

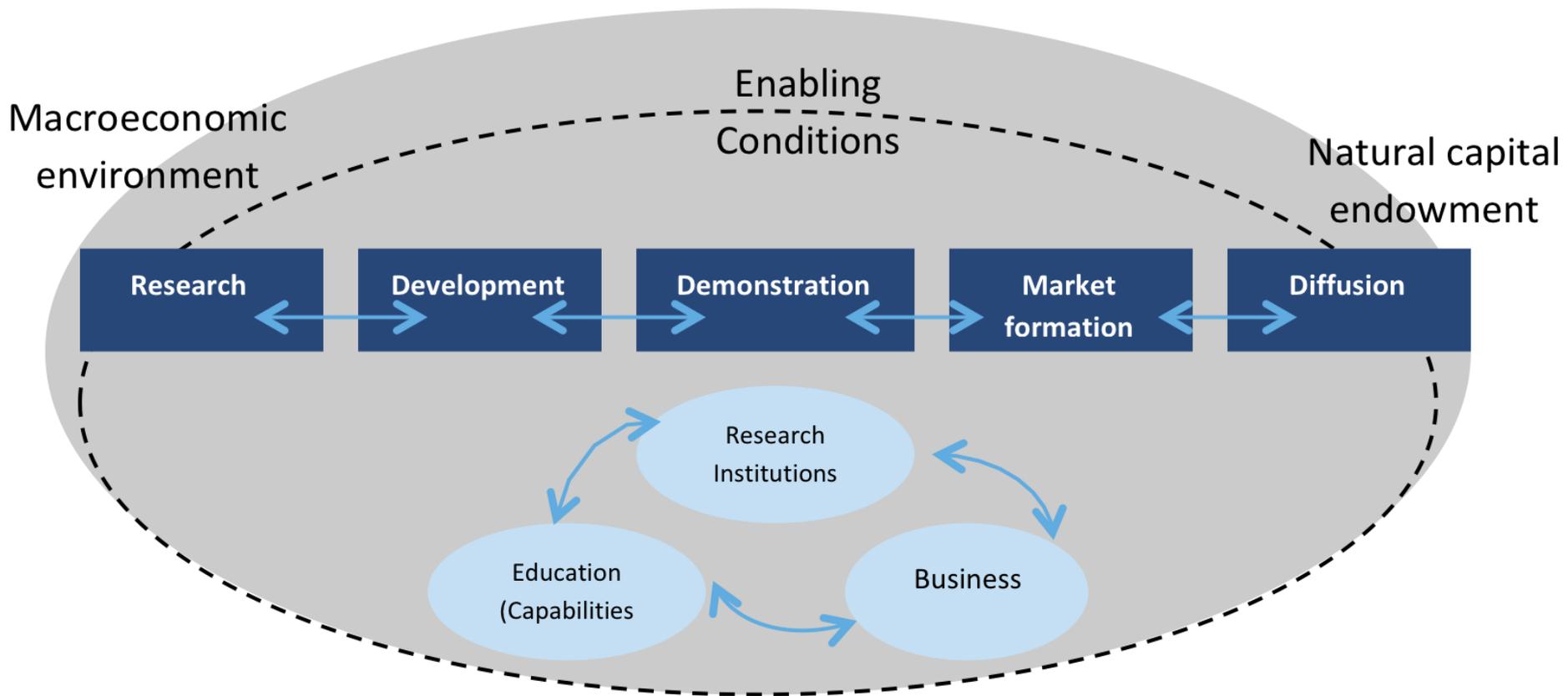
The South Africa water innovation story



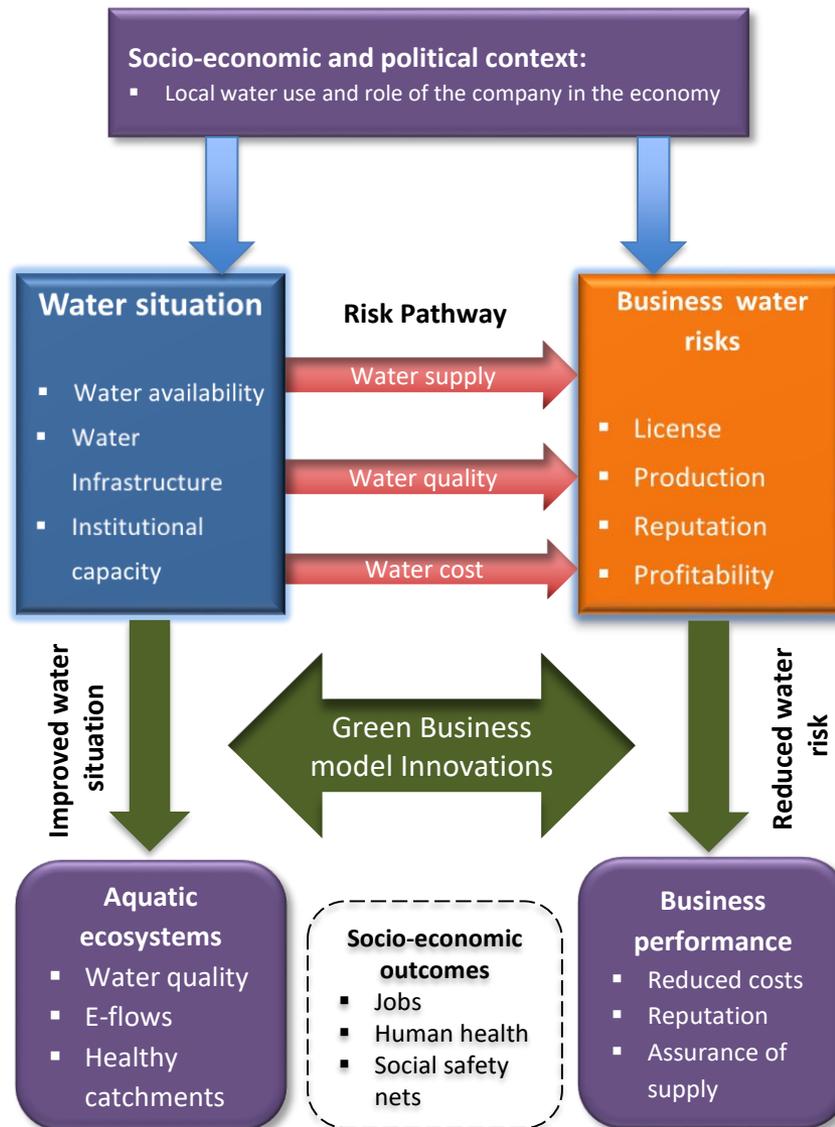
Mao Amis, PhD

African Centre for a Green Economy

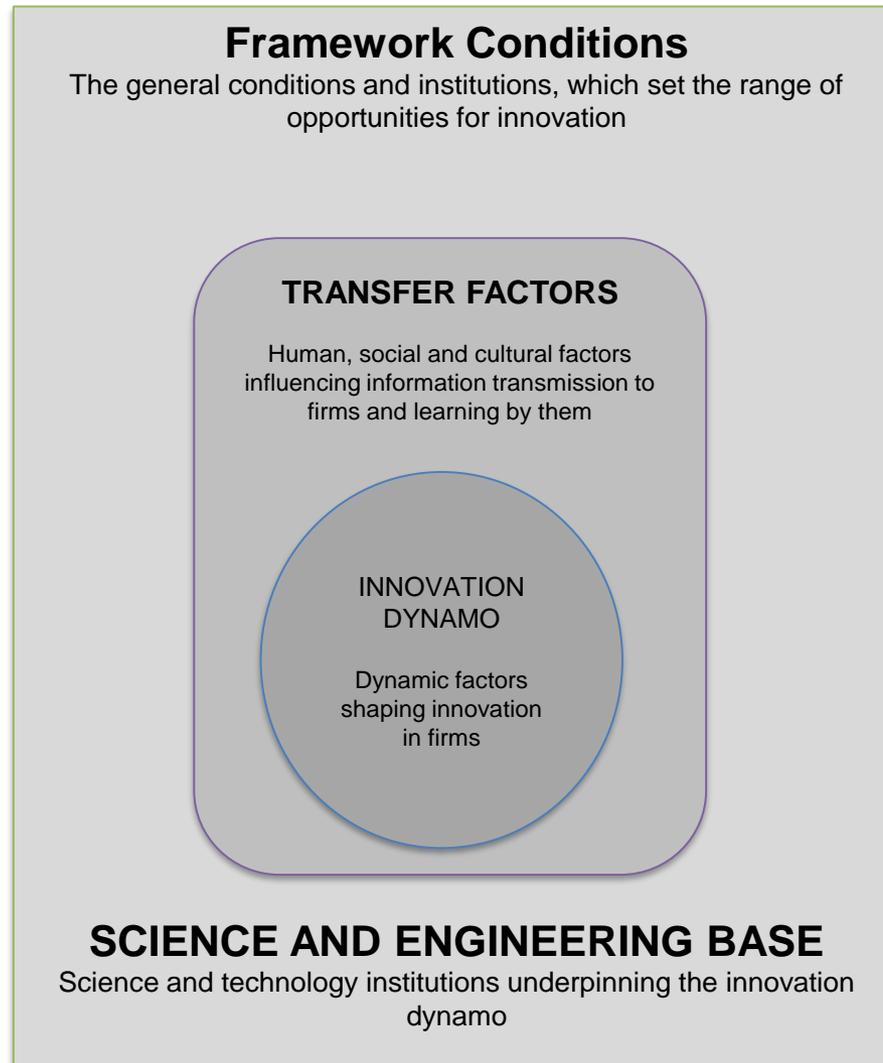
Water Innovation Ecosystem



Water poses a business risk



Innovation systems frame



Innovation frontiers

- Smart Water technologies
- Efficiency and conservation
- Purification
- Alternative sources
- Storage (surface and ground water)
- Ground water- infiltration, GW banking & recovery

Case studies

AquaTrip

Permanently installed leak-detection system

- Deployed in South Africa and is being introduced into Namibia and Botswana as well as to some parts of east Africa
- Over 6000 units



