

SYSTEMS THINKING
RESEARCH & LEADERSHIP
DEVELOPMENT INSTITUTE

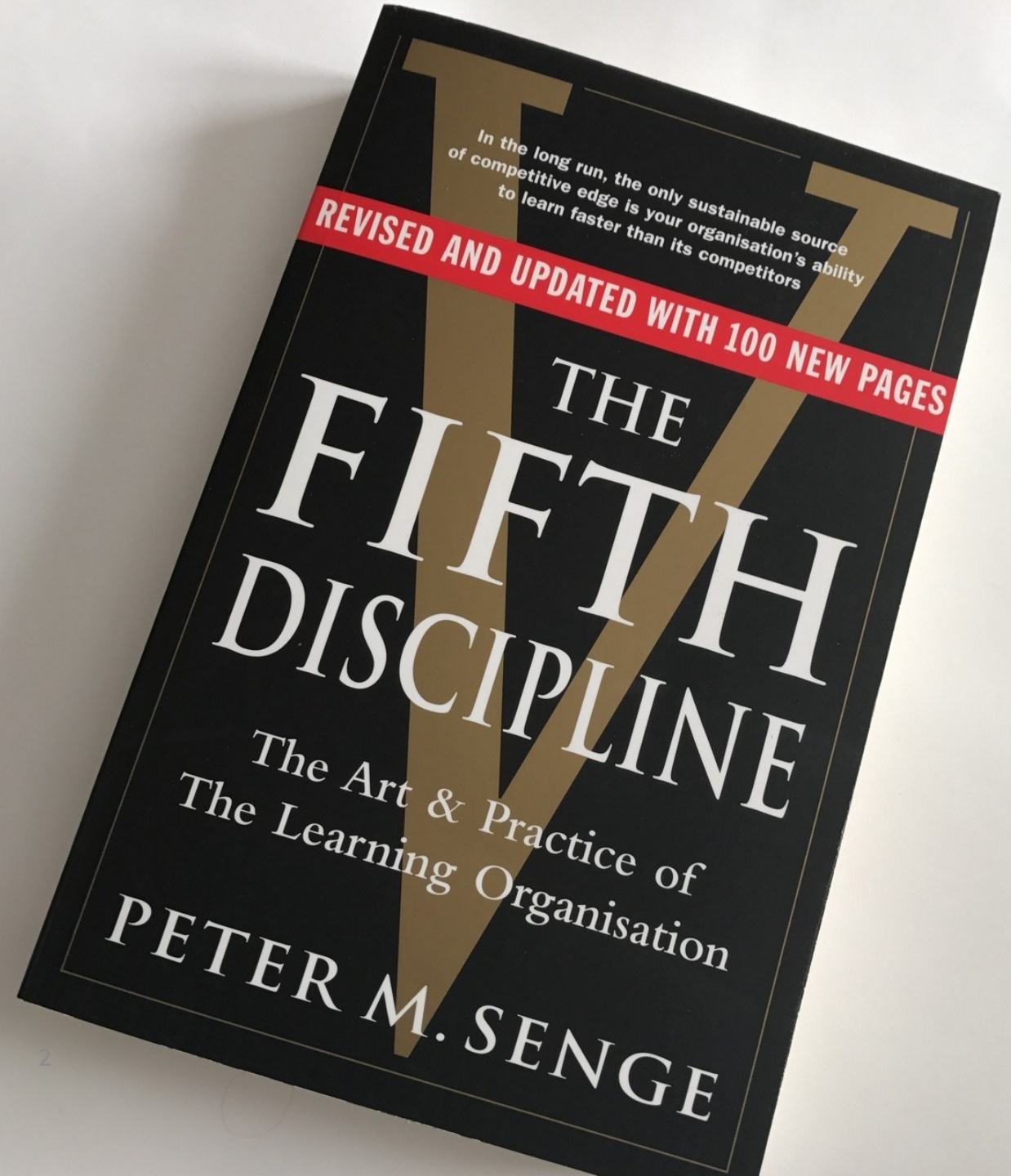
— THE NATIONAL STRATEGY FIRM —

STRLDi

**SHEILA
DAMODARAN
LEAD CONSULTANT**

**SYSTEMS THINKING
RESEARCH & LEADERSHIP
DEVELOPMENT INSTITUTE
(STRLDi), BOTSWANA**

Sheila Damodaran STRLDi – Systems Thinking
Research & Leadership Development Institute



PROFILE

STRLDi

- Systems Thinking Research Institute
- Leadership Development Institute
- On contract with Office of the President from 2008-2012, taught public servant leadership across the country The Fifth Discipline, pending study and strategy formulation for NDP input

PINNACLE FOODS:

- Food manufacturing & franchising (2012 in development)
- Commercial horticulture seedlings production (2020 – 2023)
- Farmers' Learning Centre – short-term workshops for horticulture farmers (2022 – present)

STRLDi UNEMPLOYMENT STUDY PRESENTATION ROADMAP

1. Botswana's Historical Response to Unemployment
2. Why the Problem Persists Despite 50 Years of Intervention
3. Systems Thinking and the Study Methodology
4. Behaviour Over Time: What the Data Reveals
5. Structural Drivers of Persistent Unemployment
6. Productive Sector Analysis:
 - Agriculture • Manufacturing • Retail • Government
7. STEM Capability and Labour Absorption Constraints
8. Household Stability and Long-Term Capability Formation
9. The STRLDi Structural Recommendations
10. National Implementation Pathway
11. National Systemic Integration & NDP Alignment
12. Discussion: Implications for Botswana's Future Development Strategy



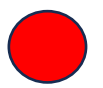
BOTSWANA: TYPICAL UNEMPLOYMENT STRATEGIES ADOPTED OVER THE PAST 50 YEARS

- Public Sector Expansion
- Education Expansion Strategy
- Youth & Labour-Based Public Works Programmes
- Citizen Economic Empowerment Schemes
- Economic Diversification Strategy
- Foreign Direct Investment (FDI) Attraction
- Agricultural Support Programmes
- Infrastructure-Led Development
- Poverty Alleviation & Social Protection Programmes
- National Planning & Reform Approaches

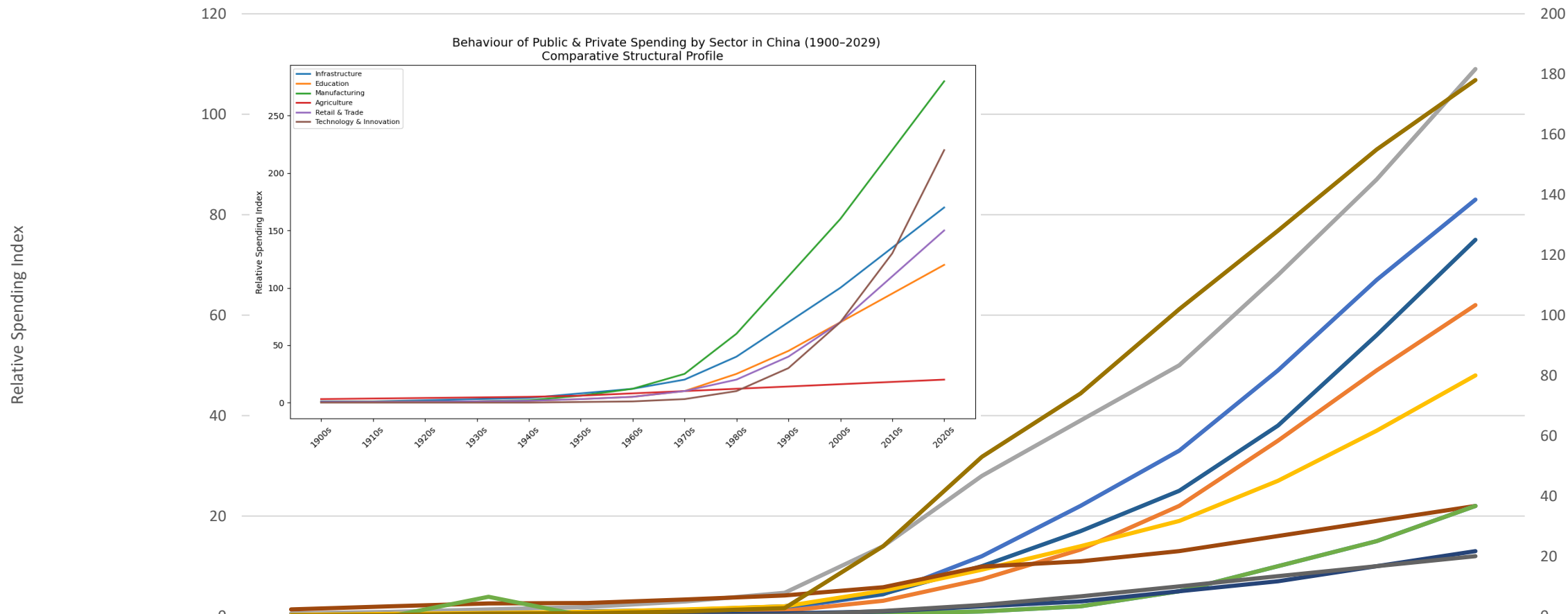


All figures are approximate long-horizon estimates expressed in Constant 2025 Botswana Pula Billions (BWP bn) for systems observation purposes.

Years / Period		SOCIAL / ADMINISTRATIVE SECTORS								CORE PRODUCTIVE SECTORS			
		Education	Health	Infrastructure	Public Administration	Social Justice Programmes	Social Support Systems	Judiciary Systems	Agriculture	Manufacturing	Mining	Retail & Trade	
1900–1909	Public Sector Spending	0.2	0.1	0.3	0.3	0	0	0.1	0.4	0	0	0.1	
	Private Sector Spending	0	0	0.3	0	0	0	0	1	0	0.3	0.2	
	Total Spending	0.2	0.1	0.6	0.3	0	0	0.1	1.4	0	0.3	0.3	
1910–1919	Public Sector Spending	0.3	0.2	0.4	0.5	0	0	0.1	0.6	0	0	0.2	
	Private Sector Spending	0	0	0.5	0	0	0	0	1.4	0	0.5	0.3	
	Total Spending	0.3	0.2	0.9	0.5	0	0	0.1	2	0	0.5	0.5	
1920–1929	Public Sector Spending	0.5	0.3	0.6	0.7	0	1	0.2	0.8	0	0.1	0	
	Private Sector Spending	0	0	0.8	0	0	2.9	0	1.8	0	0.8	0	
	Total Spending	0.5	0.3	1.4	0.7	0	3.9	0.2	2.6	0	0.9	0	
1930–1939	Public Sector Spending	0.6	0.4	0.8	0.9	0	0	0.5	1	0	0.1	0.4	
	Private Sector Spending	0	0	1.1	0	0	0	0	1.7	0	1	0.6	
	Total Spending	0.6	0.4	1.9	0.9	0	0	0.5	2.7	0	1.1	1	
1940–1949	Public Sector Spending	0.9	0.7	1.3	1.4	0.1	0.1	0.4	1.4	0.1	0.2	0.5	
	Private Sector Spending	0	0	1.7	0	0	0	0	2	0	1.5	0.8	
	Total Spending	0.9	0.7	3	1.4	0.1	0.1	0.4	3.4	0.1	1.7	1.3	
1950–1959	Public Sector Spending	1.5	1.1	2.3	2	0.2	0.2	0.6	1.8	0.2	0.3	0.8	
	Private Sector Spending	0.1	0	2.4	0	0	0	0	2.4	0.1	2.5	1.2	
	Total Spending	1.6	1.1	4.7	2	0.2	0.2	0.6	4.2	0.3	2.8	2	
1960–1969	Public Sector Spending	4	3	7	5	0.6	0.5	1	3	0.6	1	2	
	Private Sector Spending	0.4	0.1	7	0.1	0	0	0	2.8	0.5	22.3	2.5	
	Total Spending	4.4	3.1	14	5.1	0.6	0.5	1	5.8	1.1	23.3	4.5	
1970–1979	Public Sector Spending	10	7	16	9	1	1	2	4	1	2	4	
	Private Sector Spending	2	0.4	12	0.3	0	0	0	5.9	1.3	51	6	
	Total Spending	12	7.4	28	9.3	1	1	2	9.9	2.3	53	10	
1980–1989	Public Sector Spending	18	12	22	13	2	2	3	5	2	3	7	
	Private Sector Spending	4	1.3	17	1	0	0	0	6	2	71	10	
	Total Spending	22	13.3	39	14	2	2	3	11	4	74	17	
1990–1999	Public Sector Spending	28	20	28	18	5	5	5	6	3	4	10	
	Private Sector Spending	5	2	22	1	0	0	0	7	3	98	15	
	Total Spending	33	22	50	19	5	5	5	13	6	102	25	
2000–2009	Public Sector Spending	42	32	38	25	10	10	7	8	4	5	15	
	Private Sector Spending	7	3	30	2	0	0	0	8	4	123	23	
	Total Spending	49	35	68	27	10	10	7	16	8	128	38	
2010–2019	Public Sector Spending	58	45	50	35	15	15	10	10	5	6	22	
	Private Sector Spending	9	4	37	2	0	0	0	9	5	149	34	
	Total Spending	67	49	87	37	15	15	10	19	10	155	56	
2020–2029*	Public Sector Spending	72	58	65	45	22	22	13	12	6	8	30	
	Private Sector Spending	11	4	44	3	0	0	0	10	6	170	45	
	Total Spending	83	62	109	48	22	22	13	22	12	178	75	
Rank		3	5	2	6	8	8	10	7	10	1	4	
TOTAL		P274.50	P194.60	P407.50	P165.20	P55.90	P59.70	P42.90	P113.00	P43.80	P720.60	P230.60 P2308.3B	



Behavior of Public & Private Spending By Sector in Botswana 1900 -2029

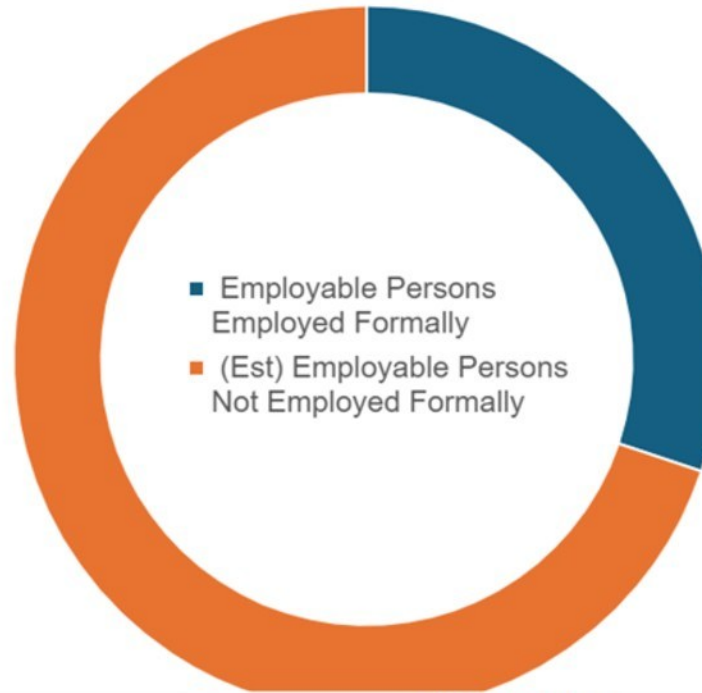


	1900–1909	1910–1919	1920–1929	1930–1939	1940–1949	1950–1959	1960–1969	1970–1979	1980–1989	1990–1999	2000–2009	2010–2019	2020–2029*
Infrastructure	0.6	0.9	1.4	1.9	3	4.7	14	28	39	50	68	87	109
Education	0.2	0.3	0.5	0.6	0.9	1.6	4.4	12	22	33	49	67	83
Retail & Trade	0.3	0.5	0	1	1.3	2	4.5	10	17	25	38	56	75
Health	0.1	0.2	0.3	0.4	0.7	1.1	3.1	7.4	13.3	22	35	49	62
Public Administration	0.3	0.5	0.7	0.9	1.4	2	5.1	9.3	14	19	27	37	48
Agriculture	1.4	2	2.6	2.7	3.4	4.2	5.8	9.9	11	13	16	19	22
Social Justice Programmes	0	0	0	0	0.1	0.2	0.6	1	2	5	10	15	22
Social Support Systems	0	0	3.9	0	0.1	0.2	0.5	1	2	5	10	15	22
Judiciary Systems	0.1	0.1	0.2	0.5	0.4	0.6	1	2	3	5	7	10	13
Manufacturing	0	0	0	0	0.1	0.3	1.1	2.3	4	6	8	10	12
Mining	0.3	0.5	0.9	1.1	1.7	2.8	23.3	53	74	102	128	155	178



THE CAPACITY OF THE ECONOMY TO EMPLOY WORKING AGE POPULATION, 2011 AND ONWARDS

Distribution of Employable Persons in 2024



Indicator	Population	Employable Population	(Est) Population Employed (Formal + Informal) @ 60%	Employable Persons Employed Formally	(Est) Population That is Working in the Informal Sector @70% Total Employed	(Est) Employable Persons Not Employed Formally	Unemployed	% Employed Formally	% YTY Change for Persons Not Employed Formally
Census 2011	2,024,904	1,349,936	809,962	378,900	566,973	971,036	404,063	28.1%	
Dec-21		1,544,648	926,789	494,457	648,752	1,050,191	401,439	32.0%	+ 8 %
Mar-22	2,346,179	1,564,119	938,472	486,432	656,930	1,077,687	420,757	31.1%	+ 2 %
Mar-24	2,763,338	1,842,225	1,105,335	555,212	773,735	1,287,013	513,279	30.1%	+ 19 %



OBJECTIVE OF OUR RESEARCH STUDIES

Understanding Why Persistent Conditions Persist

- **Focus on persistent national, regional, and global conditions** such as unemployment, poverty, economic stagnation, declining institutional performance, environmental degradation, health outcomes, educational outcomes, and social fragmentation.
- **Study Behaviour Over Time** to distinguish recurring patterns from isolated events and identify how conditions reproduce themselves across years, decades, and generations.
- **Move beyond symptoms, events, and root causes** to uncover the reinforcing structures, feedback processes, systemic archetypes, and mental models sustaining persistence.
- **Help leaders develop structural understanding** of the conditions they seek to change, strengthening their ability to identify leverage points for lasting improvement.
- **Build capability while conducting research**, enabling participants to learn the tools, disciplines, and practices required to continue systemic inquiry independently.
- **Support cross-sector *strategy* development**, recognising that persistent conditions rarely originate within a single institution, ministry, industry, or stakeholder group.
- **Generate transferable learning** so that lessons from one region, nation, sector, or challenge can inform understanding elsewhere.



