National Innovation System (NIS) and Innovation Governance

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Elements of a NIS

- Innovation Policy
- Innovation Executive
- Government Support
- Third Generation University
- Entrepreneur
- Market
- Technology
- Intermediaries
- Services
- Finance
Analysis KZ NIS - core elements

- **Technology** KZ only spends 0.16% of GDP on R&D (Russia: 1.2%, EU target: 4%)
- **Markets** are hungry for new products and services
- **Finance** is available in KZ in different forms
- **Intermediaries** are present in the NIF, ministries and regions
- **Services** are plentiful
- **Entrepreneurs**: although there is much entrepreneurship, this seems to be the bottle neck
Analysis KZ NIS - other elements

- **Third Generation Universities**: ‘research universities’ are in the making but still far from 3GU. Al-Farabi, Gumilev, Karaganda, KZ NTU, K-B TU and Nazarbayev have good name / are promising
- **Government support**: substantial funds have been made available
- **Innovation Policy**: much has been done in a short period of time, but some more coordination seems possible
- **Innovation Executive**: although the NIF plays this role well, there is a large role for the ministries
Analysis KZ NIS - flanking elements

• **Sector Innovation System**: strong in mining, energy and agriculture
• **Regional Innovation System**: ??
• **Parasat**: remarkable initiative, mostly on extraction
• **Bolashak**: 3000 students abroad, 7000 since 1993 (but Saudi Arabia has 250 000, $ 6 billion)
• **Culture**: general belief that KZ should use the mineral revenues to create a knowledge economy → SPAID
Recommendation 2.1

- Improve the NIS by:
  - Strengthening connections between the elements
  - Mechanisms to translate consumer demand into innovative action
  - Develop and upgrade the innovation infrastructure, including the innovation services
  - Advance innovation in the services sector
Recommendation 2.2

• Reduce administrative burden on SMEs and hence stimulate entrepreneurship and innovation by:
  • Identify annually (with the sector) factors that hamper innovation → annual report
  • Choose one bottleneck per month and implement remedies
  • This may include improvement of market conditions and fair competition
  • Give particular attention to start-ups and the innovative activities of SMEs
Recommendation 2.3

• Strengthen the role of universities by:
  • Prepare a practical plan for the transformation of top universities to 3GUs
  • Merge existing research institutes with universities
  • Make entrepreneurship a required course in all institutes of higher education
  • Create marketing departments in universities for the systematic commercialisation of know-how and collaboration with industry
Recommendation 2.4

• Strengthen the innovation policy mix and the coordination mechanisms by:
  – Create a National Innovation Council (business + ministries), reporting to the highest political level, advising on all matters related to innovation.
  – Give NATD the power to execute Innovation Policy (at arms-length of the ministries). Let this Innovation Executive should also coordinate the different areas of innovation
  – Shift Innovation policy from an emphasis on vertical structures (sectors) to horizontal structures (the elements of the NIS).