Eutectic Freeze Crystallization

- Waste management in desalination tech
- Commercialised

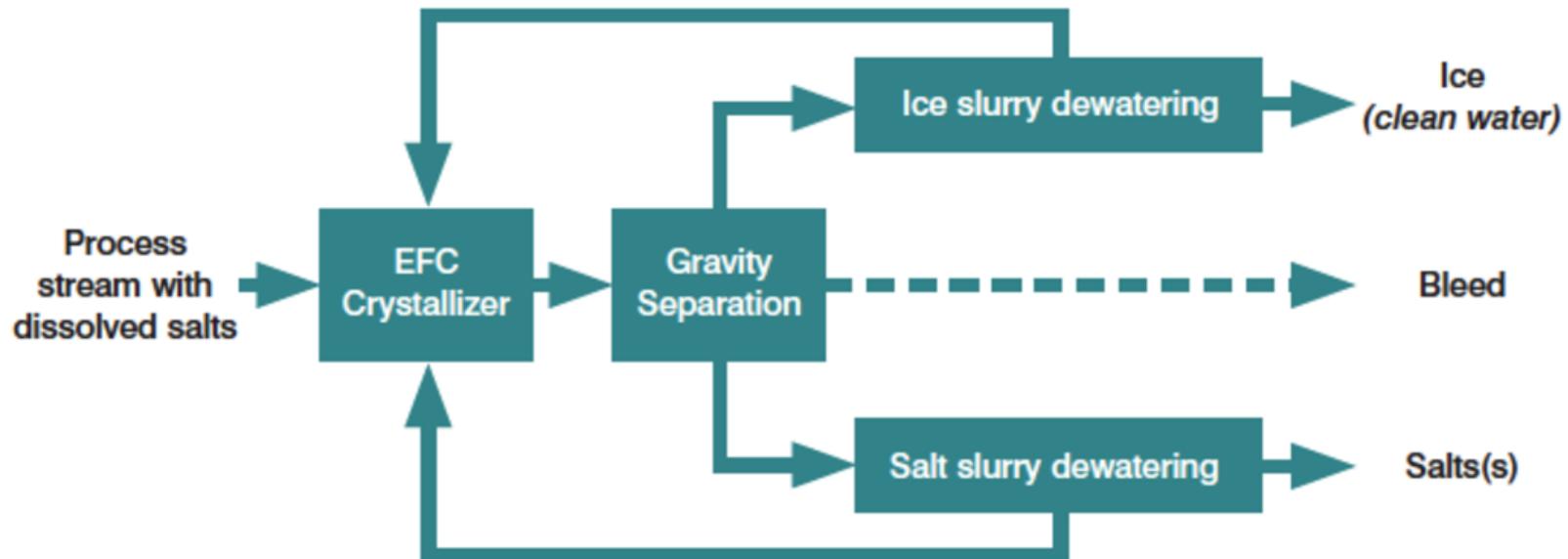


Figure 1: Simplified scheme of the EFC process

The Geasy

Intelligent Water monitoring

LAERSKOOL STELLENBOSCH

Water

Last Update: 31-08-2017 14:18:42

Flow rate 8 L/min	Today's usage 8.39 Kilo Litres	Today's losses 1.92 Kilo Litres
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LAERSKOOL EIKESTAD

Water

Last Update: 31-08-2017 14:19:13

Flow rate 12 L/min	Today's usage 3.29 Kilo Litres	Today's losses 0 Kilo Litres
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SHOPRITE

Water

Last Update: 31-08-2017 14:11:02

Flow rate 36 L/min	Today's usage 18.61 Kilo Litres	Today's losses 7.36 Kilo Litres
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Intelligent Geyser System

Measure

Real time display of energy and water usage

Daily and weekly historical consumption data

Internet

Intelligence

Cost analysis of individual events

Automatic leakage detection and valve shutoff

Determine usage profile through event detection

Control

Set the water to a comfortable temperature

Save energy by implementing an on/off schedule

Instantaneous feedback on impact of control decisions

Hardware

Four temperature measurements

Hot and cold water flow

Power measurement

Burst detection with fallover lockdown