Core Research Question

- What structures, behaviours, assumptions, and feedback processes continue reproducing this condition across time — and what leverage exists to change its trajectory?

STRLDi Principle

- Persistent conditions cannot be understood through events alone. Systems Thinking begins by learning to see patterns before events, and structures before interventions.

THE INTENT OF THE FIVE DISCIPLINES

- **Why Peter Senge Called Them Disciplines**
- The Five Disciplines are called disciplines because they require **continuous practice**. They are not techniques to be learned once, but capacities that develop over a lifetime.
- Their purpose is not simply organisational improvement. Their deeper purpose is to expand our ability to **see, learn, and act within complex human systems**.
- The disciplines work together to help individuals, teams, organisations, and societies move beyond reacting to events toward understanding the structures producing those events.

What the Disciplines Help Us See

- Without disciplined practice, **attention** naturally gravitates toward:
 - Events
 - Crises
 - Symptoms
 - Operational pressures
 - Immediate fixes
- The disciplines **help us** develop the capacity to see:
 - Behaviour Over Time
 - reinforcing and balancing feedback
 - systemic archetypes
 - mental models shaping perception'
 - shared futures worth creating

Why This Matters Today

- Many institutions have become highly sophisticated at managing **detailed complexity**.
- Far fewer have developed the capacity to recognise **dynamic complexity** — the reinforcing structures and delayed consequences that quietly reproduce conditions across years, decades, and generations.
- As a result:
 - we often respond to consequences rather than causes
 - we treat recurring patterns as isolated events
 - we become trapped in cycles of reaction and intervention

The Deeper Purpose of the Five Disciplines

- The Five Disciplines help build the capacity to:
 - think systemically
 - learn collectively
 - surface assumptions
 - strengthen long-term vision
 - recognise recurring structures
 - act from understanding rather than reaction

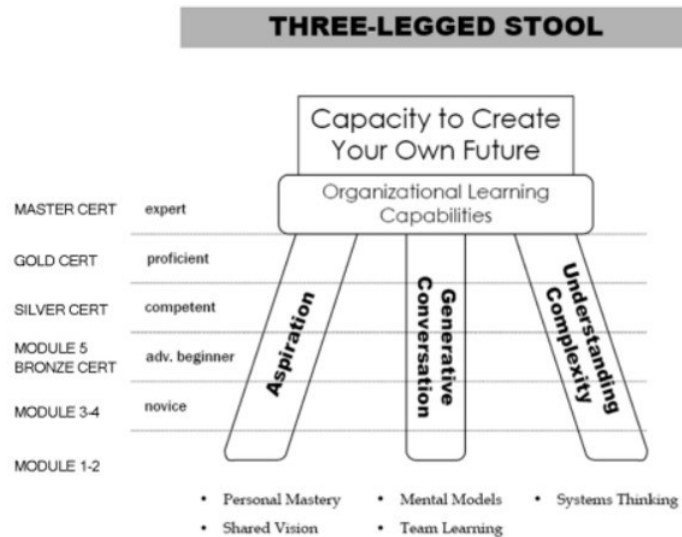
The Core Insight

- Systems Thinking begins by learning to see patterns before events.
- The Five Disciplines exist to help human beings develop that capacity together.

TOOLS OF THE FIFTH DISCIPLINE

THE FIFTH DISCIPLINE OVERVIEW – INTENT: MANAGE CHANGE SEAMLESSLY

Incredible Tools for Unlocking The Secret To Understanding & Learning To
Work With Our Realities



TOOLS OF A LEARNING ORGANIZATION

TOOLS OF THE LEARNING ORGANISATION!

A ONE-PAGE SUMMARY OF THE FIFTH DISCIPLINE, THE ART AND PRACTICE OF THE LEARNING

Personal Mastery	Shared Vision	Mental Models	Team Learning	Systems Thinking
PRACTICES AND PRINCIPLES:				
<ul style="list-style-type: none"> • CLARIFYING PERSONAL VISION • HOLDING CREATIVE TENSION (FOCUS ON RESULTS AND SEEK CURRENT REALITY) • MAKING CHOICES 	<ul style="list-style-type: none"> • VISIONING PROCESS • ACKNOWLEDGING CURRENT REALITY 	<ul style="list-style-type: none"> • DISTINGUISHING "DATA" FROM ABSTRACTION BASED ON DATA • TESTING ASSUMPTIONS • "LEFT-HAND COLUMN" 	<ul style="list-style-type: none"> • SUSPENDING ASSUMPTIONS • ACTING AS COLLEAGUES • SURFACING OWN DEFENSIVENESS • "PRACTICING" 	<ul style="list-style-type: none"> • SYSTEM ARCHETYPES • SIMULATION
PRACTICE TOOLS:				
<ul style="list-style-type: none"> <input type="checkbox"/> Personal Mastery goes beyond proficiency <input type="checkbox"/> Creative Tension Model <input type="checkbox"/> Personal Vision <input type="checkbox"/> Holding Creative Tension <ul style="list-style-type: none"> <input type="checkbox"/> Structural Conflict <input type="checkbox"/> Commitment to the Truth <input type="checkbox"/> Using the subconscious <input type="checkbox"/> Integrating Reason and Intuition <input type="checkbox"/> Seeing our connectedness to the world <input type="checkbox"/> Compassion <input type="checkbox"/> Commitment to the Whole <input type="checkbox"/> Centering long enough to focus on what we want <input type="checkbox"/> Crafting the Purpose Statement – 1stChoice 	<ul style="list-style-type: none"> <input type="checkbox"/> Encouraging Personal Vision <input type="checkbox"/> From Personal to Shared Visions <input type="checkbox"/> Spreading Visions <ul style="list-style-type: none"> <input type="checkbox"/> Enrolment <input type="checkbox"/> Commitment <input type="checkbox"/> Compliance <input type="checkbox"/> Guidelines for enrolment and commitment <input type="checkbox"/> Anchoring Vision to Purpose and Values <input type="checkbox"/> Positive versus Negative Vision <input type="checkbox"/> Creative tension and commitment to the truth <input type="checkbox"/> Why visions die prematurely 	<ul style="list-style-type: none"> <input type="checkbox"/> Planning as learning <input type="checkbox"/> Managing mental models at personal and interpersonal levels <input type="checkbox"/> Reflection Skills <ul style="list-style-type: none"> <input type="checkbox"/> Leaps of Abstraction or Ladder of Inference <input type="checkbox"/> Left Hand Column <input type="checkbox"/> Inquiry Skills <ul style="list-style-type: none"> <input type="checkbox"/> Balancing Inquiry and Advocacy <input type="checkbox"/> Espoused Theory versus Theory-in-Use <input type="checkbox"/> Double Loop Learning 	<ul style="list-style-type: none"> <input type="checkbox"/> Dialogue and Discussion <ul style="list-style-type: none"> <input type="checkbox"/> Participants suspend their assumptions <input type="checkbox"/> Seeing each other as colleagues <input type="checkbox"/> There must be a facilitator who "holds" the context <input type="checkbox"/> Dealing with Current Reality: Conflict and defensive <input type="checkbox"/> The Missing Link: Practice <input type="checkbox"/> Learning how "to practice" 	<ul style="list-style-type: none"> <input type="checkbox"/> 11 laws of complexity <input type="checkbox"/> Seeing circles of causality <input type="checkbox"/> Balancing Loop <input type="checkbox"/> Reinforcing Loop <input type="checkbox"/> Delays <input type="checkbox"/> Archetypes <ul style="list-style-type: none"> <input type="checkbox"/> Accidental Adversaries <input type="checkbox"/> Balancing Loop with Delays <input type="checkbox"/> Drifting Goals <input type="checkbox"/> Escalation <input type="checkbox"/> Fixes that Backfire <input type="checkbox"/> Growth and Underinvestment <input type="checkbox"/> Limits to Success <input type="checkbox"/> Shifting the Burden <input type="checkbox"/> Success to the Successful <input type="checkbox"/> Tragedy of the Commons <input type="checkbox"/> Behavior Time Graphs <input type="checkbox"/> Leverages
THE ESSENCE OF THE DISCIPLINE:				
The essence of Personal Mastery is learning how to generate and sustain creative tension in our lives	Shared Vision is a force of "impressive power" that emerges when people share a desire to be connected in an important undertaking.	The essence of Mental Models is Learning to uncover deeply held internal images we have about how the world works, altering forever the way we think and create new ideas.	Team Learning is the process of aligning and developing the capacity of a team to create the results it truly desire.	The Art of seeing the forest and the trees! Seeing through complexity to the underlying structures generating change.

As presented by Peter Senge in his signature book (compiled by Sheila)

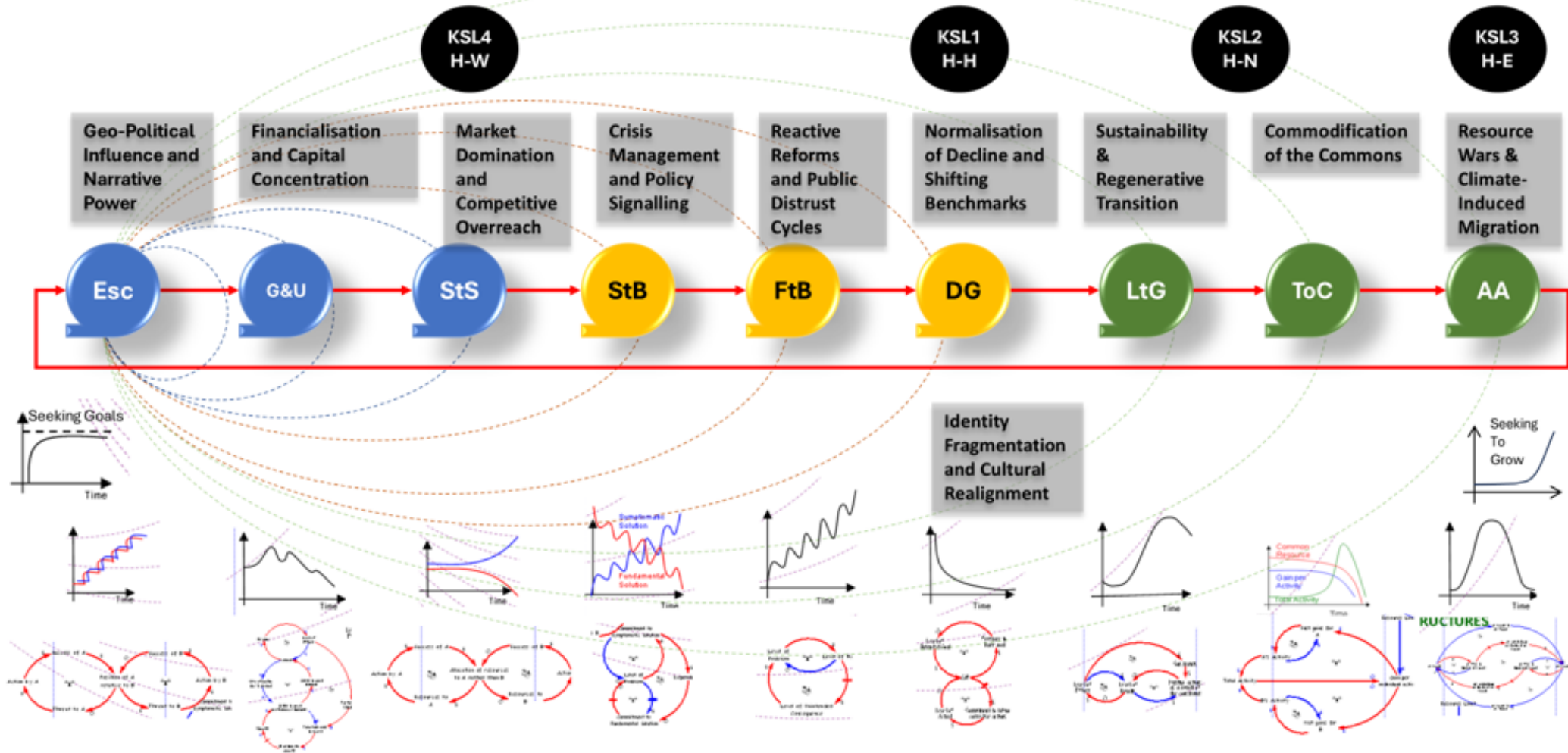
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THE CAPABILITIES OF A LEARNING ORGANIZATION

THE SYSTEMIC ONION FRAMEWORK

Understanding How Systemic Archetypes Drive Persistent Patterns of Growth, Decline, and Renewal

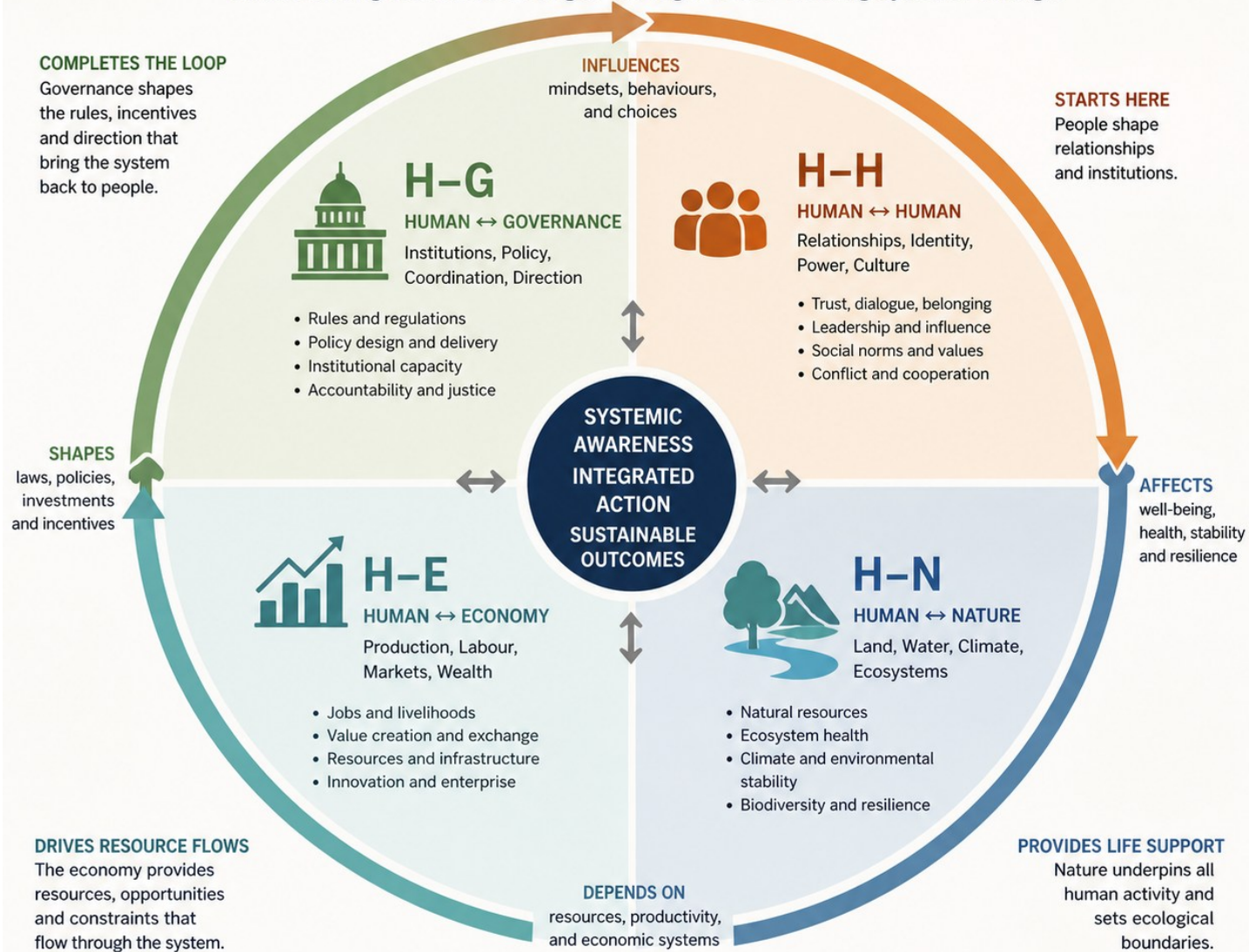
Developed by Ms Sheila Damodaran, STRLDi, integrating and extending the seminal systems archetype work of Peter Senge and his MIT team



THE FOUR-QUADRANT SYSTEMS FRAMEWORK

Created by STRLDi 1st produced May 2005

Understanding the Whole. Acting in the Right Place. Creating Systemic Change.



