POLICY BRIEFING NOTE

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PURPOSE OF THIS BRIEFING NOTE

The South African environment with its relatively sophisticated economy, large percentage of population that remains unemployed that can also be characterized by huge inequalities places the country in a unique position for a "Great Social Experiment" (Rip, 2015). Such an experiment may allow for the exploration of new ways of learning, new forms of collaborative problem solving and new growth paths that will allow for inclusion of the poor. We propose in this paper that through inclusive innovation approaches alternative growth paths may be created that will entail new constellations of actors, new collaborative approaches and a focus on collaborative problem solving (Rip, 2015).

We draw a number of general propositions towards conceptualising and operationalising inclusive innovation within the Innovation System (IS) and Value Chain (VC) frameworks. This is followed up with some proposals of how the innovation system and global value chain approaches could contribute to the development of an analytical framework for operationalising inclusive innovation. We conclude with some suggestions towards developing a stage framework for supporting and developing inclusive innovation systems and value chains – specifically focused on an innovation platform approach.

To move a step closer to conceptualise what the creation of an inclusive innovation system may mean practically, we propose the following key questions to be asked:

- 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?
- How can we conceptually deal with this? i.e. How can we analytically approach this?
- What does this mean for regional government: an example of an innovation platform stage framework?

BOX 1: What is inclusive innovation?

"Inclusive innovation" has been proposed as a promising approach towards which new growth paths may be created and where the poor/underserved may also benefit from the fruits of innovation. Inclusive innovation is the means by which new goods and services are developed for and/or by a broad range of actors including those living on lower incomes.

Conceptualisations of inclusion in the innovation process may include (Foster & Heeks 2013a; 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.

RECOMMENDATIONS

Should South Africa embark on a "Great Social Experiment" it may entail developing proof of concept innovation projects and programmes that may involve a "new constellations of actors" that also includes non-traditional actors. These actors will have to engage in new forms of collaborative learning and knowledge production which will require novel approaches to Science and Technology and Innovation (STI) policy where traditional top-down approaches will have to be augmented with considering how bottom-up processes could be supported. An important factor to be considered is that an important role needs to be reserved for the private sector in stepping into this space where market-based solutions need to be sought for sustainably involving, engaging and benefitting the poor and presently underserved (Rip. 2015).

The bottom-up processes that need to be stimulated means a whole new range of instruments and mechanisms to drive behaviour from the bottom-up. This has major implications for the role of local and regional government. The range of mechanisms under control of regional government such as enterprise development, cluster support and trade facilitation are possible effective platforms for supporting experimental projects.

An experimental approach towards supporting inclusive innovation projects may provide an ideal learning environment for public sector but also private sector and community organisations about what works for whom, under which circumstances and why (Tilley & Pawson, 2000).

BOX 2: A thought on redefining the rationale for STI policy-making

One may question whether within an inclusive innovation system framework one may include the failure of the system to create opportunities for including the marginalised in various aspects of innovation and predominantly to benefit from progress as a systems failure. This then may also be argued to form the basis for a new set of policy mechanisms and instruments and an additional rationale for government intervention. This then becomes a question for institutional design that allows for inclusion and also to sustainably develop value chains for industries that can support inclusive development. Many pitfalls may be conceptualised here in that there certainly is potential that an anti-business or sub-optimal intervention scheme may result where traditional business and value chains may become uncompetitive. This will finally lead to the demise of such sectors or industries.

Here some guidance from the value chain perspective will be highly instructive as this helps us to consider competitiveness, rents, sources of rent, the supply chain and input-output processes and also to include sustainability and innovation integration in the process. Furthermore, the value chain approach has much emphasis on developing market-based approaches to pro-poor development which arguably may be a core consideration should one want to ensure sustainable and business friendly mechanisms for inclusive development. It allows for the acknowledgement of the globalized nature of value chains, the realities of competing and surviving in value chains through the governance mechanism and may provide a basis for benchmarking.

WHAT IS IT THAT WE WANT TO ACHIEVE? WHAT ARE INCLUSIVE INNOVATION SYSTEM GOALS?

The goal of the system within an inclusive innovation systems perspective implies that the innovation systems goal should be expanded from "the development and diffusion of innovations" to inclusion related goals. Such a shift in systems goals will require some transition not only in the nature of the components of the system but also the systems functions. Here one may argue that considerations will need to be given to transactional vs transformational interventions. These in turn may be useful to consider appropriate systemic instruments through which transformation could take place.

