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Expectations of nanotechnologies in India, South Africa and Kenya

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Outline

1. Construction of expectations
2. Sources
3. India
 - South Africa
 - Kenya

My project

- Risk governance of nanotechnologies in India, South Africa, and Kenya
- Five themes
 - Nanotechnology for development
 - Constructing expectations
 - Governance of risks and benefits
 - Risk research
 - Constructing publics

Expectations

- Claims about the future
 - have an effect on the present
- Diverse effects
 - e.g. mobilize resources, distribute roles and responsibility, create shared agenda
- Element of governance

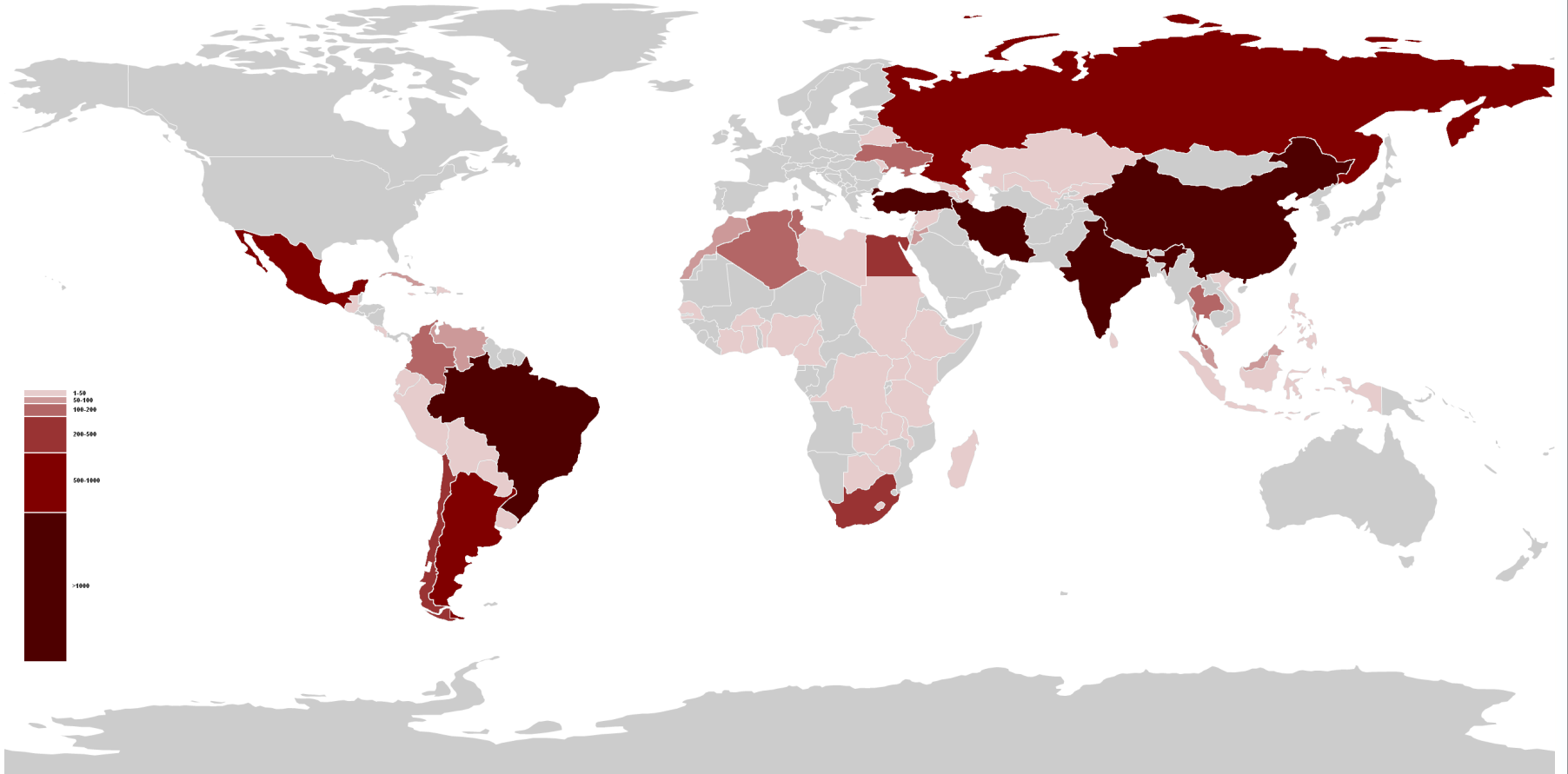
Authors	Place
Van Lente & Rip 1999	Japan, Europe, US & Netherlands
Van Lente 2000	Unspecified
Deuten & Rip 2000	Netherlands
Brown 2000	Unspecified
Wyatt 2000	United States
Geels & Smit 2000	Unspecified
Rose 2000	Western democracy
De Laat 2000	Unspecified
Sanz-Menendez & Cabello 2000	Unspecified
Ling 2000	United Kingdom
Brown & Michael 2000	United Kingdom
Brown 2003	Unspecified
Borup et al. 2006	Unspecified
Berkhout 2006	Unspecified
Konrad 2006	Germany

Authors	Place
Losch 2006	Germany
Merkerk & Robinson 2006	Unspecified
Nerlich & Halliday 2007	United Kingdom
Horst 2007	Denmark
Thurs 2007	United States
Truffer et al. 2008	Germany
Selin 2008	Unspecified
Van Lente & Van Til 2008	German regions
Robinson 2009	Europe
McGrail 2010	Unspecified
Pollock & Williams 2010	United States
Selin & Hudson 2010	United States
Van Lente & Bakker 2010	Unspecified
Ruef & Machard 2010	German speaking Europe

Why study the 'non-West'?

