in the innovation process may include (Foster & Heeks, 2013; Swaans et al., 2014; George et al. 2012; Dutz 2007):
  - **The problem statement:** The extent towards how the problems being addressed are relevant to poor people;
  - The **process of innovation:** The extent to which the poor are involved in the development of innovations be that goods or services;
  - The **adoption or absorption of innovation:** The extent towards how the poor are able to use innovation or have access to these innovations;
  - **Economic inclusion:** The extent to which the poor may benefit economically from innovations;

Examples of such projects

- Indian examples -
  - Solar panels – engineers in villages
- South African examples
  - Money for Jam

Consider the nature of university-driven inclusive innovation projects

Findings from case studies of university-=driven inclusive innovation projects in the Western Cape – Globelics conference 3 weeks ago

- The **range and presence of actors** involved in the process (university, knowledge brokers, intermediaries, cooperatives, NGOs);
- **Formal and informal relationships** play an important role
- Project champions – **tenuous relationship** in some cases
- Partners may serve as enablers – **form and nature of partnerships**
- Drivers, types and forms of the development of knowledge e.g. **"co-creation"**
- **Capabilities / competence** of actors (e.g. Knowledge, Partnering, Communication, Technology, Management, Marketing, Manufacturing, Lobbying);
- Developing and characterising **capability to learn and adapt** through e.g. **absorptive capacities** in actors;
- Universities acted in these projects as **value chain integrators**
- Various models for **engagement** and also **reasons for engagement and participation**

Our big questions

- How can we **conceptually deal** with this? i.e. How can we analytically approach this?
- What is it that we want to achieve? What are **inclusive innovation system goals**?
- What **mechanisms do we have to our disposal** to manage the system to achieve systems goals?
- How do we ensure projects or entry points become more established and develop into **new growth paths?**
- What does this mean for **regional government**: an example of an innovation platform stage framework?

Three major constructs to assist the analysis process and to operationalise industry support measures

Value chain approach

- Character of geography and linkages between firms
- Mechanisms for exerting and distributing power
- The role of institutions in structuring business relationships and industrial location
- Allows for inclusion geography in analysis e.g. pressures of globalisation

Cluster approach

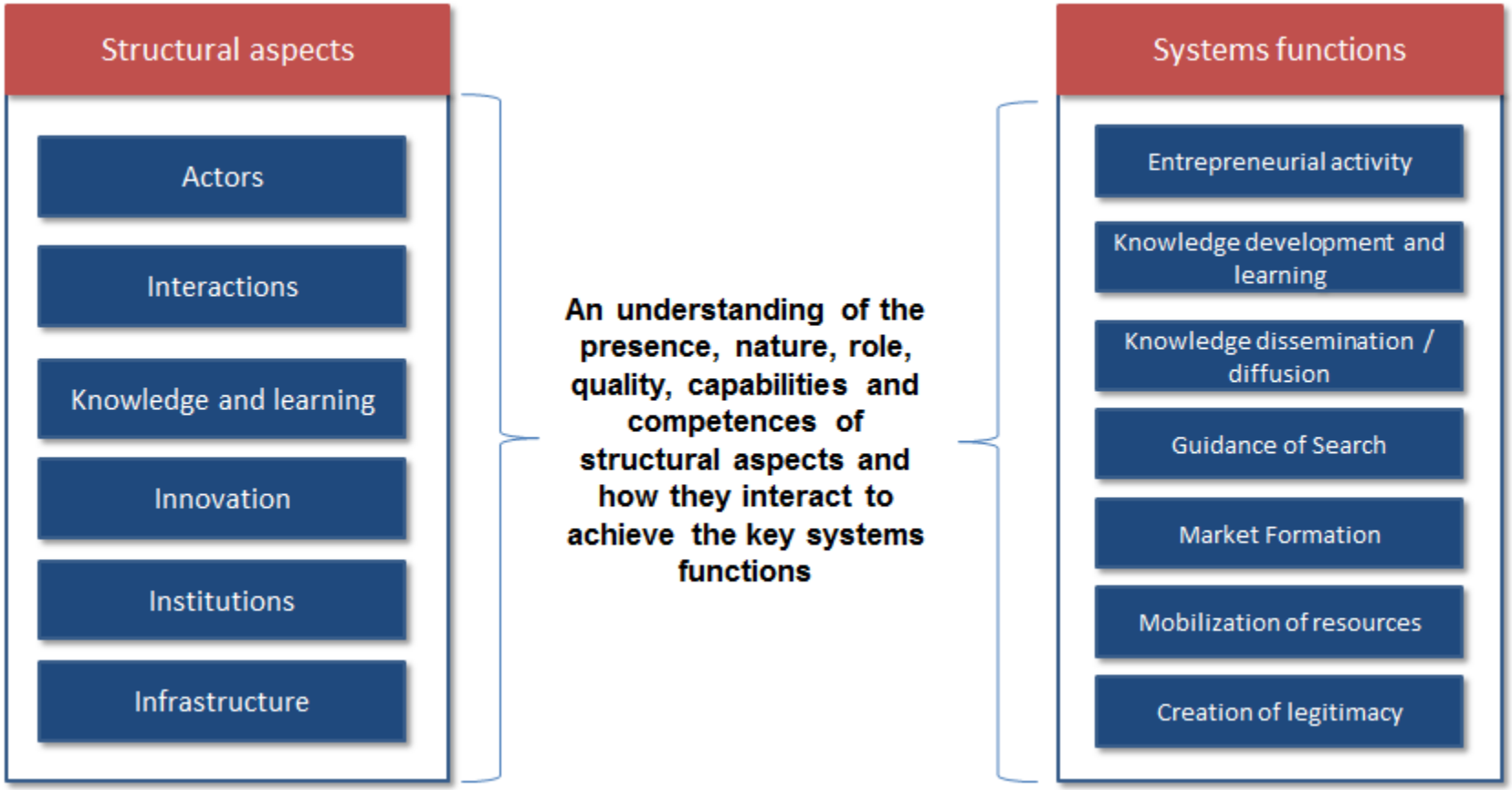
- Clusters incorporate multiple value chains – focus on sector and multiple factors and inputs into entire system.
- Clusters provide the widest strategic perspective on a sector, and must include an understanding of the various value chains and relationships

