Configuring An Innovation Ecosystem

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While configuring innovation ecosystems, we need to keep in mind some basic design considerations:

1\textsuperscript{st}: leadership
IEE initialization and cultivation needs to be undertaken by the country’s top leadership, no less. Need to make critical decisions
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2nd : Intent
The creation of the system is a purposeful, visionary, resilient undertaking and not the outcome of spontaneous unfolding Complexity, vision, policy, funding,..

3rd : Systemic Nature
- An IES is a complex integrated structure of a synergetic set of interacting and interdependent components
- IESs are quite varied in genesis, habitat, context; still a SYSTEM
- Due to the nature of the rapidly changing nature of the innovation pathway, the innovation system needs to remain open and lean
- It is a learning system, highly nonlinear
- Minimal requirements, structural integrity
- Missing, weak or dysfunctional components, or linkages, can seriously compromise systems flow, performance and yield
- Structural defects, or flaws must be rectified
- Consistent calibration and synchronization
- Innovation climate and habitat
Innovation Ecosystem
4th: The Grand Multi Stakeholder Partnership

- Although IES can take a variety of forms, they almost always include strategic stakeholders from government [various agencies], business, industry, finance, academia, legislation, etc.
- These stakeholders are driven by different ethos [disposition, character, value system, driving motivation, underlying spirit, ideas and customs, tempos, ...etc.]
- Hence passivity and comfort zones boundaries
- Trans-disciplinary community/network
- Motivating, operating, orchestrating, synchronizing, the respective roles/inputs of system partners/components is a major challenge
- Industry university partnerships, public private partnerships,
- Slipping into tokenism.
Partners in the Innovation Ecosystem
5th: Competent Operating System: Critical Role of State

- Vision, Commitment and Direction
- Articulate Commitment within National Development Strategies
- Derive sectorial priorities
- Mobilize top level expertise [from academia, business and civil society] in leading various initiatives and programs
- Mobilize and fuel, critical mass of resources; scale considerations
- Priming and mobilizing various funding, investment, lending and financing schemes
- Catalyze scaling
5th: Competent Operating System: Critical Role of State

- Formulate and rationalize differential merit based university R&D support [centers of excellence, government contracts, clustering, specialization, ..]
- Build or co-create knowledge and technology transfer centers
- Catalyze the formation of incubators and accelerators and create effective flow channels and pipelines
- Create enabling IP frameworks and cultivate integrity across systems
- Leverage diaspora brain trust
- Encourage innovation
AMP Steering Committee

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### Comprehensive Fiscal Incentives to support Innovation

<table>
<thead>
<tr>
<th>Nature of the Scheme</th>
<th>Scope and Coverage</th>
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<tbody>
<tr>
<td><strong>Government Grants</strong></td>
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<tr>
<td>• National Research Program</td>
<td>Established in 1982</td>
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<tr>
<td>• Industrial Basic Technology Development Program</td>
<td>Designed to promote joint R&amp;D between private firms and public R&amp;D institutions</td>
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<td><strong>Government's Loan Program:</strong></td>
<td>Focused on basic technology development</td>
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<td>Government funds which are utilized to</td>
<td>Large companies: up to 50% funding support</td>
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<tr>
<td>Provide firms with loans at concessional rate</td>
<td>Small enterprises: up to 80% funding support</td>
</tr>
<tr>
<td><strong>Loan Financing of Special Financial Institutions</strong></td>
<td>Established in 1987</td>
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<td>• Korea Development Bank Program</td>
<td>Designed for the commercialization of locally developed technologies</td>
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<tr>
<td>• Industrial Bank of Korea Program</td>
<td>Large companies: 40-50%</td>
</tr>
<tr>
<td>• Citizens National Bank Program</td>
<td>Small companies: 50-60%</td>
</tr>
<tr>
<td><strong>New Technologies Financing and Start-Up Financing</strong></td>
<td>Industrial Promotion Fund</td>
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<tr>
<td>• Korea Technology Bank and three other new technology financing companies</td>
<td>Industrial Technology Promotion Fund</td>
</tr>
<tr>
<td>• Korea Technology Investment Corporation and 52 other start-up support financing companies</td>
<td>SMI Restructuring Fund</td>
</tr>
<tr>
<td><strong>Technology Credit Guarantee Fund</strong></td>
<td>Science and Technology Promotion Fund</td>
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<td>• Credit guarantee is provided to firms developing new technology</td>
<td>Manufacturing Industry Competitiveness Promotion Fund</td>
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<td></td>
<td>Information and Communication Technology Development Fund</td>
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<td>Development Fund</td>
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<td></td>
<td>Excellent Demonstration Prototype Support Fund</td>
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<tr>
<td></td>
<td>SMI Start-Up Fund</td>
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Transform Education Systems to become more conducive to creativity and innovation, cultivating talent and the unfolding of the “Treasures within”

Public Education

Ethos and prevalent trend: route learning and memorization, rigidity [vertical and horizontal], standardization, compliance, teaching for correct answers, flattening, ancient, sluggish, ...slow learner

Several reform agendas have failed because they facelift basic constructs

Need to reconsider basic assumptions and norms: why do we teach/learn

What is the return on such a huge investment?
University Education  [University without walls]

Widening horizons
Internationalization
Incubators for local and global citizenship
Fostering inquiry, intellectual courage, imagination, ...
Cultivating integrity
Celebrating diversity and multiple perspectives
Encouraging creative thinking, initiative, engagement
Array of partnerships and reach-out initiatives
Growing a culture conducive to entrepreneurship and innovation
Centers of excellence, incubator, ....
Porous to business and civil society
Creative and flexible incentive schemes [business inspired]
An inclusive, stimulating, and enabling ecosystem
PTU : Cultivating and unleashing talent

An array of related initiatives

Facilitating access to information and stimulate engagement

Support student clubs and initiatives

Widening horizons and international exposure

A course on entrepreneurship / creative approaches

Guest lecture series  [Horizons Innovation Forum]

Dozens of partnerships with business, civil society and government
Dozens of training workshop on “Soft Skills”

Establish centers of excellence

Launch international exchange program [NCSU]

Start an incubator [A Trilateral Partnership]

Undergraduate research conference and exhibition

Introduce incentive schemes

A deanship on innovation

Mediatization
7th : Limiting and Risk factors

- Blurred vision and compromised will
- Tokenism and subconscious hypocrisy
- Individual and Institutional narcissism: sylos and fragmentation
- Scale [in ideas, financing, expertise, ..]
- Government system inefficiency, excessive bureaucracy and corruption
- Lack of sufficient Sophistication / maturity of business, industry and financing landscape
- Cultural impediments
- Turbulent habitat
- .....
An Idea

Would it be feasible / sensible to set up an Innovation Advisory which provides pan Arab advisory services on configuring innovation systems and possibly undertake an audit of current structural design identifying gaps and leverage points?