1. New technologies (also) emerge outside the 'West'

Nanotechnology publications (2009)



Why study the 'non-West'?

1. New technologies (also) emerge outside the 'West'
2. New technologies are said to be important for development
3. Different context may yield different expectation dynamics

Methodology and sources

- Interviews
 - Over 50 interviews
 - Various actors
- Publically available documents
 - Fieldwork
 - Internet search
 - Snowballing

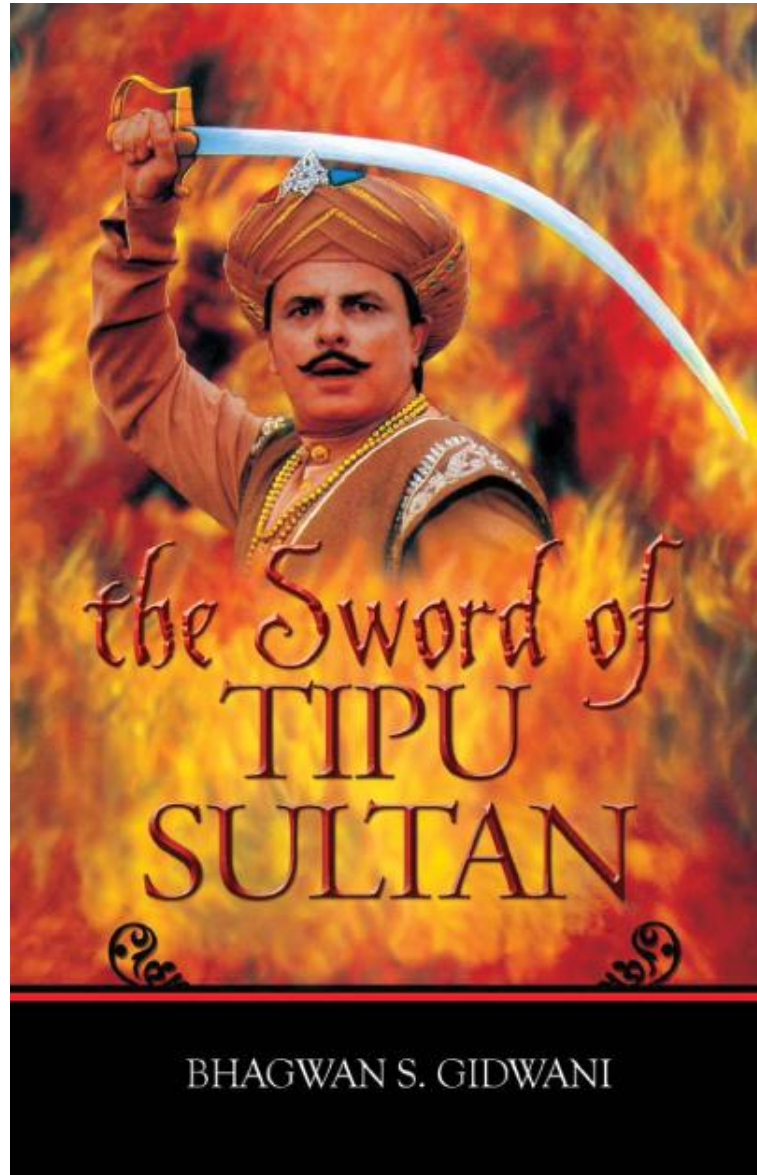
Expectations in India

- Powerful individuals
 - Abdul Kalam
 - C.N.R. Rao



Expectations in India

- Huge expectations
- Inevitable benefits
 - ...but not for India
 - only *if* they act quickly
 - unlike with semiconductors
- Only in its infancy
 - ... yet has a long history in India



Expectations in India

- Technology-centered
- Aim to be technological world leader
- Downsides absent for long time
 - Risk slowly came in by toxicologists and civil society

Expectations in South Africa

- South African Nanotechnology initiative (SANi)
- International developments
 - Strengthen promises
 - Risk South African interests
- Nanotechnology contributes to:
 - Industrial development
 - Societal development



Expectations in South Africa

- Only in its infancy
 - ...but very uncertain
- Impression: less far into the future
- Risk recently on agenda
 - Smoothly taken up and translated into action

Expectations in Kenya

- Handful of people
- From Iran in 2009
- Mixed picture:
 - ‘gloomy picture’
 - ‘can fully exploit nanotechnology’
- Risk present from beginning

Conclusion

	India	South Africa	Kenya
How	Top down	Bottom-up	Confined
Dominant	Powerful individuals	Collective effort	Few individuals
Who	Scientists in policy	Science and policy	Scientists in policy
Discourse	Nationalist and economic	Developmental and protectionist	Generic
Origin	India, US, South Korea	India, Europe, Toronto group	Iran
Foreign countries	Competitors	Economic threat	Source of help
Strategy	Technology development	Instrumental for economy and development	

Thank you!

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<http://www.nano-dev.org>