Mobile

Geyser Sense App

Modify geyser state at your convenience

Contact Details

Email: mgbooyesen@sun.ac.za

Web: <http://mtn.sun.ac.za/intelligent-geyser-system/>

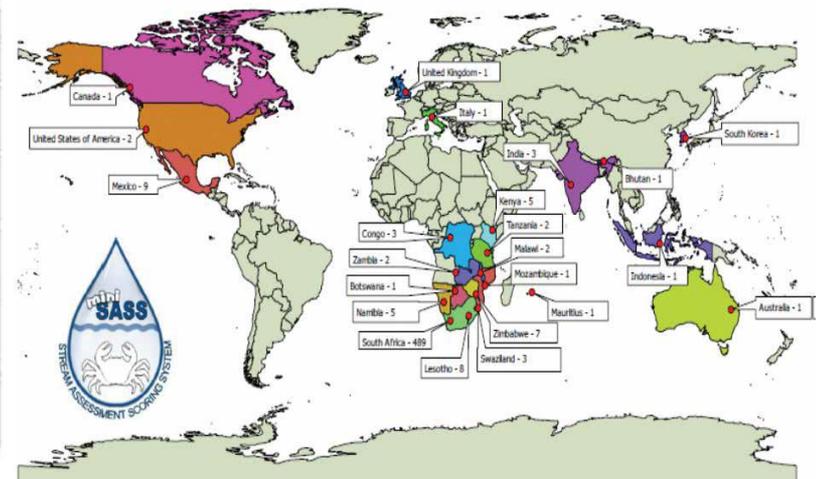
Hippo Roller



MiniSASS

- South African Scoring System (SASS)- 1998
- Citizen science

	Ecological category (Condition)	River category	
		Sandy Type	Rocky Type
	Unmodified (NATURAL condition)	> 6.9	> 7.9
	Largely natural/few modifications (GOOD condition)	5.8 to 6.9	6.8 to 7.9
	Moderately modified (FAIR condition)	4.9 to 5.8	6.1 to 6.8
	Largely modified (POOR condition)	4.3 to 4.9	5.1 to 6.1
	Seriously/critically modified (VERY POOR condition)	< 4.3	< 5.1



WEROP

- Eanated from an MSc project by Simon Wijnberg in 2002 at the UCT
- It has the potential to provide safe drinking water and electricity from from seawater



Emerging trends in the water innovation ecosystem



- Limited links between various actors and institutions
- Intellectual property related challenges
- Funding challenges for water innovations
- Lack of access to markets for emerging innovations
- Engaging with key local communities and stakeholders

Conclusion



- Effective coordination to support the innovation ecosystem
- Foster partnerships with strong linkages to market
- Need to keep track of innovations
- Invest in early stage start-ups
- Learn from failure