Innovation systems

- Allows for the analysis of components in the system, their role and quality of these components
- Allows for a functional analysis to identify the range of functions that an effective innovation system supports towards its goal of developing and diffusing innovations

These frameworks should be used in unison as they are complementary

One way to deal with this conceptually: The innovation systems approach



Structure and process components

Component	Category	*Systemic instrument goals*
Actors	Presence	Stimulate and organise the participation of various actors (NGOs, companies, government etc.).
	Quality	Create space for actors' capability development (e.g. through learning and experimenting).
Interaction	Presence	Stimulate the occurrence of interaction among heterogeneous actors (e.g. by managing interfaces and building a consensus).
	Quality	Prevent ties that are either too strong or too weak
Institutions	Presence	Secure the presence of (hard and soft) institutions.
	Quality	Prevent institutions being too weak or too stringent.
Infrastructure	Presence	Stimulate the physical, financial and knowledge infrastructure
	Quality	Ensure that the quality of the infrastructure is adequate (strategic intelligence serving as a good example of specific knowledge infrastructure).

(Wieczorek & Hekkert, 2012) – structure and link to systemic instruments and goals

Goals of inclusive innovation systems

- Goal of a traditional innovation system is to “develop and diffuse innovations”
- A proposal for a “Great Socio-Economic Experiment” – **RESPONSIBLE** experimental approach to inclusive innovation projects and programmes (Rip. 2015)
  - **Inclusion on fair terms** – critical of term “exclusion”
  - Developing a “**new constellation of actors**”
  - Developing **appropriate capabilities** in actors
  - Developing an **institutional environment** conducive to the development of linkages and relationships that **increase in depth and value over time**
  - Increase in **competitiveness and productivity** as to ensure sustainable inclusion in the value chain
  - Sustainable **development and participation**
  - **Raising standard of living and economic benefit** to a wide range of actors in the value chain

Establishing entry points and to develop them into growth paths

- Develop **systemic instruments** through which the **operation of the system as a whole can be improved**
- **New bottom-up** process - **reconsider** the way we implement **traditional mechanisms** for regions
- Needs to be developed with **long-term in mind**:
  - **Develop entry points** – various range of mechanisms from where to support bottom –up behaviours
  - Process needs to support a **dynamic of increasingly depth and meaningful interactions**
  - Process needs to be **sustained over time**
  - Overtime **institutionalise and become more permanent** – develop a system

Innovation support on the Provincial level in South Africa

- The application of economic tools such as **entrepreneurship**, **trade and investment support** , **competitiveness upgrading** and general **business support** is more mainstreamed than innovation on regional level in South Africa (Turok, 2010).
- Five functions play a crucial role in the management of present-day innovation processes:
  - The management of interfaces;
  - Providing a platform for learning and experimenting by creating the right conditions;
  - Providing infrastructure e.g. ICTs, engagement, strategic intelligence;
  - Stimulating demand articulation, strategy and vision development;
  - Constructing and deconstruction (sub) systems.