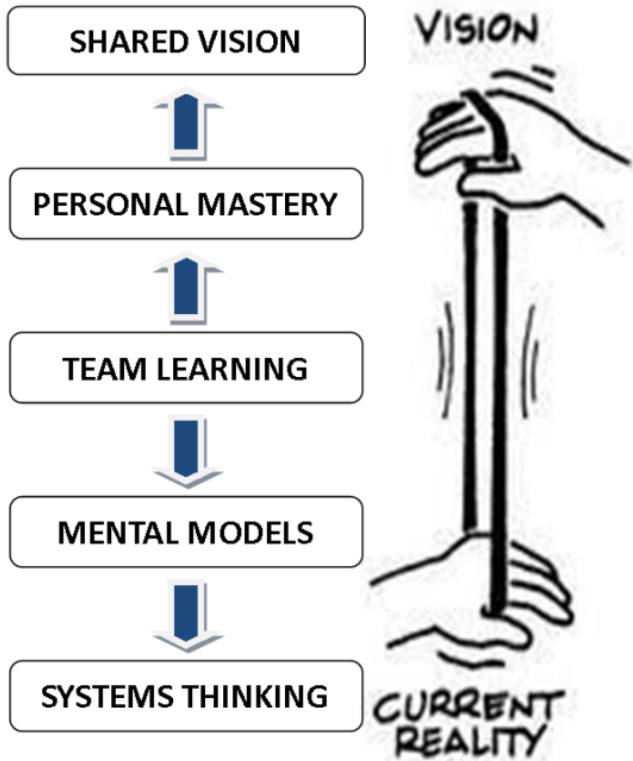
FEEDBACK LOOP: Every action in one quadrant creates effects in the others. The system grows or declines based on the quality of our choices.

**NOT WISELY.
CHOOSE SYSTEMICALLY.**

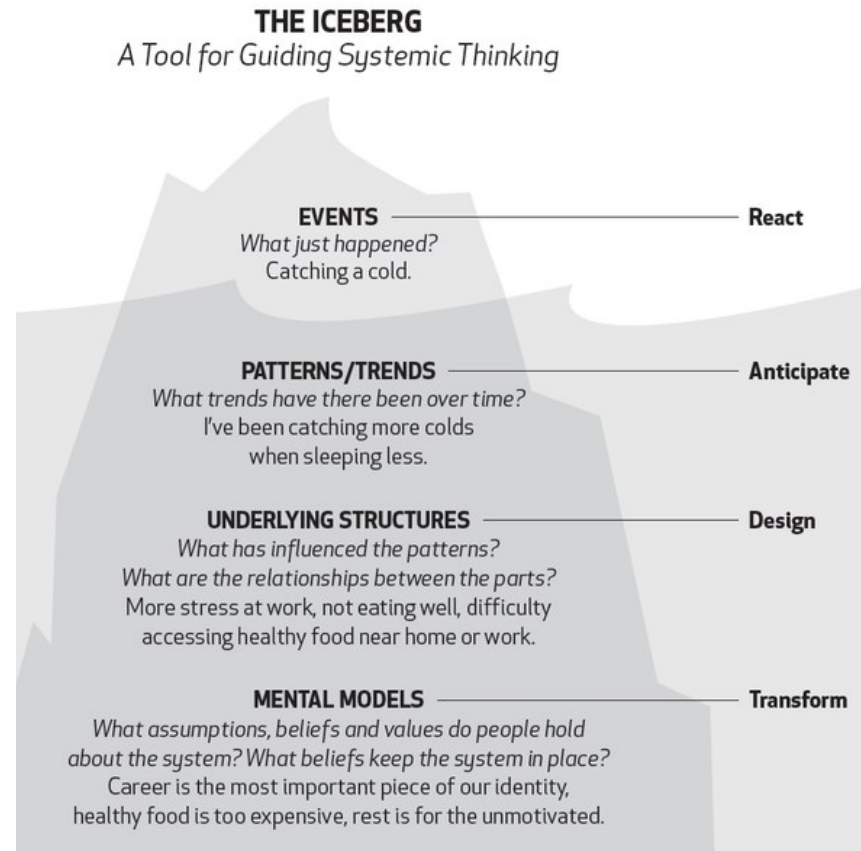


KEY POINTS OF PRACTICE

CREATIVE TENSION MODEL



THE ICEBERG



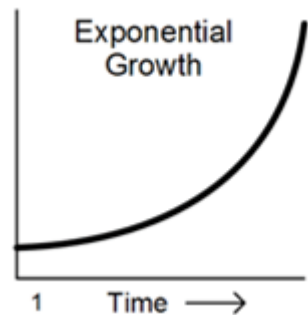
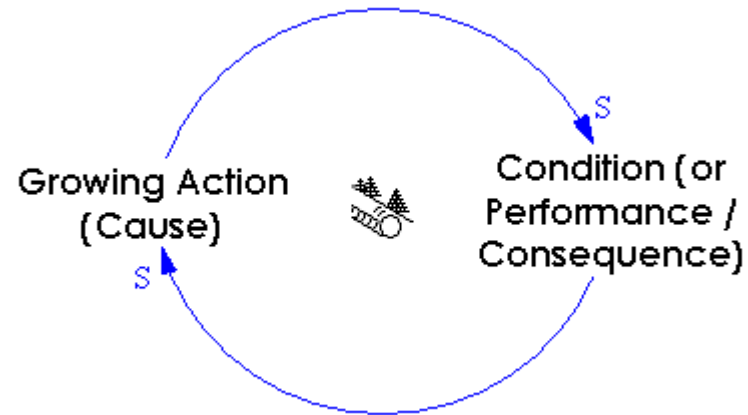
DEFINITION OF SYSTEMS THINKING

- Systems Thinking is to **discipline us in seeing and understanding patterns** – looking beyond events – to deeper “structures” that control events and, discovering the leverage that lies hidden in these structures.
- The **essence** of the discipline lies in a shift of mind (pg 68):
 - See **interrelationships** rather than linear cause-effect chains, and
 - See **processes of change** rather than snapshots

THERE ARE TWO DISTINCT PATTERNS IN SYSTEMS THINKING

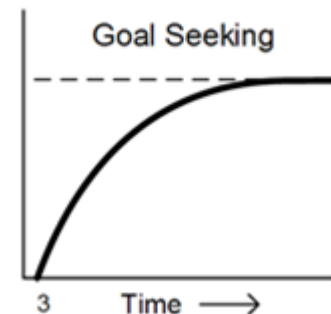
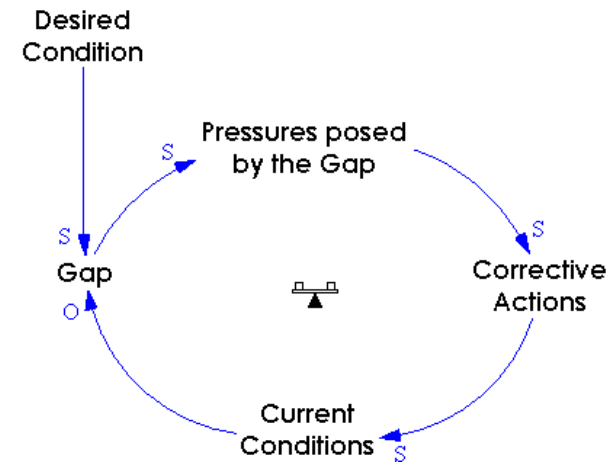
REINFORCING LOOP

SEEKS TO GROW (NOT STABILISE)



BALANCING LOOP

SEEKS TO STABILISE (NOT GROW)



TIMELINE OF STUDY & RESULTS

- APR 2008 **STUDY FIRST MOOTED**
- MAR 2012 **RESEARCH GROUP FIRST FORMED**
- 2012-2018 RESEARCH ON HOLD PENDING STATISTICS BOTSWANA FORMATION
- AUG 2018 RE-INITIATION OF STUDY
- DEC 2018 DATA RECEIVED FROM STATISTICS BOTSWANA
- JAN 2019 **STUDY COMPLETED (in 2 weeks)**
- MAY 2019 PRESENTATION AT PS's FORUM, OFFICE OF THE PRESIDENT
- OCT 2019 NATIONAL ELECTIONS
- APR 2020 – AUG 2021 COVID LOCKDOWNS
- DEC 2021 ANNOUNCEMENT OF IMPORT BAN OF HORTICULTURE PRODUCE
- JUL 2024 IMPORT BAN LIST IS EXPANDED AND PERIOD EXTENDED TO DEC 2025
- NOV 2024 CHANGE OF PARTY POLITICAL SYSTEMS
- MAY 2026 PRESENTATION TO NPC LEADERSHIP



BOTSWANA: PAST UNEMPLOYMENT STRATEGIES vs STRLDI STRUCTURAL RECOMMENDATIONS

FROM

- PUBLIC SECTOR EXPANSION
- EDUCATION EXPANSION
- YOUTH & PUBLIC WORKS PROGRAMMES
- CITIZEN EMPOWERMENT SCHEMES
- ECONOMIC DIVERSIFICATION POLICIES
- FDI ATTRACTION
- AGRICULTURAL SUPPORT PROGRAMMES
- INFRASTRUCTURE-LED DEVELOPMENT
- POVERTY & SOCIAL SUPPORT PROGRAMMES
- NATIONAL PLANNING & REFORMS

TO

- PRODUCTIVE-SECTOR DEEPENING
- STEM & PRODUCTIVE CAPABILITY STABILISATION
- LONG-HORIZON LABOUR ABSORPTION DESIGN
- PRODUCTIVE VALUE-CHAIN DEVELOPMENT
- STRUCTURAL DIVERSIFICATION CAPABILITY
- PRODUCTIVE-STRUCTURE READINESS
- AGRICULTURE–MANUFACTURING INTEGRATION
- PRODUCTIVE ECONOMIC ECOSYSTEMS
- REDUCING STRUCTURAL PRESSURE SOURCES
- SYSTEMS COORDINATION & BEHAVIOURAL LEARNING

THE OPPORTUNITY COST OF UNEMPLOYMENT

Botswana's Largest Untapped Economic Asset

TODAY'S STRUCTURE

Average Wage: P1,655

Current Per-Capita Monthly Income

25% of population in formal employment

FULL PRODUCTIVE PARTICIPATION

P10,344






Potential Per-Capita Monthly Income

Working-age population fully productively engaged



WHAT THE COUNTRY GAINS

- **6.25× HIGHER PER-CAPITA PROSPERITY**

-  Higher National Production
-  Stronger Consumer Demand
-  Higher Government Revenue
-  Higher GDP Growth
-  Stronger Household Prosperity

STRATEGIC INSIGHT

- Unemployment is not merely a labour-market issue.
- It is one of the largest opportunity costs to national productivity, household income, fiscal sustainability, and economic growth.

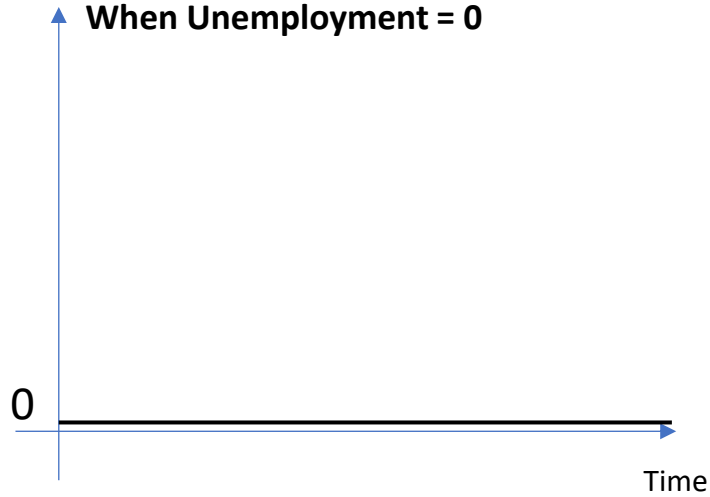
WHAT CAUSES PERSISTENT UNEMPLOYMENT

SELF WORK. QUESTIONS:

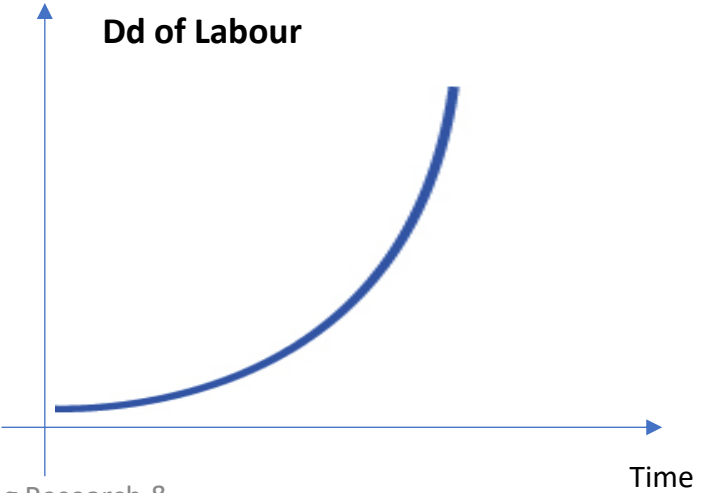
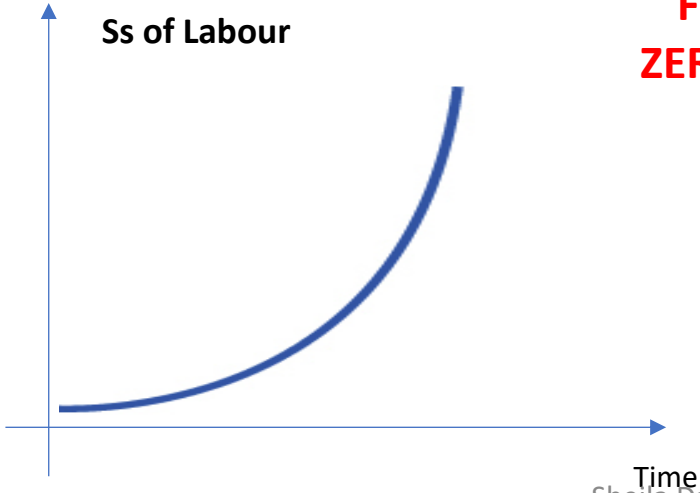
- IDENTIFY ORGANISATIONAL (GOVT, PTE, COMMUNITY, PROFESSIONALS) STAKEHOLDERS
- WHAT FILTERS TODAY MAY HAVE STOPPED THEM FROM LEARNING ABOUT THESE ALREADY?
- IDENTIFY IMPACT OF CAUSES THAT IMPACT YOUR ORGANISATION.



