

# Graduate Programs for Developing Countries

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# Context

- We are in a golden age for universities
- The number of universities, both public and private is increasing
- Universities are improving in order to compete with each other by raising their rankings
- Bologna Accord and common PhD programs
- Higher education is seen as essential for development
- Countries are choosing to compete by being more innovative

# Types of PhD programs

- Advance of knowledge
  - Small additions to knowledge
  - Test a theory
  - Use statistical methods
- Policies based on experiences in other countries (catch up)
- Bring together results of many separate studies (meta analysis, WISDOM)

# Country development strategies

- Washington consensus – adopt suitable macro-economic policies
- S. Beer's work in Chile – managers use a shared model
- RK – formulate policies based on the study of Western experiences
- Fredmund Malik's program for Lower Austria

# Malik program for Lower Austria

- Use Viable System Model with businesses, government agencies, and NGOs
- A synte-gration for business, government and NGO leaders
- Europolicy game for students
- Sensitivity analysis (F. Vester)

# Background

- For several years I have taught and advised on the creation of PhD programs at two universities in Almaty, Kazakhstan
- Their conception of a PhD program is very different from the conception in the US and Western Europe
- The applied focus of the Republic of Kazakhstan (RK) PhD programs may create opportunities for people in systems science

# The Republic of Kazakhstan

- 5 times the size of France
- 16 million people
- Long borders with China and Russia
- Has 90% of the elements in the periodic table
- Large oil reserves
- The lowest corruption index in Central Asia, including Russia
- President Nazarbayev is investing in education
- Annual RK growth rate is around 8%

# The RK PhD Program

- Students are supposed to finish in 3 years
- Students are expected to be fluent in English, Russian, and Kazakh, but language competence varies widely
- The curriculum is designed by the Ministry of Education, not the faculties of universities
- Students are not told to make a contribution to knowledge, but rather to apply existing knowledge to problems in RK



# Examples of dissertation topics

- Devise a strategy to improve human capital in RK
- Devise a strategy for the effective use of the natural resources of RK
- Create a strategy for improving the use of oil and gas in RK
- Devise a strategy for creating an advertising sector in RK, e.g., to advertise alcoholic drinks produced in RK

# RK PhD program 2

- No explicit discussion that the RK PhD program is a different type of PhD program
- No faculty discussion of an appropriate philosophy of knowledge for this more applied PhD program

# The S cubed alternative

- A PhD program focused on solving real problems of organizations is not entirely new
- Russell Ackoff's Social Systems Sciences Program at the Wharton School of the University of Pennsylvania was an example
- Students worked on real problems with a client and called on faculty members for advice

# The S cubed program

- It was based on a different philosophy of knowledge
- The program operated like a consulting firm, billing clients for the time of faculty members and doctoral students

# Two conceptions of how to structure knowledge

- Most philosophers of science
- Cause and effect
- If, then
- Analysis
- Reductionism
- Theory
- Work alone
- E.A. Singer, Jr., Churchman, Ackoff
- Producer - product
- Necessary conditions
- Synthesis
- Expansionism
- Method
- Work with a client

# Fredmund Malik's program for Lower Austria

- Use the Viable System Model in work with businesses, government agencies and NGOs
- Conduct a synte-gration among business, government and NGO leaders
- Have high school and college students play the Ecopolicy game
- Do Frederick Vester's sensitivity analysis

# A development strategy for Kazakhstan

- Start with two states – an urban state and a rural state
- Train RK students to work with businesses, government agencies and NGOs
- Conduct a synteграtion among business and government leaders
- Have high school and college students play the Ecopolicy game

# Expand the activity across RK and internationally

- Based on what was learned in the first two states and using the students and managers who were trained, expand the activity into additional states
- If this approach proves successful in RK, continue to improve the methods used and expand the activity to other countries



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