BOX 3: What are systemic instruments?

Linking up with the rationale for STI policy, one way of developing a scheme along which one can attempt to consider the creation of opportunities for the poor to be included in systems, is to formulate systemic instrument goals aimed at improving the operation of the system (Wieczorek & Hekkert, 2012). Here the systems failure rationale for selecting and developing policies is important. (Bergek, Jacobsson, Carlsson, Lindmark, & Rickne, 2008). In actual practice, 'systemic instruments' take the form of specific interventions that in one way or another need to address relevant system imperfections and failures (van Mierlo, Leeuwis, Smits, & Woolthuis, 2010).

One may conceive a process where a clear statement of the nature of an inclusive innovation system may be outlined as:

- Inclusion on fair terms.
- 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.

As the informal market vastly differs from the formal market, new and innovative solutions are required to bridge these differences. The following table summarise the key characteristics of inclusive innovation systems (Swaans et al., 2014):

Component	Inclusive innovation system
Actors	Main focus on: Low-income consumers Non-traditional, less formal, demand-side innovators Chain of innofusion intermediaries linking 'distant' supply and demand
Innovation	Incremental innovation with a focus on diffusion processes Local needs-oriented innovation as appropriation, configuration, use variation, domestication Demand-driven and context-driven innovation Non-technical innovation with focus on social systems of sales and support Reverse innovation
Learning	Contextualised (supply, demand, other) learning by interacting and using and doing Learning about diffusion (sales and support) and use Learning about wider social processes including non-instrumental processes Survival and utility-maximisation a guides
Interaction	Necessity (but also limitations) of informal, loose but socialised relations

Institutions	Complex institutional terrain of informal and formal
	Indirect impact of core, formal institutional forces
	Importance (including potential negative impact) of informal institutions at local level

WHAT MECHANISM DO WE HAVE TO OUR DISPOSAL TO MANAGE THE SYSTEM TO ACHIEVE SYSTEMS GOALS?

Starting from the co-evolutionary development of innovation practice, theory and policy, five functions are identified that play a crucial role in the management of present-day innovation processes and requires close attention in any system (Smits & Kuhlmann 2004, van Mierlo et al. 2010):

1) Managing interfaces;
2) Constructing and deconstructing (sub) systems;
3) Providing a platform for learning and experimenting by creating the right conditions;
4) Providing infrastructure for strategic intelligence, and;
5) Stimulating demand articulation, strategy and vision development.

One may then argue that the establishment and development of an inclusive innovation system will draw these mechanisms to develop such a system. The nature and focus areas of such management functions may however be different from traditional innovation systems.

Regional economic development instruments within the South African context traditionally entail enterprise development, investment and trade promotion as well as cluster development. We propose that a new dimension be brought to these support functions to support innovation and in particular inclusive innovation. The following table summarises some mechanisms that may be implemented toward this purpose:

Table 1: Instruments for support gin inclusive innovation on the regional level

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

HOW DO WE ENSURE PROJECTS OR ENTRY POINTS BECOME MORE ESTABLISHED AND DEVELOP INTO NEW GROWTH PATHS?

By considering stages for developing inclusive innovation systems one may be better equipped to consider the transition pathway of inclusive innovation systems and also how a system may be transformed over time to have as its goal the effective inclusion on fair terms for the poor.

As a *first stage*, drawing on the ladder of inclusive innovation, various stages for inclusion / dimensions for inclusion have been suggested namely intention, the use of products and the inovation process itself which we argue may be implemented either on the project level or will be present and implemented as a routine function after the appropriate structural and functional processes have been achieved by mainstreaming such activity through the system's design.

As a second stage, the development of the structure and post structure of the system as well as the actual impacts and economic benefits to the poor achieved are essential in order to ensure the transformation of the system and also through that to have a transformational effect on the economic situation of the poor.

ANALYTICAL APPROACHES TO CONSIDER INCLUSIVE INNOVATION

The inclusive innovation systems perspective is a useful conceptual method to consider the inclusion of marginalised groups in formal systems through innovation. The innovation systems approach has a very strong systematic method for mapping the determinants of innovations, hence providing a strong analytical power. The components and functional approaches are at the core and enables the analysis of innovation systems on the basis of the exclusion process / inclusion on unfair terms.