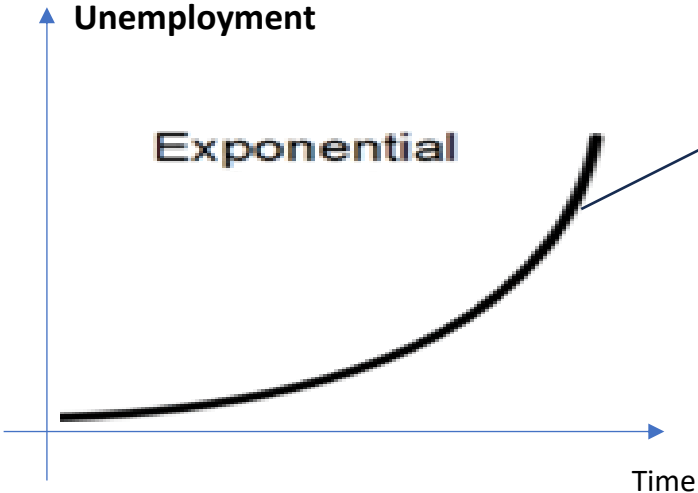
DRILLING DOWN PERSISTENT NATIONAL UNEMPLOYMENT



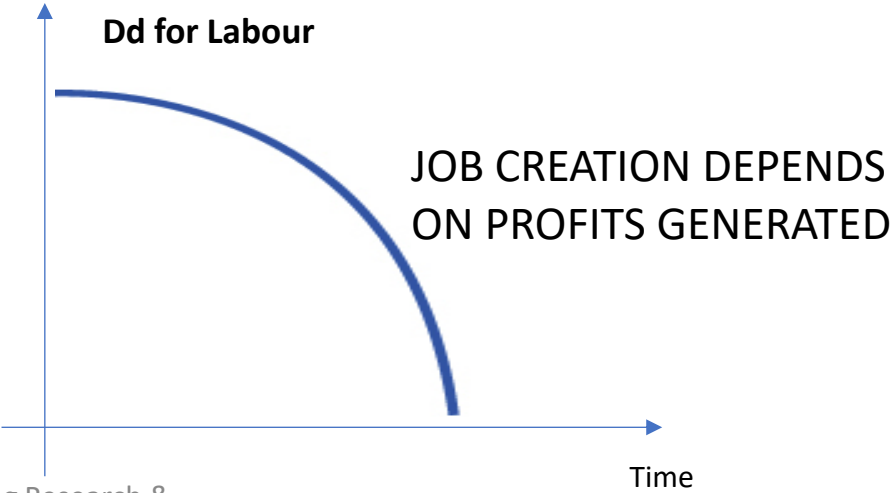
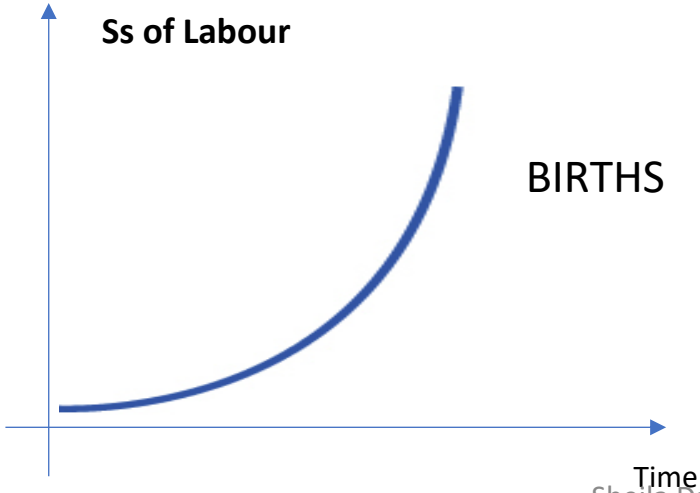
**SS = DD MEANS
FULL EMPLOYMENT
ZERO UNEMPLOYMENT**



DRILLING DOWN PERSISTENT NATIONAL UNEMPLOYMENT

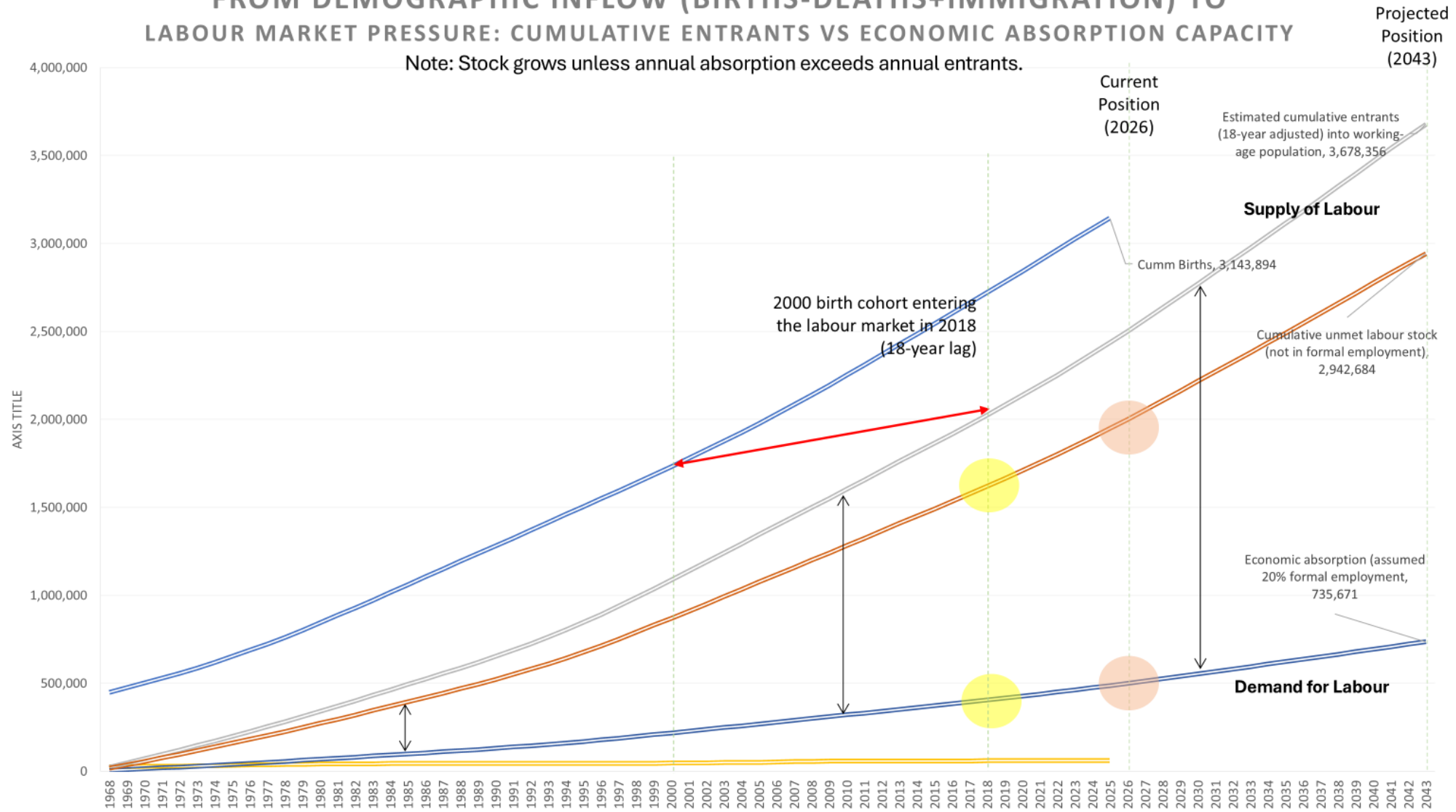


These graphs are indicating that a reinforcing causal loop structures are at play that are seeking to grow.

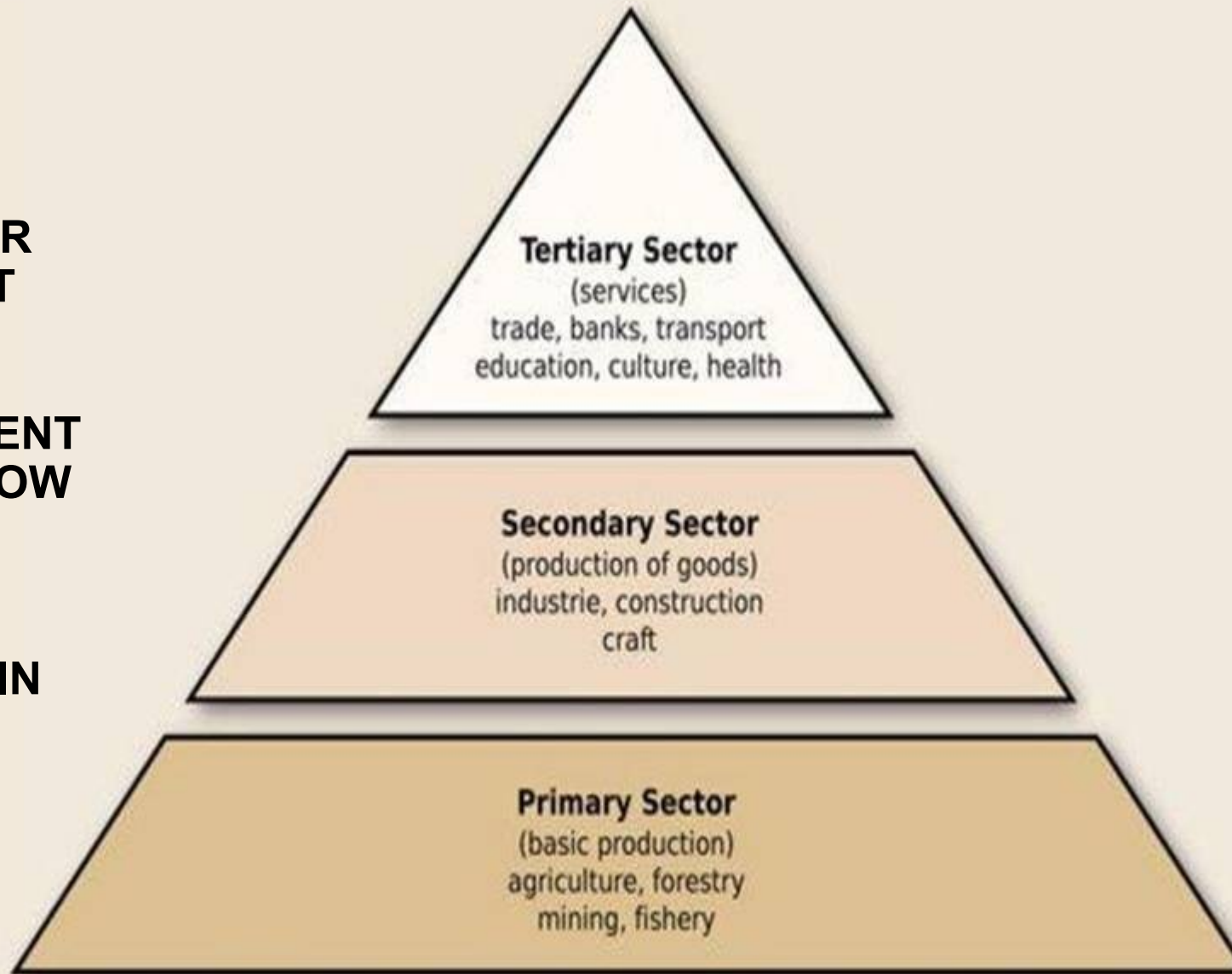


FROM DEMOGRAPHIC INFLOW (BIRTHS-DEATHS+IMMIGRATION) TO LABOUR MARKET PRESSURE: CUMULATIVE ENTRANTS VS ECONOMIC ABSORPTION CAPACITY

Note: Stock grows unless annual absorption exceeds annual entrants.