Mechanisms for inclusive innovation support

Supply-stimulating instruments	Exchange, engagement and information sharing instruments	Demand-stimulating instruments
• Coordination role / support mechanisms to drive inclusive innovation activities • Engaged scholarship in knowledge producers – specifically universities • Sustainability considerations: Business models and funding models for inclusive innovation e.g. mechanisms for companies to sink CSR costs • Training of problem solvers in multi-and trans-disciplinary research and disciplines • IP rights issues • Capacity building in communicates, training, skills development	• Facilitation of partnerships in innovation partners with communities • Developing trust and relationships between problem solvers and communities • Understanding problems better: Support and coordination of community engagement platforms and mechanisms, cooperatives • A new breed of extension workers – social innovation focus • Developing innovation platforms	• Procurement policies and projects for innovation in development • Improved awareness of challenges and problems facing communities

Key parameters for analysing IP formation and functioning

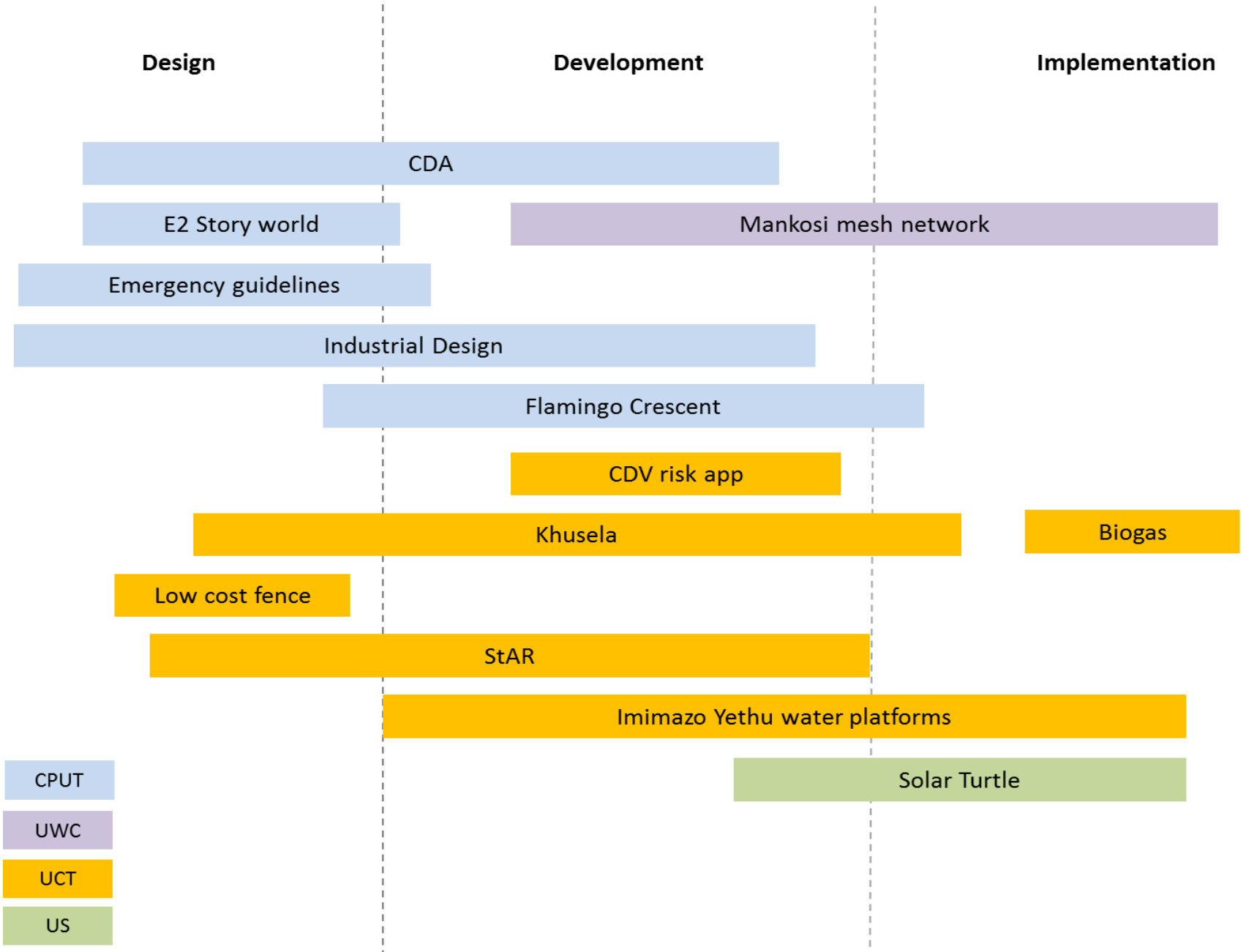
Category	Parameters
IP formation – "design with intent"	Inclusion and representation
	Focus tasks and roles
	Identification of constraints and opportunities
	Knowledge skill sand interests
	Organisational structure and governance
	Resources
IP functioning – "manage and reflect"	Participation, commitment and ownership
	Information exchange and communication
	Use of diversity in knowledge and skills
	Systemic planning, action, reflection
	Capacity building
	Facilitation and management
	Resource mobilization