One may therefore argue whether within an inclusive innovation system framework one may include the failure of the system to create opportunities for including the marginalised in various aspects of innovation and predominantly to benefit from progress as a systems failure. This then may also be argued to form the basis for a new set of policy mechanisms and instruments and an additional rationale for government intervention. This then becomes a question for institutional design that allows for inclusion and also to sustainably develop value chains for industries that can support inclusive development. Many pitfalls may be conceptualised here in that there certainly is potential that an anti-business or sub-optimal intervention scheme may result where traditional business and value chains may become uncompetitive.

Here some guidance from the value chain perspective will be highly instructive as this helps us to consider competitiveness, rents, and sources of rent, the supply chain and input-output processes and also to include sustainability and innovation integration in the process. Furthermore, the value chain approach has much emphasis on developing market-based approaches to pro-poor development which arguably may be a core consideration should one want to ensure sustainable and business friendly mechanisms for inclusive development. It allows for acknowledging the globalized nature of value chains, the realities of competing and surviving in value chains through the governance mechanism and may provide a basis for benchmarking.

Although value chains as an analytical construct has been critiqued due to the lack of empirical work on the process of exclusion and inclusion and the phenomenon of upgrading in value chains, it does provide an additional dimension to the innovation systems approach by bringing a globalized perspective and some focus on the governance and upgrading processes (Morrison, Pietrobelli, & Rabellotti, 2006).

The most obvious lesson found for Global Value Chains (GVC's), from innovation studies is that the outcome of integration in a GVC will be determined by the effort made inside the firm, the regional and national context as well by the specificity of the industry (Jurowetzki, 2015). Where in turn the GVC approach may assist in understanding the limitations of the national system perspectives and strategies in relation to innovation in a globalized world (Ernst & Kim, 2002)(OECD, 2012).

BOX 3: Why is the innovation systems perspective useful for our purposes?

- Assists in the comparison of innovation system performance with other institutional set-ups.
- Provides a systematic method of mapping determinants of innovation and thus increasing the analytical power of innovation system.
- Deliver a clear set of policy targets and instruments that meet these targets.
- 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.
- Allows for various functions an actors to take on a different shape during various stages of development of an innovation system.
- System failure approach allows for redefinition to define processes of exclusion or inclusion on unfair terms as "systems failures" and therefore basis for intervention.
- The design of systemic instruments through which system goals could be achieved.

BOX 4: Why is the Global Value Chain perspective useful for our purposes?

- Access to opportunities: Allows for a mechanism through which one may have a structured approach to identify opportunities of how poor people can gain access to opportunities in the value chain e.g. engage in regional or international trade.
- The value chain places competitiveness, economic viability and suitability at the core and has mostly a market-based focus in the range of mechanisms introduced to strengthen chains.
- Provides a diagnostic tool to identify blockages and target groups, the design of robust and effective policies - it is basically a practical framework for a normative approach but also to diagnose issues for formulating interventions.
- Useful to identify core rents and barriers to entry – specifically allowing for how one may support the poor to participate considering key mechanisms for upgrading namely: the need to improve system efficiency; product quality; product differentiation; social and environmental standards; and the business environment.
- It is scalable and can be applied to clusters of firms but also nations and regions. It is therefore evidence based and action oriented – it also can be focused on the firm level and show what specific firms need to do and is not overly reliant on issues such as "competitive advantage factors" that may be difficult to act on and provide few clues on developing strategic interventions.
- The aim is to locate the biggest and most costly value chain weaknesses, dysfunctional links and most costly inputs. This means it is a means for analysis and understanding systems weaknesses and failures, cost drivers, risk, opportunities, sustainability, resilience, competitive advantage, localisation issues, strength of the supply base and routes to market.
- The impact of globalisation on the dynamics in the value chain can effectively be included as these are part of the mapping process; Extra-regional issues and their impact on the value chain;
- The role that institutions play in structuring business relationships and industrial location is useful.

AN EXAMPLE OF A STAGES DEVELOPMENT FRAMEWORK: AN INNOVATION PLATFORM

There is an extremely small literature on the application of the innovation systems framework within the context of the inclusive innovation approach with an even smaller number of authors that have applied this to analyse the Innovation Platform (IP) concept within this context. We propose the **inclusive innovations systems** approach and its utility as a micro-level framework for the understanding of the development of the innovation platform concept. This framework provides guidance by drawing on the component based approach to identify the range of components that need to be included and developed through the innovation platform. The components based view guides us along the various areas for capacity development and also the

various key components that need to be considered in the development of the innovation platform. Integrated in the structural approach of the components we attempt to also consider various systems functions to support the planning and also operational phase towards the definition of a roadmap for the Innovation Platform and how it will support those functions directly or indirectly.