**CAPACITY FOR
EMPLOYMENT
BY SECTOR
WHEN
UNEMPLOYMENT
RATES ARE LOW
& A ROBUST
RESOURCE
DEPENDANT
ECONOMY IS IN
PLACE**

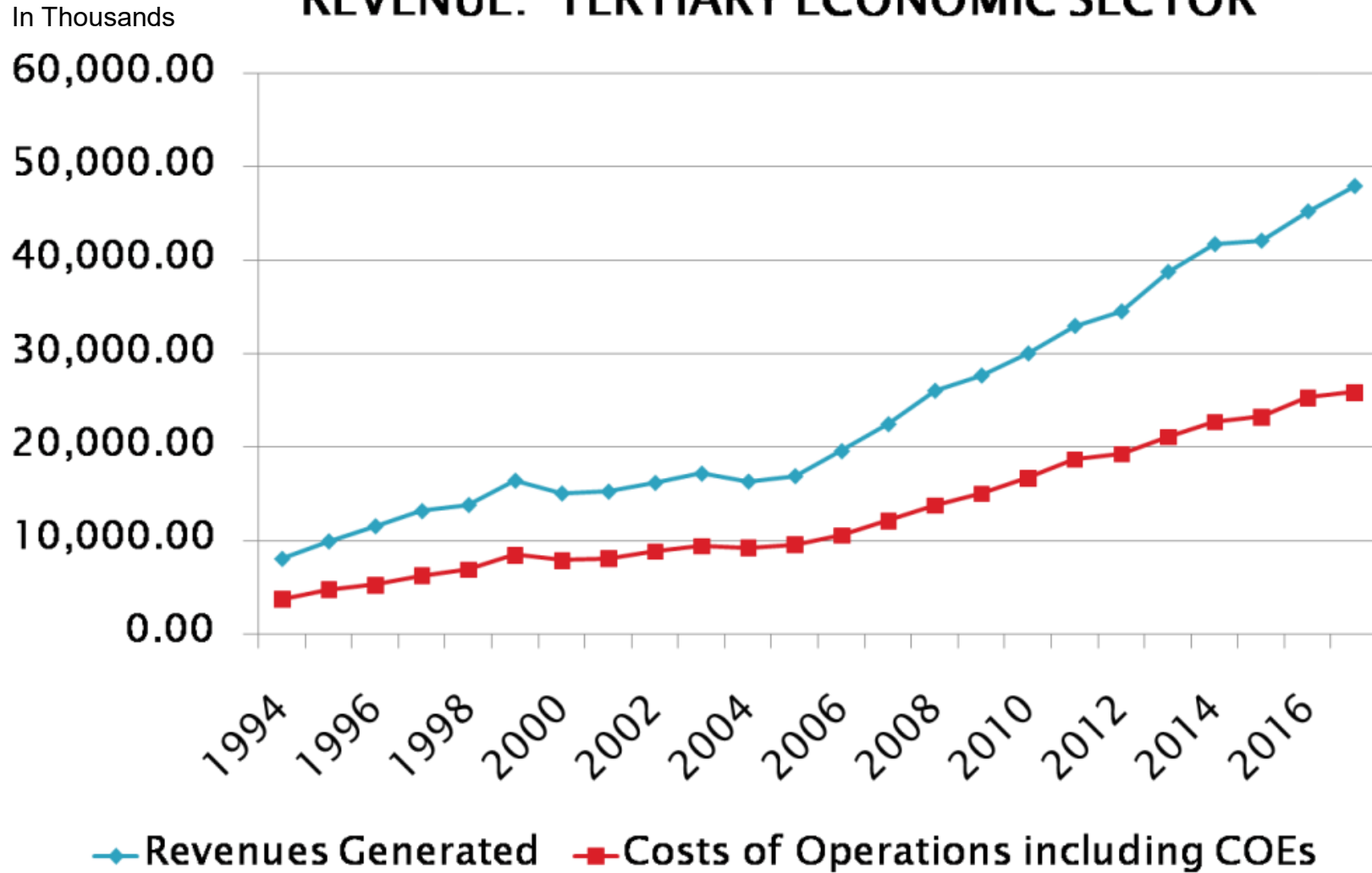


Sectoral structure of an economy

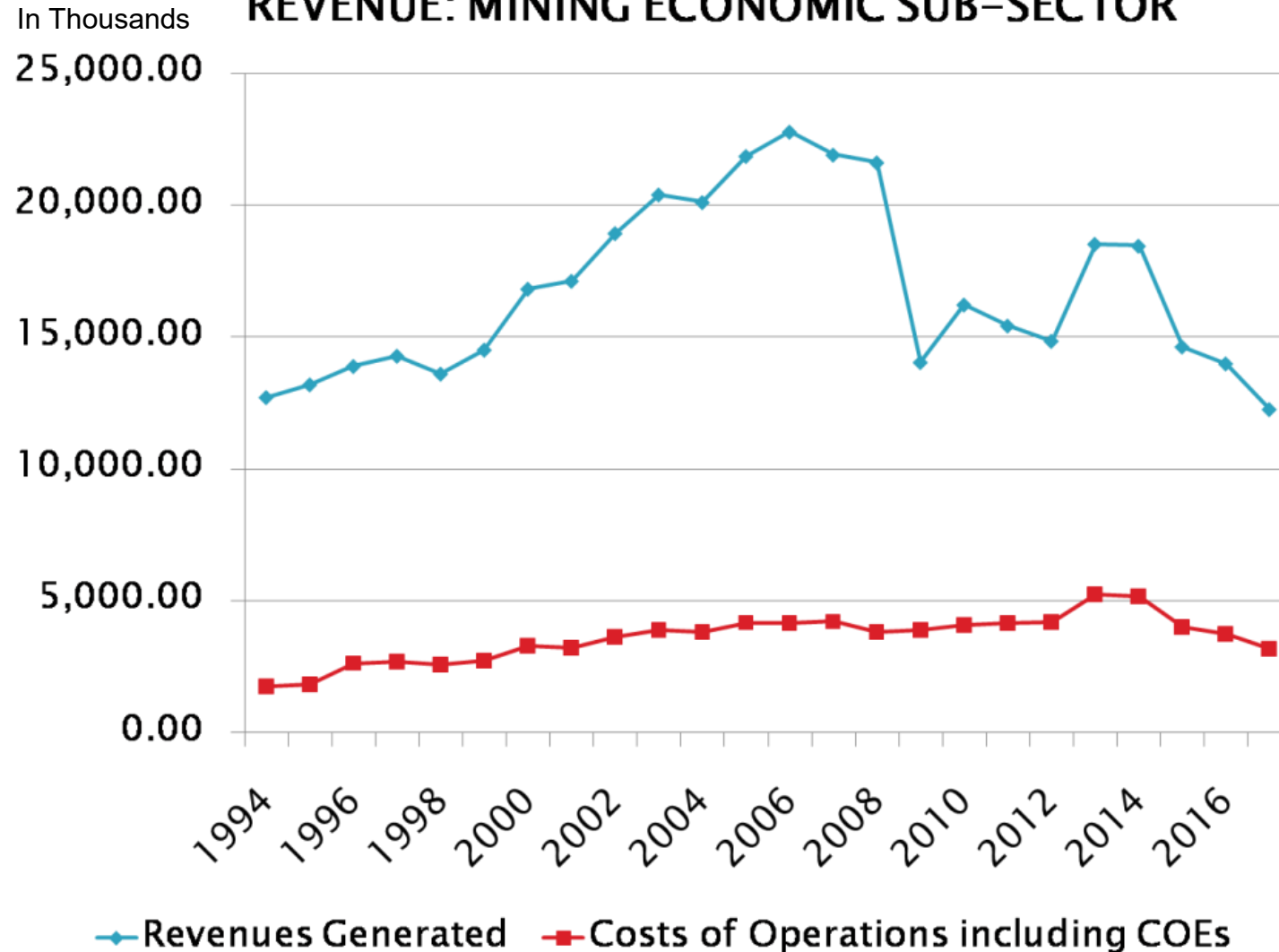
www.regionales-wirtschaften.de

Sheila Damodaran STRLDi – Systems Thinking Research & Leadership Development Institute

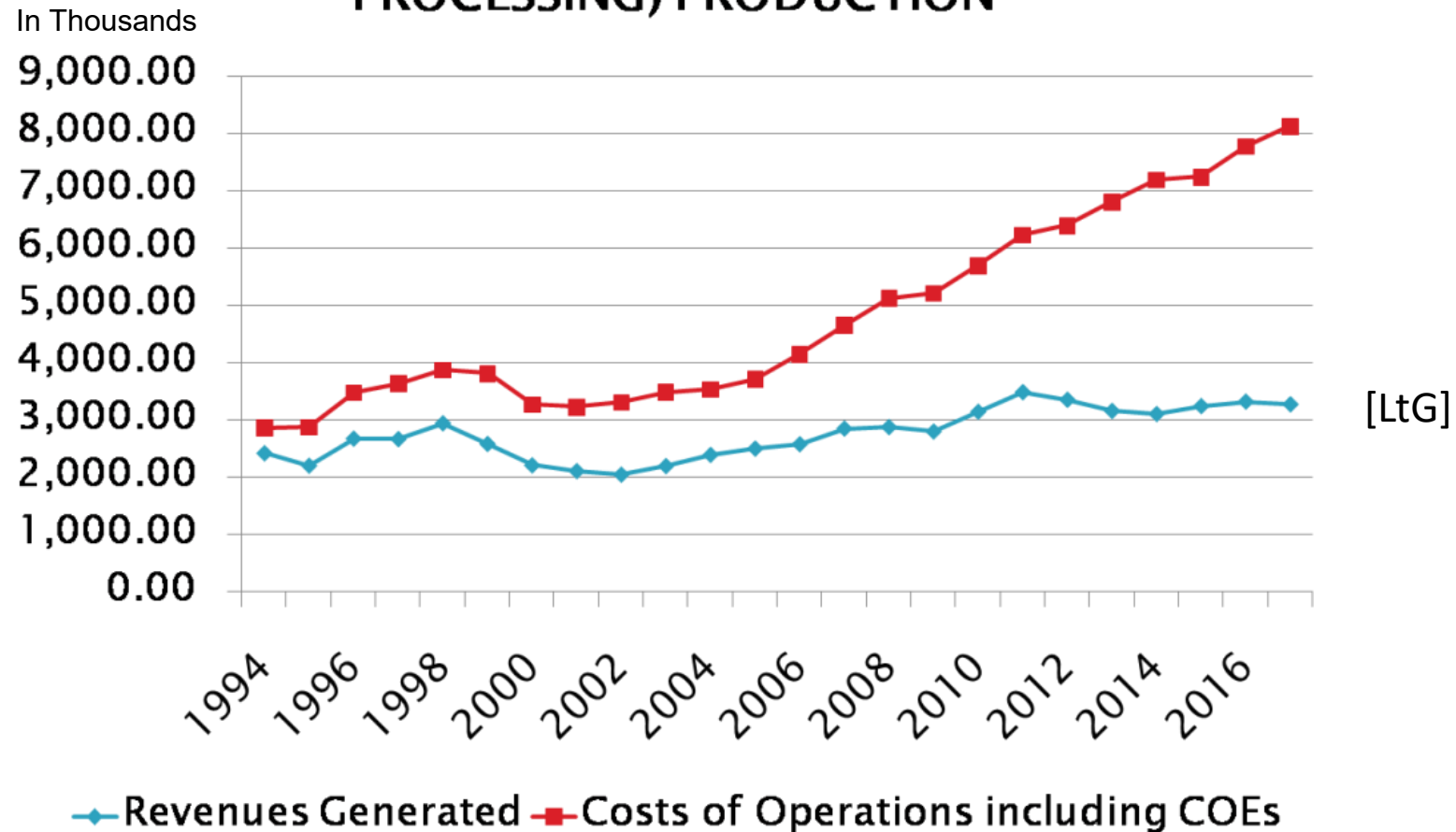
BEHAVIOUR OF COSTS OF PRODUCTION VS REVENUE: TERTIARY ECONOMIC SECTOR



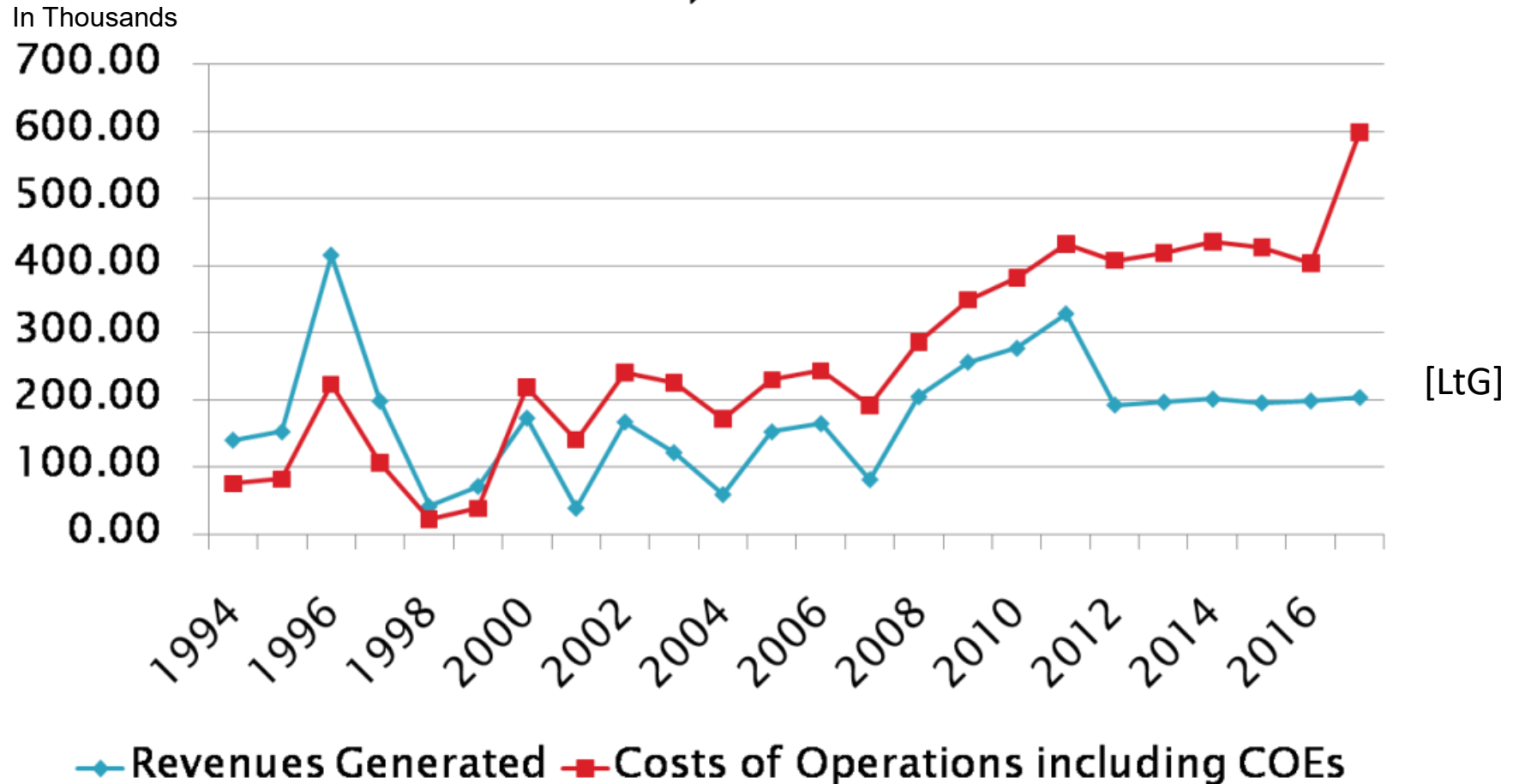
BEHAVIOUR OF COSTS OF PRODUCTION VS REVENUE: MINING ECONOMIC SUB-SECTOR



BEHAVIOUR OF COSTS OF PRODUCTION VS REVENUE: MANUFACTURING (NOT INCLUDING OTHERS / DIAMOND PROCESSING) PRODUCTION

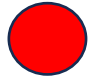
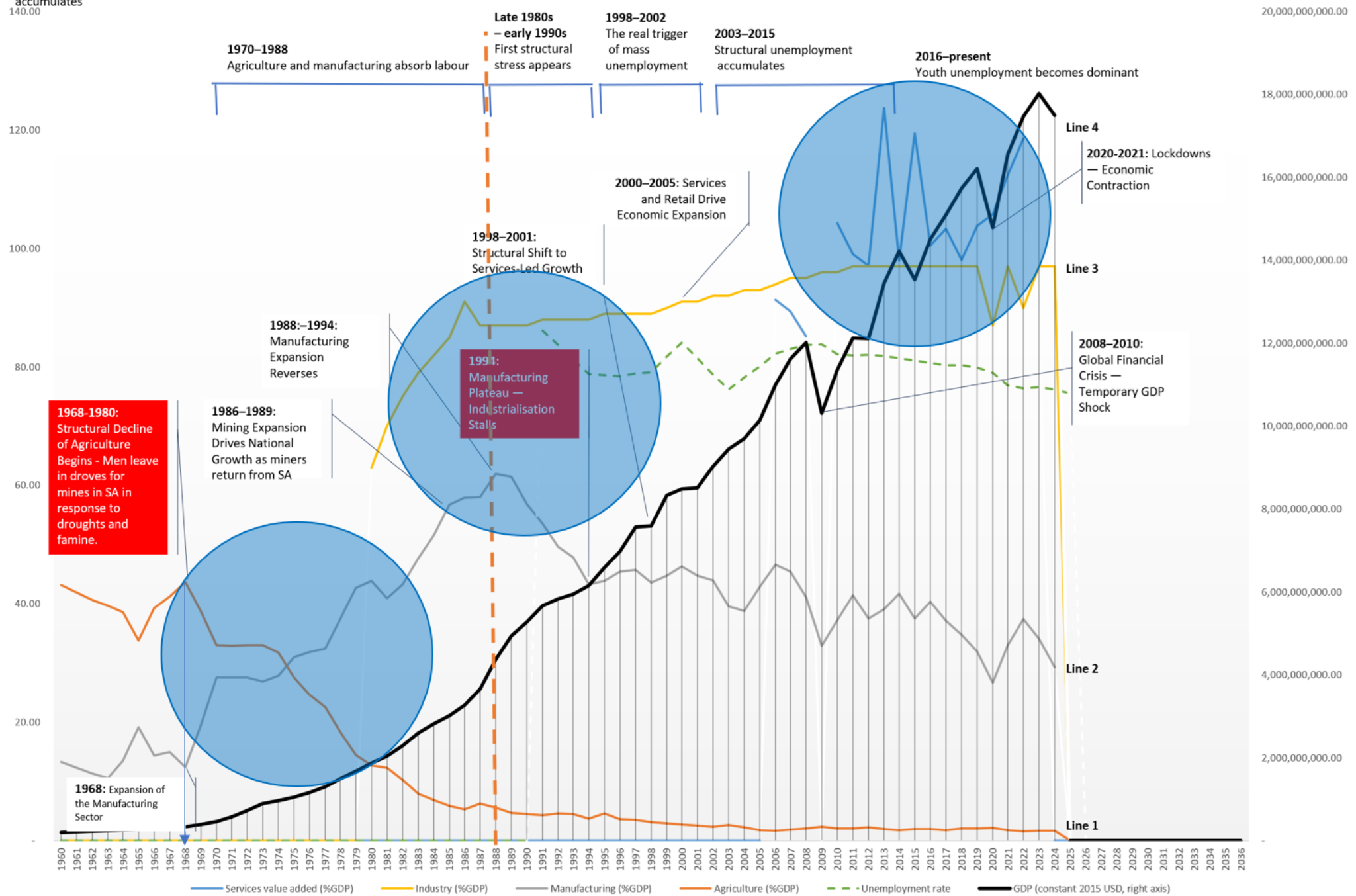


BEHAVIOUR OF COSTS OF PRODUCTION VS REVENUE: PLANT (CROP+HORTICULTURE + FORESTRY) PRODUCTION

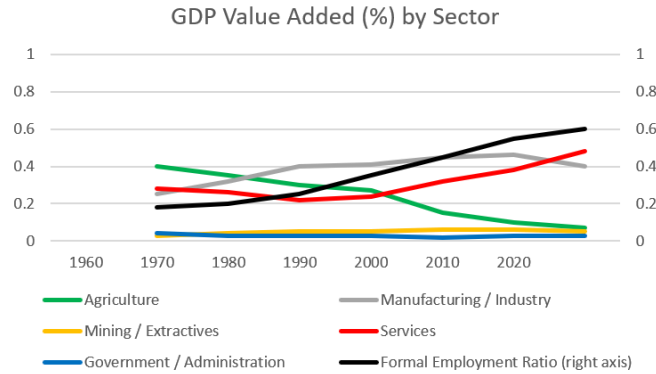


2003–2015
Structural unemployment
accumulates
140.00

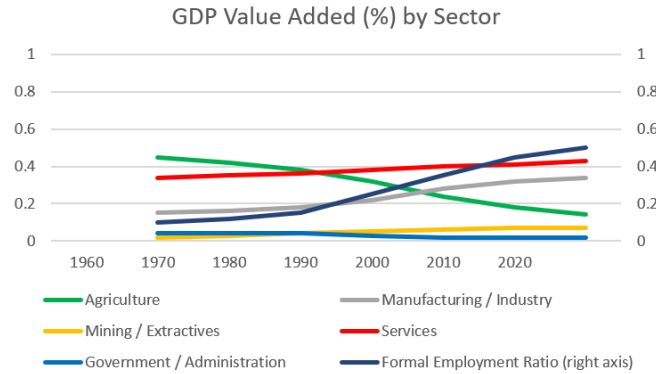
SECTION 3: PRODUCTIVE SECTORS



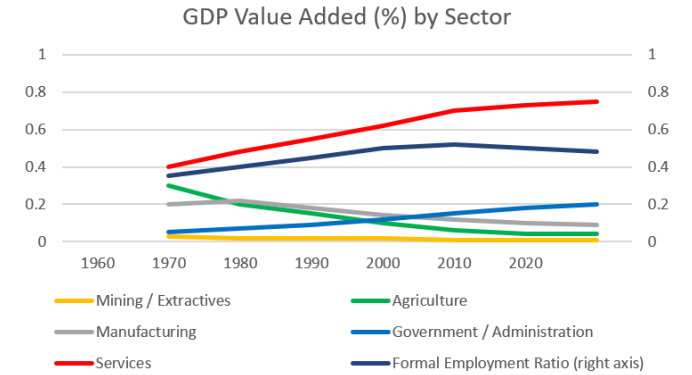
China – Pop: 1,41bil, GDP per capita: \$10.5K