Swaans on Innovation Platforms

To conclude

- The application of economic tools such as **entrepreneurship**, **SMME support**, **value chain upgrading and sector development** well established in some cases
- Why not embark on a "Great Socio-Economic Experiment"
- Embedding innovation as a focus is merely a shift in accent and emphasis that is required:
  - **Not a complete overhaul of the system** – there is already aspects of mechanisms required in place
  - **Experimental approach to facilitate bottom-up processes** using "what we have"
  - Sustainability and continuity: Need to consider this as a process that will take time

Where do community members participate?



Inclusive innovation project	Description
Aquatest	To design and develop the water quality reporter cell phone application for transferring recorded water quality results and observed aspects (risk assessment, sanitary inspection forms) to a centralised database
ARTIST	The research, development & commercialisation of real-time video services at low data consumption levels for users in low bandwidth environments (real-time live video delivery services offer immense potential for social transformation in developing countries where resources and expertise are scarce and narrowly focused in urban areas)
Biogas	A waste management and energy generation project to show that source separated food waste can generate energy
Care Data Aid app	The Care Data Aid (CDA) application consists of a web based admin system and a mobile application designed to replace the paper- based system currently employed by a number of Home Based Health Care (HBHC) institutions in South Africa. This application is an attempt to strengthen the data collection and reporting processes of caregivers, thereby increasing data accuracy and efficiency in HBHC institutions.
CVD risk app	An efficient and effective mobile phone application for basic feature phones capable of measuring CVD risk
Emergency guidelines	A mobile application to give healthcare practitioners easy access to South African emergency guidelines
Flamingo Crescent	Urban planning for informal community, including re-blocking, breaking down and rebuilding shacks & upgrading shacks
Imizamo Yethu water platforms	The design and construction of water platforms in the Imizamo Yethu informal settlement in Hout Bay, to provide a more dignified place for water collection, space for washing of clothes and integration of these with toilet facilities. Serve as social gathering places.
Khusela (Lumkani)	Lumkani ('to be aware') is a low cost fire detecting and an early warning system to reduce the damage and destruction caused by the spread of fires in urban informal settlements.
Low cost fence	A fencing material that is 'unstealable' (i.e. cannot be used for fuel, contains no metal – taken for recycling), yet is safe for children's play area and does not block the view (safety factor).
Mankosi (Zenzeleni)	The installation of a wireless mesh network as a cost-effective alternative for last mile telephone connectivity to a rural area in South Africa
Solar Turtle	The Solar Turtle functions as a solar distribution point or mobile power station and can reduce the use of kerosene as a primary energy source in unelectrified areas.
StAR	A process of clinic appointment and medication pick-up reminders, medication adherence support and hypertension-related education delivered by SMS-text to achieve blood pressure control
Sustainable housing	The project designs and constructs a fully functional model-house with alternative and sustainable building materials, using building methods, which are suitable for owner-building and cheaper, with increased energy efficiency and quality than conventional building, for local people to experience.
Water purification pots	Clay pots containing silver zeolites, for simple and safe purification of water