Swaans et al.'s (2014) study on inclusive Innovation Platforms suggest approaching the development of an Innovation Platform through two phases namely "Formation" and "Functioning". Furthermore, Swaans et al. (2014) define a range of parameters for each of these phases of the IP through which they suggest various areas of consideration for the IP formation and operation phase and assist in developing the definition of key functions to be supported during the various stages of the IP.

We propose to structure the discussion along a range of mechanisms through which the intermediary platform can support the strengthening of the local innovation system. We therefore proceed to consider how systems components can be strengthened and capacity be developed in order to successfully support the performance of systems functions.

The following section now aims to map and discuss the development of the innovation and RU platform within the   innovation   system   perspective.

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

	Stage 1: Activities to be performed during the formation stage	Stage 2: Activities for the Operation of the platform
Aim	• The overall goal for the formation stage of the innovation platform is scoping and narrowing down the focus of the platform while gaining a solid understanding of the context (S)	• The Operation phase of the IP is concerned with the everyday running of the platform with a focus on continued participation and commitment, collaboration, facilitation and management and the mobilisation of resources. Here the focus is on a systemic process of iterative action, reflection and adaptation – also reacting to unforeseen events
Innovation	• **Guiding the search** by supporting a clear vision of how knowledge and transfer of technology will support development of community; understanding the expectations and if it blocks the development of the engagement platform	• **Supporting the development of technologies or services** for supporting the economic and social development of the community • **Supporting entrepreneurial activity** to ensure long term longevity and financial sustainability of the initiatives and projects undertaken. • **Supporting access to markets** could be achieved through the facilitation of access to value chains and the innovation system actors linking actors to markets • **Continued guidance of search activities**
Actors	• **Inclusion and representation (S)** through Identifying and inviting relevant representative actors and by including mechanisms to ensure representation to support exploring the role of actors • **Focus tasks and roles (S)** through choosing the level of operation of actors and actors and setting up the governance framework for the IP.	• **Driving participation, commitment** and ownership of the projects and the activities engaged in for the Innovation Platform • **Seek opportunities for participation** of the poor by identifying key barriers toward involving actors and the key barriers toward participation on equal terms
Knowledge development and Learning	• **Explore the knowledge skill and interests** of participants to understand and take stock of the range of skills and knowledge of actors with potential assessment and to understand the capabilities of various actors and what they bring to the environment	• **Knowledge dissemination and diffusion:** The role of the university is to support the development of the knowledge economy and to support community and economic development. The role of the innovation platform is also to support the diffusion of ideas and technologies or new processes • **Drawing on existing capacity and developing new ones:** Diversity of range of skills and knowledge of various actors need

		to be effectively tapped into and capacity building needs to be undertaken of the various actors (Dimensions of capacity development?)
Interaction	• **Visioning and planning** of the goals of the IP through participatory approaches and engaging a wide range of stakeholders and developing trust.	• **Facilitation and management and interactions** for supporting the continued strengthening of links and trust relationships and to include appropriate stakeholders • **Information exchange and communication** - The effectiveness of two-way information flows and participation on equal terms
Institutions	• **Setting up hard and soft institutions:** Within the setup phase, the focus should be on gaining buy-in from quintuple helix partners and developing rapport and trust between partners while managing risks for potential issues and conflict. Organisational structure and the governance framework are determined depending on representative actors. Here the issues of consideration of ethical issues and the management of expectations is of utmost importance to ensure continued buy-in.	• **Strengthening and maintaining hard and soft institutions** through facilitating increased commitment and supporting a dynamic of deeper relationships with stakeholders over time. Continued management of expectations, providing leadership and developing trust • **Legitimacy - of resources and commitment** entails consideration of resistance to change and the process of managing the establishment of trust in new ideas and solutions
Infrastructure	• **Access to Resources and facilities** should be gained and secured through planning for resource requirements; exploring resources and infrastructure available through network and the finally to secure the resources required;	• **Establish knowledge sharing platforms and machinery** which includes the key aim of the platform towards supporting the transfer of knowledge and technology to support the development of the community • **Mobilising resources** includes human, financial and physical resources required to successfully engage an implement projects

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