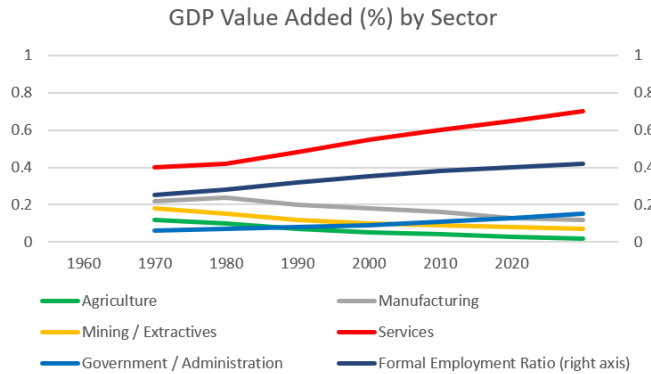
Vietnam – Pop: 97mil, GDP per capita: \$2.8K



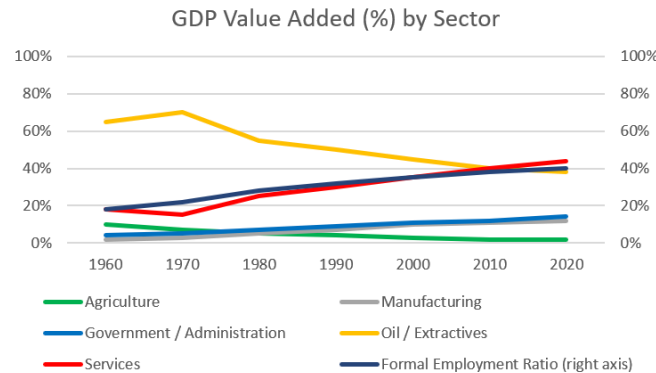
Greece – Pop: 10.7mil, GDP per capita: \$19K



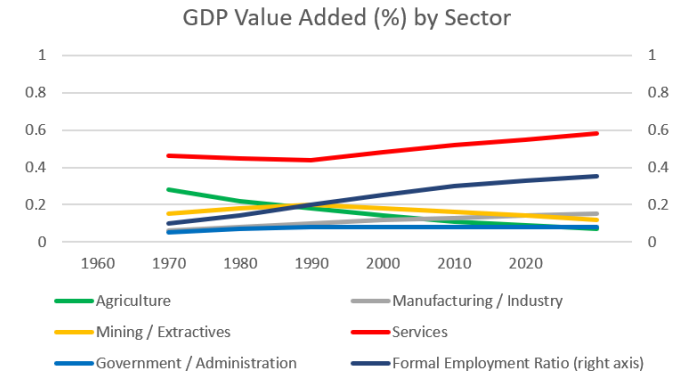
South Africa – Pop: 59mil, GDP per capita: \$6K



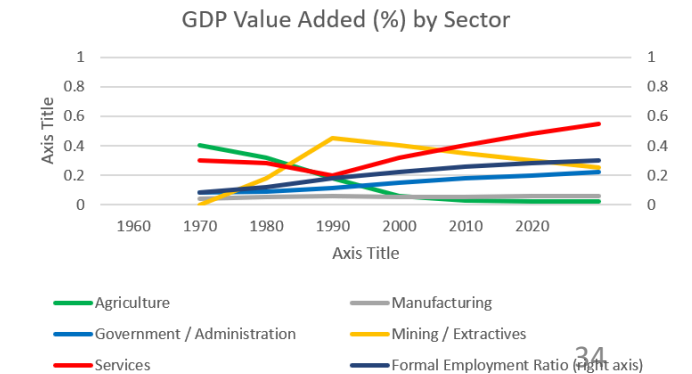
Saudi Arabia – Pop: 35mil, GDP per capita: \$20K



Namibia – Pop: 2.5mil, GDP per capita: \$4.7K



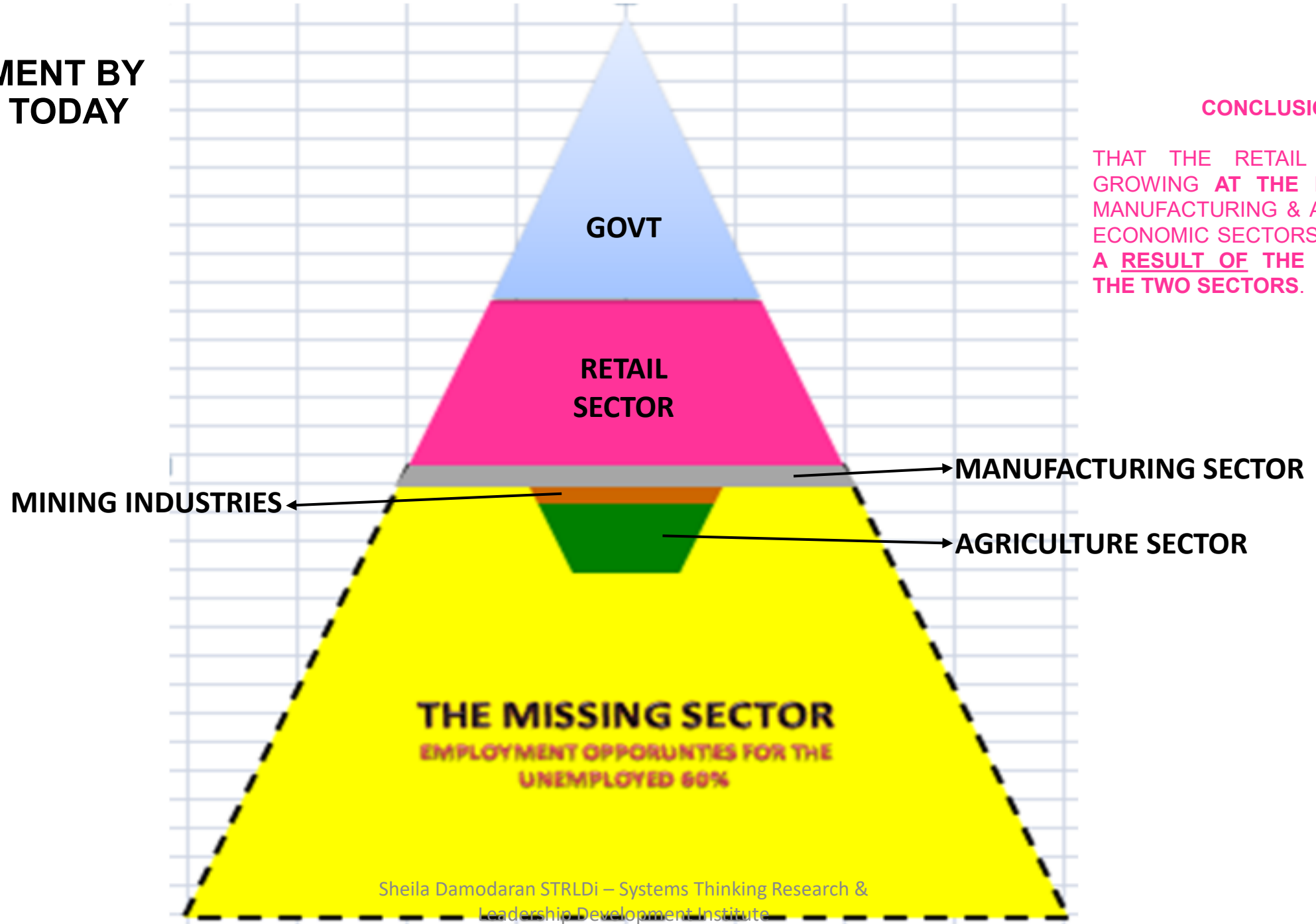
Botswana – Pop: 2.4mil, GDP per capita: \$6.8K



Before We Model the System, Did We First Look at Its Behaviour?

<https://www.linkedin.com/pulse/before-we-model-system-did-first-look-its-behaviour-sheila-damodaran-ycjsf/?trackingId=NBUVjQJ9QY6itDBS9QZg9w%3D%3D>

EMPLOYMENT BY SECTOR TODAY



CONCLUSION:

THAT THE RETAIL SECTOR IS GROWING AT THE EXPENSE OF MANUFACTURING & AGRICULTURE ECONOMIC SECTORS BUT NOT AS A RESULT OF THE GROWTH OF THE TWO SECTORS.

Distribution of economic sector depending on the stage of economic development

Economic Stage	Primary Sector (%)	Secondary Sector (%)	Tertiary Sector (%)
Fully Developed Economy	3–5%	15–25%	70–80%
Resource-Dependent Emerging Economy	15–25%	30–40%	35–45%
Industrialized, Value-Added Economy	5–10%	30–40%	50–60%

- In fully developed economies, services dominate the economy while manufacturing and raw material extraction have a minimal share.
- In contrast, resource-dependent emerging economies maintain a higher share of the primary sector due to ongoing reliance on raw outputs, balanced by significant manufacturing activity.
- Meanwhile, in economies driven by industrialization and value-added processing, the secondary sector is robust, with a growing service sector complementing a modest primary sector.

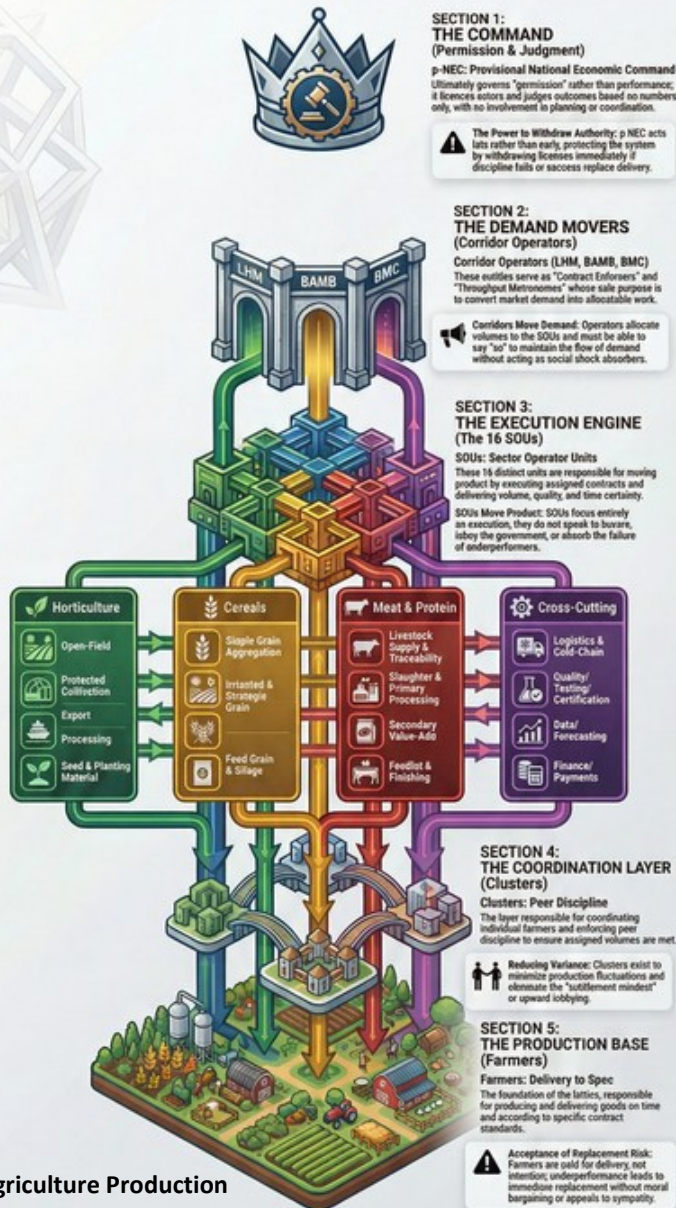
What is the change we want?

Economic Stage	Primary Sector (%)	Secondary Sector (%)	Tertiary Sector (%)	
Resource-Dependent Emerging Economy	25 %	40 %	35 %	100%
Botswana 2023 Comparison	23 % (2% Agric)	22 % (7% Mfg)	37 %	? %
Change That Is Needed:	? %	? %	? %	

- What policies in agriculture and manufacturing economic sectors will secure that change for the country?



The STRLDi Minimum Viable Execution Lattice: A Hierarchy of Discipline



ROLE DOCTRINE — WHO DOES WHAT

1. p-NEC (Provisional National Economic Command)

Composition: OP delegate, Finance, Trade, Private Sector (BB-nominated), Financiers, MoA (regulatory), Systems role.

p-NEC exists to govern permission, not performance. It does not operate the corridor. It licenses it, protects it, and withdraws authority when discipline erodes. Its mandate is narrow by design:

- License corridor actors
- Protect execution from interference
- Judge outcomes
- Withdraw authority if discipline fails.

2. Corridor Operators (LHM, BAMB, BMC)

Their mandate is execution discipline in motion.
 Convert demand into allocatable work
 Allocate volumes into SOUs
 Enforce quality, time, and exclusion
 Report numbers, not stories

3. MoA (Post-Split Doctrine)

Two faces — permanently separated.

A. Sovereign Regulator (unchanged)▪ Law, standards, enforcement
 International credibility
 Sanctions authority

B. Corridor Service Units (CSUs)▪ Embedded execution support
 SLA-driven
 Time-bound
 Contract-prioritised

4. SOUs (Sector Operator Units)

SOUs exist to execute contracts — not to expand mandates.
 Execute assigned contracts
 Allocate work to clusters
 Replace underperformers
 Maintain delivery discipline.

5. Clusters

Clusters exist to reduce variance, not amplify complaints.
 Coordinate farmers
 Enforce peer discipline
 Deliver assigned volumes

6. Farmers

Farmers are paid for delivery — not intention.
 Deliver to spec
 Deliver on time
 Accept replacement risk

7. BOHOCO & Farmer Associations

Representation remains necessary — but it is structurally separate.
 Representation
 Readiness preparation
 Absorbing social pressure
 Learning & advocacy

8. Financiers

Capital is disciplined, or it destabilises the spine.
 Finance contracts
 Price risk explicitly
 Withdraw when discipline erodes

9. Donors

Donors support the ecosystem — not the engine.
 Fund readiness
 Fund learning
 Fund exit pathways

10. Media, Political Parties, Public Forums

They are not part of the execution spine.
 Not engaged during pilots
 Not briefed on execution detail
 Not answered reactively
 Corridors die in public before they fail in reality.
 Silence, at times, is policy.



THE MISSING LAYER: THE NEXUS OPERATOR

- Not a new ministry.
Not another committee.
Not a regulator.
- But a neutral operating layer responsible for:
 - sequencing,
 - throughput,
 - corridor cadence,
 - infrastructure utilisation,
 - demand coordination,
 - manufacturing integration,
 - logistics timing,
 - production balancing,
 - and system learning.

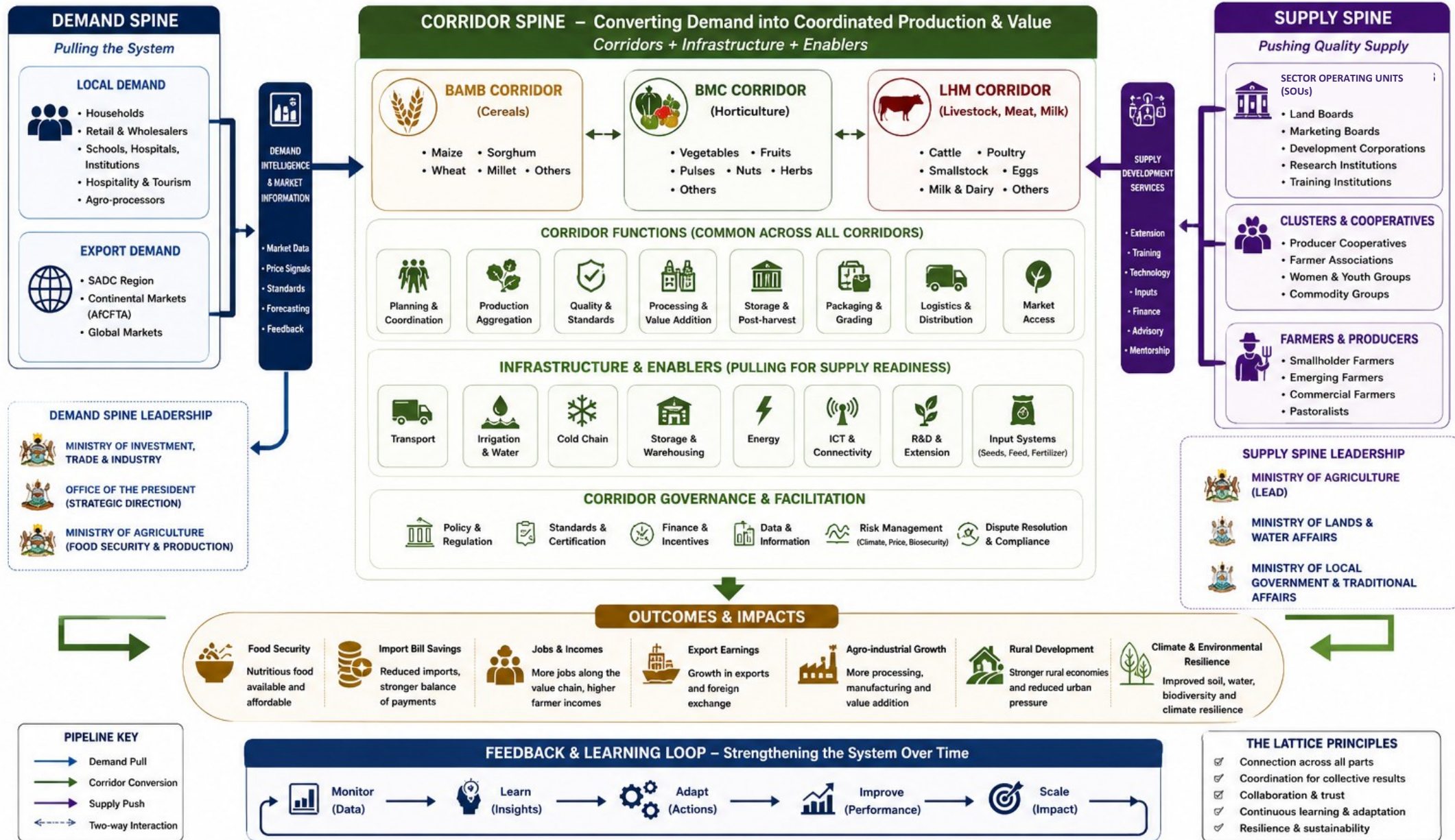
THE MISSING LAYER

- **The Nexus Operator Holds:**
- Demand before production
- Contracts before planting
- Throughput before scaling
- Corridor utilisation before isolated projects
- Bottom reflection:
- Today, much of this work is happening informally through individuals.
- Industrial-scale systems cannot depend on informal coordination.

BOTSWANA AGRICULTURE LATTICE

Demand Spine → Corridors (including Infrastructure) → Supply Spine

A coordinated system that turns demand into income, jobs and food security



TOGETHER WE GROW • TOGETHER WE SUPPLY • TOGETHER WE PROSPER



THE REGIONAL ECONOMIC BELTS

- **Botswana does not scale alone.**
- **Economic Belt Logic**
- Botswana → SADC → Ports → Global Markets
- **Strategic Port & Corridor Integration**
 - Walvis Bay
 - Durban
 - Maputo
 - Beira
 - Lobito
 - AfCFTA trade corridors

THE REGIONAL ECONOMIC BELTS

What Belts Stabilise

- logistics continuity,
- export throughput,
- manufacturing scale,
- labour absorption,
- infrastructure utilisation,
- and regional trade rhythm.

Bottom reflection:

- Corridors move products.
- Economic belts sustain industrial civilisation scale.

WHAT THE SYSTEM IS ACTUALLY BUILDING

- **Not farms.**
- **Not projects.**
- **Not isolated interventions.**
- The system is increasingly building:
 - productive throughput,
 - labour absorption,
 - industrial coordination,
 - export capability,
 - manufacturing depth,
 - regional competitiveness,
 - institutional learning capacity,
 - and productive GDP.

Reflection:

- Agriculture increasingly behaves less like a social support activity and more like productive infrastructure.

WHAT CHANGES IF THE SYSTEM STRENGTHENS?

- **Possible Structural Effects**

- **Economy**

- Reduced import leakage
- Higher productive GDP
- Increased exports
- Stronger forex position
- Expanded industrial activity

- **Employment**

- Higher labour absorption
- Youth participation
- More stable income systems
- Technical capability growth

WHAT CHANGES IF THE SYSTEM STRENGTHENS?

- **Institutions**

- Higher infrastructure utilisation
- Better corridor visibility
- Faster learning loops
- Stronger throughput discipline

- **Agriculture**

- Predictable demand visibility
- Reduced waste & gluts
- Improved planning
- More stable supply systems

Bottom reflection:

- The issue may increasingly no longer be agricultural productivity alone.
- The issue may be national productive coordination capacity.

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Bottom reflection:

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- Economic belts sustain industrial civilisation scale.

THESE IMPLY:

WHAT SCALE MUST THE SYSTEM COORDINATE?

- **Indicative National Scaling Requirements**
- Key reflection:
- The issue may no longer simply be increasing production.
- The issue may increasingly be coordinating industrial-scale throughput across the entire production pipeline.

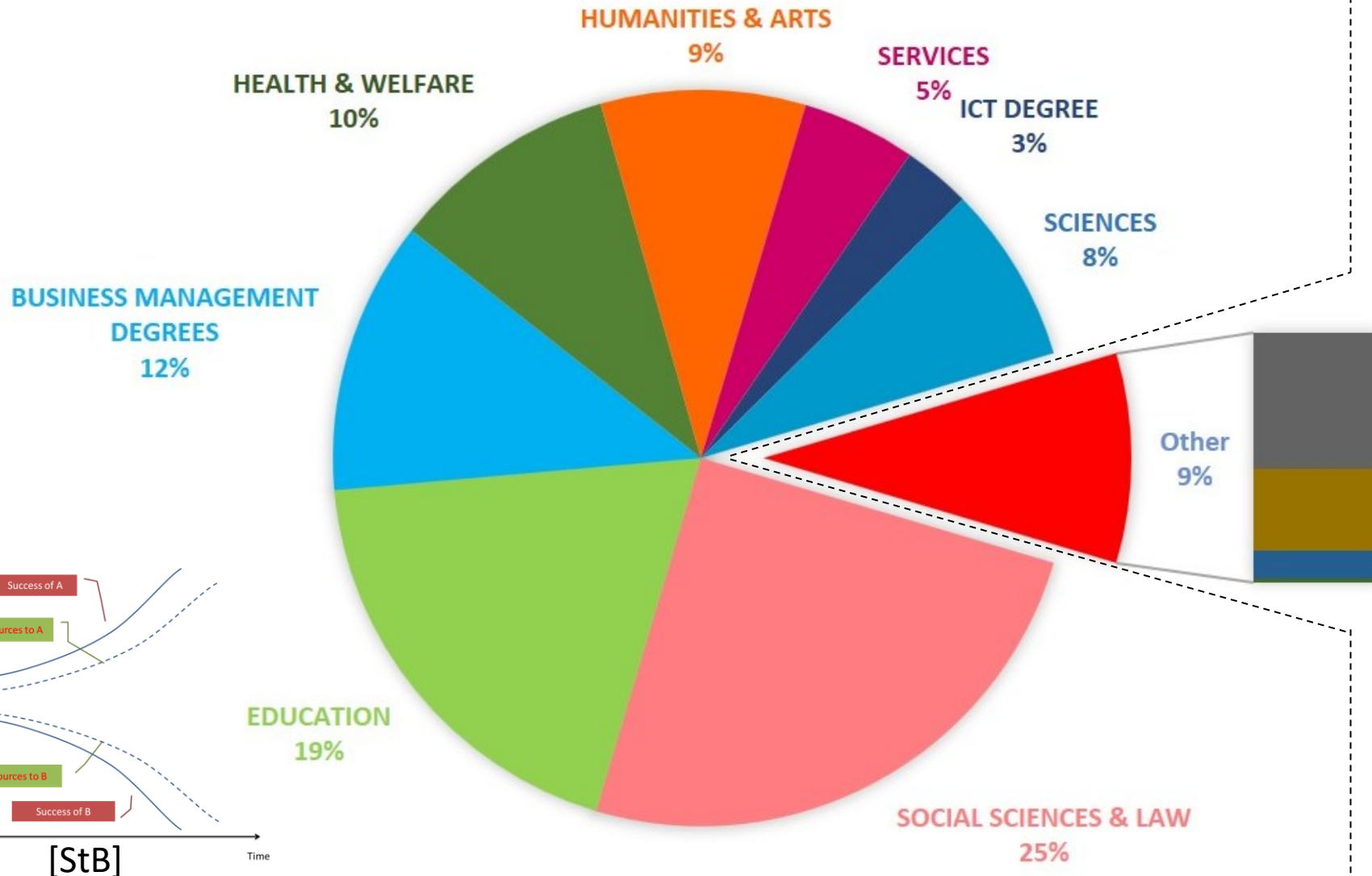
SYSTEM REQUIREMENT	INDICATIVE SCALE
Farmers participating	230,000–390,000
Labour throughput	850,000–1.5 million
Productive hectares	12–17 million ha
Irrigated hectares	300,000–500,000 ha
Cluster aggregation systems	Thousands
Packhouses & storage nodes	Hundreds
Cold-chain throughput	National scale
Logistics coordination	Continuous
Feed coordination	Multi-corridor dependent
Processing throughput	Industrial scale
Demand visibility	Daily/seasonal
Agriculture GDP Contribution	~6–10%+



WHY ARE THESE NOT ALREADY HAPPENING?



DISTRIBUTION OF TERTIARY GRADUATES IN BOTSWANA BY COURSE TYPE 2009-2018



ENGINEERING & CONSTRUCTION 5%

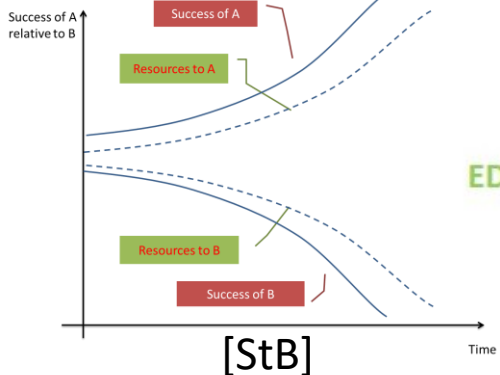
AGRICULTURE DEGREE 3%

MANUFACTURING DEGREE 1%

INDIGENOUS SCIENCES 0%

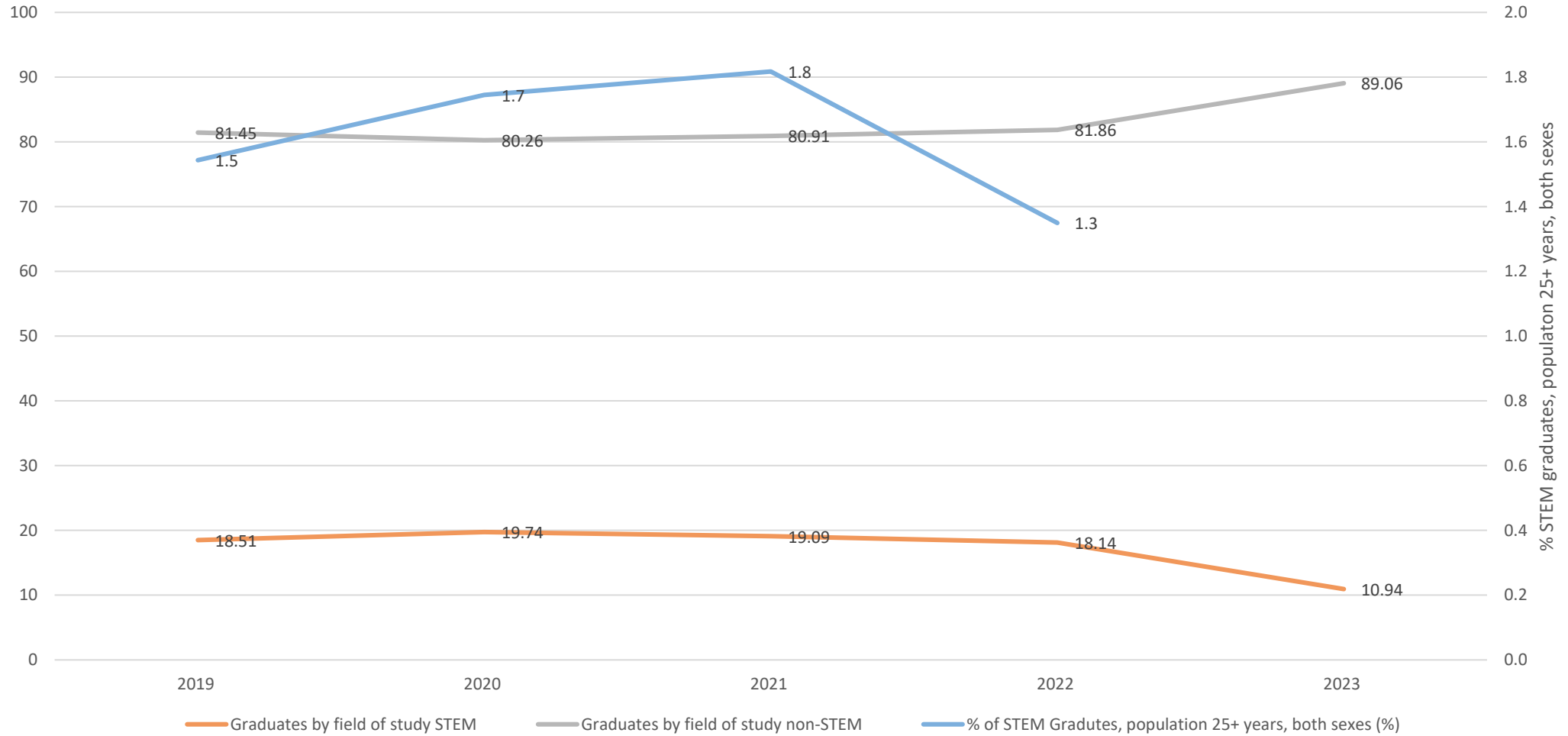


DEMANDS ENGLISH, MATHEMATICS, PHYSICS, CHEMISTRY & BIOLOGY



DEMANDS STRONG ORATORICAL & WRITTEN SKILLS POSSIBLY IN SETSWANA

STEM Pipeline Composition Relative to Adult Population, Botswana 2019–2023 Source: UNESCO



COMPARISON

Unlocking Economic Growth Through STEM Education: A Strategic Imperative

A decisive shift in our education policy towards a strong STEM (Science, Technology, Engineering, and Mathematics) foundation is not just an investment in our youth—it is the key to unlocking sustainable economic growth, job creation, and regional competitiveness. In an era where innovation drives prosperity, our ability to equip learners with critical skills in technology, engineering, and scientific problem-solving will determine our success in building industries, expanding our manufacturing base, and reducing reliance on raw material exports.

By prioritizing STEM education, we can cultivate a highly skilled workforce capable of driving industrialization, supporting local enterprises, and positioning Botswana as a leader in cutting-edge solutions across sectors. This is not just about keeping pace with global advancements; it is about leading the charge in developing homegrown solutions that create jobs, strengthen our economy, and establish Botswana as a hub of knowledge and innovation for the region.

Country	Population (approx)	Employable Labour 65%	Labor Participation Rate (approx.)	True Participation 75%	Formally Employed	Population Employed
North Macedonia	2,100,000	1,365,000	62%	47%	393,530	18.74%
Israel	9,300,000	6,045,000	62%	47%	1,742,774	18.74%
Paraguay	7,000,000	4,550,000	63%	47%	1,354,421	19.35%
Maldives	515,000	334,750	63%	47%	99,647	19.35%
Lesotho	2,100,000	1,365,000	64%	48%	419,328	19.97%
Namibia	2,500,000	1,625,000	65%	49%	514,922	20.60%
Croatia	4,100,000	2,665,000	65%	49%	844,472	20.60%
Slovakia	5,500,000	3,575,000	66%	50%	1,167,953	21.24%
Austria	9,000,000	5,850,000	66%	50%	1,911,195	21.24%
Bhutan	750,000	487,500	67%	50%	164,129	21.88%
Malta	514,000	334,100	67%	50%	112,483	21.88%
Botswana	2,400,000	1,560,000	67%	50%	525,213	21.88%
Brunei	450,000	292,500	68%	51%	101,439	22.54%
Cyprus	1,200,000	780,000	68%	51%	270,504	22.54%
Uruguay	3,500,000	2,275,000	68%	51%	788,970	22.54%
Singapore	5,700,000	3,705,000	68%	51%	1,284,894	22.54%
Panama	4,300,000	2,795,000	69%	52%	998,025	23.21%
Hungary	9,600,000	6,240,000	69%	52%	2,228,148	23.21%
Luxembourg	626,000	406,900	70%	53%	149,536	23.89%
Mauritius	1,300,000	845,000	70%	53%	310,538	23.89%
Jamaica	2,900,000	1,885,000	70%	53%	692,738	23.89%
Costa Rica	5,000,000	3,250,000	70%	53%	1,194,375	23.89%
Slovenia	2,100,000	1,365,000	70%	53%	501,638	23.89%
New Zealand	5,100,000	3,315,000	71%	53%	1,253,319	24.57%
Seychelles	98,000	63,700	72%	54%	24,767	25.27%
Trinidad & Tobago	1,400,000	910,000	72%	54%	353,808	25.27%
Norway	5,400,000	3,510,000	73%	55%	1,402,859	25.98%
Ireland	5,000,000	3,250,000	74%	56%	1,334,775	26.70%
Estonia	1,300,000	845,000	75%	56%	356,484	27.42%
Denmark	5,800,000	3,770,000	75%	56%	1,590,469	27.42%
Iceland	343,000	222,950	79%	59%	104,357	30.42%
Switzerland	8,600,000	5,590,000	79%	59%	2,616,539	30.42%

WHY IS THIS HAPPENING?

BIRTHS & FAMILY STRUCTURE [StS & Esc]

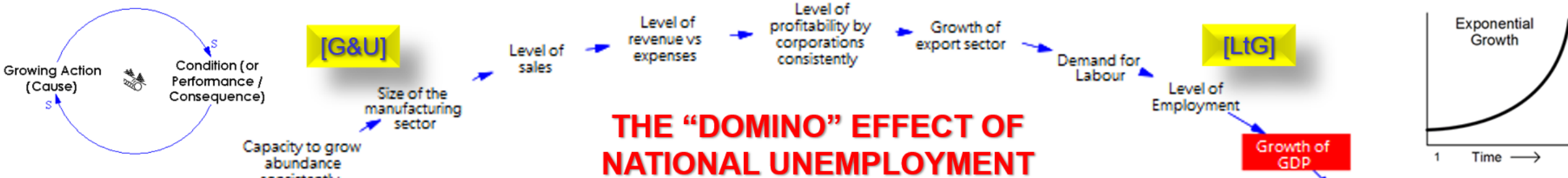
- There is an **80% chance** a child is *born to an unmarried parent or to parents who, although married, do not cohabit in the same household.*
- With the country's marriage rate at only **20%**, it is more likely that unmarried women, sometimes with children from different fathers, will be more successful in having children.
- Further, **six out of ten** times, these women are unemployed and rely on a combination of state support and financial contributions from the fathers of their children to provide for their families. This financial dependency, while helping them fulfil family and community obligations, leads to tensions and conflicts at both familial and community levels.

Trend in Births by Mother's Marital Status: Married vs Unmarried



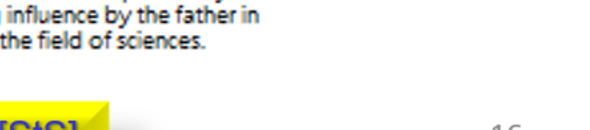
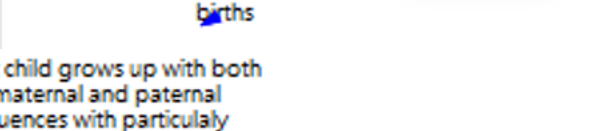
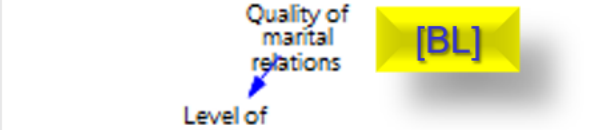
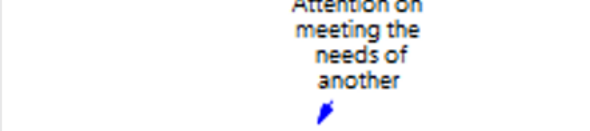
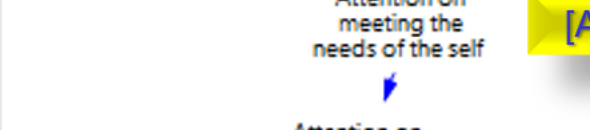
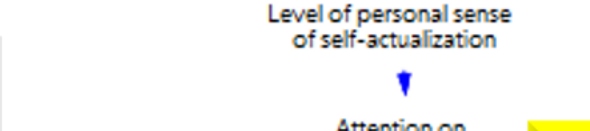
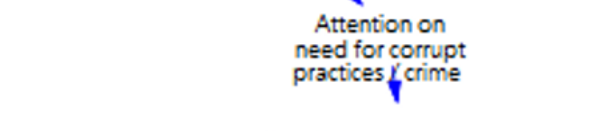
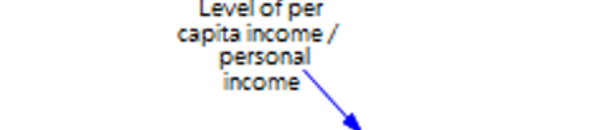
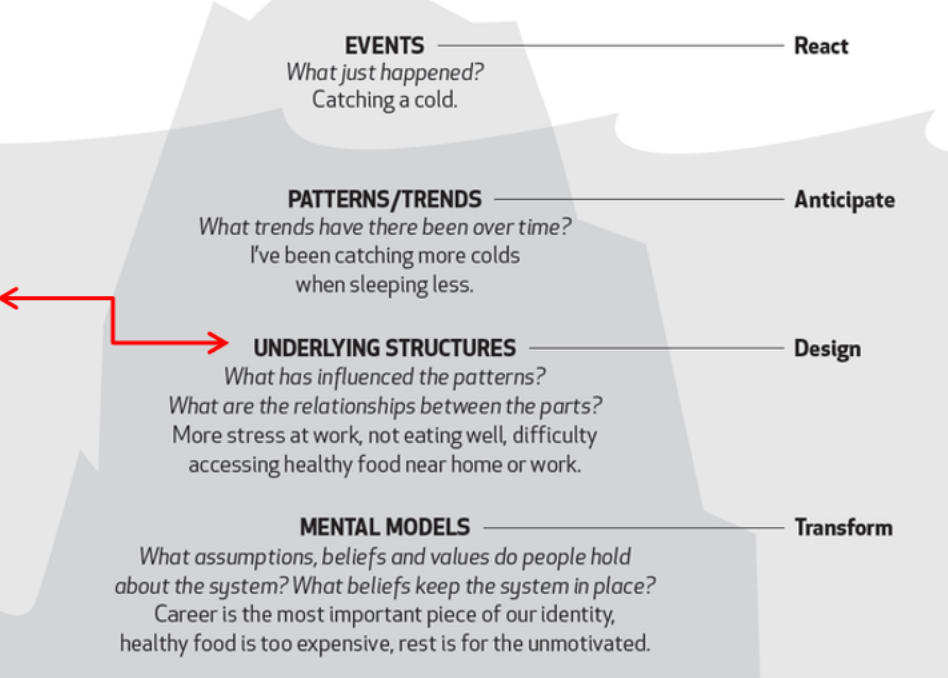
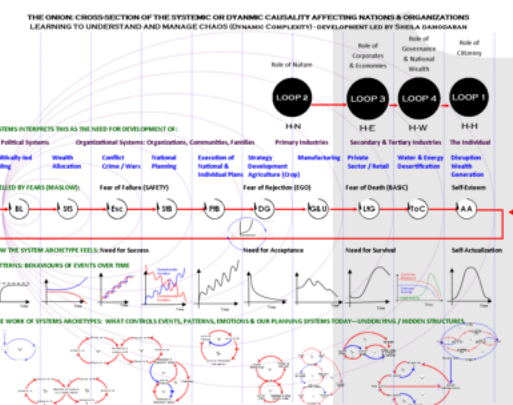
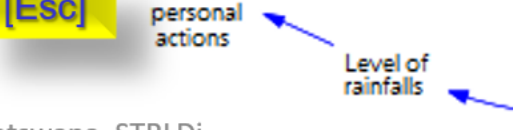
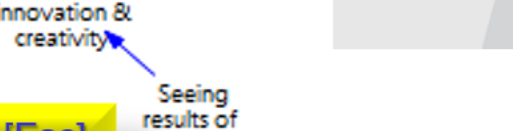
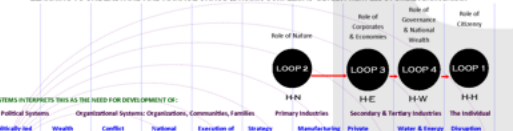
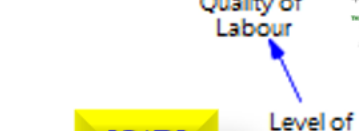
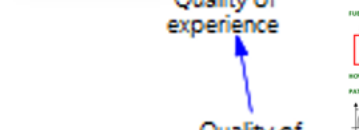
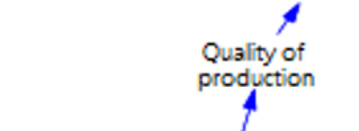
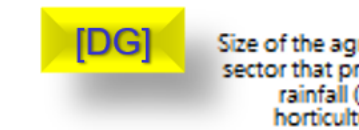
	YOB	2015	2016	2017	2019	2020	2021	2022
Nuptial births	22.0%	28.0%	26.0%	19.0%	16.0%	16.0%	17.0%	15.2%
Ex-Nuptial births	78.0%	72.0%	74.0%	81.0%	84.0%	84.0%	83.0%	84.8%





THE "DOMINO" EFFECT OF NATIONAL UNEMPLOYMENT

THE ICEBERG
A Tool for Guiding Systemic Thinking



WHAT IS NEXT?

IMPLEMENTATION PATHWAY

STEM AS ECONOMIC INFRASTRUCTURE

- Key shift:
 - STEM is no longer primarily an education agenda.
- It becomes:
 - productive infrastructure,
 - industrial capability,
 - corridor intelligence,
 - manufacturing discipline,
 - and throughput coordination capacity.
- Core insight:
- Industrial systems move at the speed of human coordination.
- Target: 60% of population STEM adept



THE HUMAN OPERATING SYSTEM

- Different labour layers required:
- **Production Layer**
 - growers,
 - irrigation operators,
 - livestock technicians.
- **Industrial Layer**
 - machinists,
 - packhouse operators,
 - maintenance teams,
 - cold-chain technicians.

THE HUMAN OPERATING SYSTEM

- Different labour layers required:
- **Coordination Layer**
 - throughput planners,
 - logistics coordinators,
 - standards managers,
 - export schedulers.
- **Intelligence Layer**
 - data systems,
 - forecasting,
 - demand analytics,
 - systems modelling.

Bottom reflection:

- The future shortage may not be jobs.
- It may be coordinated capability.

FROM UNEMPLOYMENT TO PRODUCTIVE ABSORPTION

- This is directly your unemployment work.
- Botswana's issue increasingly becomes:
 - not simply:
 - unemployment,
- but:
 - insufficient productive absorption systems.

Key insight:

- Economies absorb labour through coordinated productive structures — not through intention alone.
- Then show:
Demand → Production → Manufacturing → Logistics → Exports → Labour Absorption

WHAT SETS THIS IMPLEMENTATION PATHWAY APART?

TRADITIONAL APPROACH

Policies → Programmes → Budgets → Projects → Jobs

STRLDI IMPLEMENTATION PATHWAY

Understanding → Alignment → Behaviour Change → Structural Change → Labour Absorption

FROM SYMPTOM MANAGEMENT

- Unemployment Programmes
- Grants & Subsidies
- Incentives
- Public Sector Expansion
- Project-Based Interventions

TO STRUCTURAL TRANSFORMATION

- Productive-Sector Deepening
- Labour Absorption Design
- Diversification Capability
- STEM Capability Formation
- Long-Term Economic Coordination



PHASE 1: STRUCTURAL RECOGNITION

Objective

- Build a shared understanding that persistent unemployment is not behaving as a labour-market issue alone, but as a structural national issue.
- **Focus Areas**
 - Behaviour Over Time (BOT) patterns
 - Labour absorption dynamics
 - Productive-sector performance
 - Diversification behaviour
 - Household and STEM linkages
 - Systems archetypes and structural causes
- **Key Outcome**
 - The national conversation shifts from:
 - **“What programme should we fund next?”**
 - to
 - **“What structures are reproducing unemployment?”**



PHASE 1: STRUCTURAL RECOGNITION

PURPOSE

- Build a shared understanding of the structural drivers underlying persistent unemployment and diversification challenges.
- **INITIAL REACH-OUTS**
 - **Presidencies**
 - **National Planning Commission (NPC)**
 - **Botswana Economic Transformation Programme (BETP)**
 - **Ministry of Finance**
 - **Productive Sector Leadership**
 - **Agriculture**
 - **Manufacturing**
 - **Trade**
 - **Education & Skills Development**
- **EVENUAL REACH-OUTS**
 - Southern Africa
 - Eastern Africa
 - Western Africa

OUTPUT

- **Shared National Understanding**
- **Leadership Alignment**
- **Recognition of Structural Drivers**
- **Readiness for Coordinated Action**



PHASE 2: POLITICS SPEAKS BACK TO ITS PEOPLE

- **Objective**
 - Create a new national dialogue around productive development and shared responsibility.
- **Focus Areas**
 - Productive economies
 - Labour absorption
 - Agriculture and manufacturing
 - STEM readiness
 - Long-term national competitiveness
- **Key Message**
 - **Government cannot solve unemployment alone.**
 - **Government and citizens must solve unemployment together.**
- **Key Outcome**
 - Citizens begin seeing themselves as participants in the solution rather than recipients of programmes.



PHASE 3: HOUSEHOLD ONBOARDING

Objective

- Strengthen the household's role in capability formation and long-term economic development.
- **Focus Areas**
 - Educational continuity
 - STEM readiness
 - Family stability
 - Learning environments
 - Intergenerational capability development
- **Key Insight**
 - **The household is not only a social institution.**
 - **The household is also an economic institution.**
- **Key Outcome**
 - Greater national alignment between family life, education, and productive-sector needs.



PHASE 4: PRODUCTIVE-SECTOR REORIENTATION

Objective

- Refocus national growth toward sectors capable of absorbing labour at scale.
- **Priority Sectors**
 - Agriculture
 - Manufacturing
 - Agro-processing
 - Logistics
 - Technical services
- **Key Questions**
 - Which sectors absorb labour?
 - Which sectors reproduce capability?
 - Which sectors create multiplier effects?
- **Key Outcome**
 - Labour absorption becomes a deliberate design objective.



PHASE 5: DEMAND-SPINE & SUPPLY-SPINE COORDINATION

- **Objective**
 - Align production systems with regional and global demand opportunities.
- **Focus Areas**
 - Trade
 - Agriculture
 - Manufacturing
 - Education
 - Finance
 - Investment
- **Key Questions**
 - What does the market require?
 - What can Botswana competitively produce?
 - How should production systems be organised?
- **Key Outcome**
 - National coordination around productive growth and export competitiveness.



PHASE 6: STEM DEEPENING

Objective

- Build world-class technical and productive capability.
- **Focus Areas**
 - Science
 - Technology
 - Engineering
 - Mathematics
 - Agricultural sciences
 - Industrial skills
- **Key Insight**
 - Long-term diversification depends on sustained technical capability.
- **Key Outcome**
 - A growing pipeline of globally competitive STEM talent.



PHASE 7: LABOUR ABSORPTION ACCELERATION

Objective

- Enable employment growth through productive-sector expansion.
- **What Happens**
 - Firms expand
 - Suppliers emerge
 - Value chains deepen
 - Technical services grow
 - Export activity increases
- **Key Insight**
 - Employment becomes an outcome of productive growth rather than a target pursued independently.
- **Key Outcome**
 - Sustained increases in labour absorption across the economy.



PHASE 8 (PARALLE): NATIONAL LEARNING SYSTEM

Objective

- Build the capability to identify and address future systemic challenges before they become crises.
- **Foundation**
 - The Five Disciplines
 - Systems Thinking
 - Personal Mastery
 - Mental Models
 - Shared Vision
 - Team Learning
- **Key Insight**
 - Nations that learn continuously adapt more effectively to change.
- **Key Outcome**
 - A learning society capable of sustaining productive development across generations.



PHASE 9: NATIONAL SYSTEMIC INTEGRATION

- **Objective**

- Integrate insights from multiple persistent national issues into a coherent national development architecture.

- **INPUT STUDIES**

- Persistent Unemployment
- Economic Diversification
- STEM Capability Development
- Gendered Violence
- Household Stability
- Educational Outcomes
- Agricultural Productivity
- Public Sector Performance
- Health Outcomes
- Other Persistent National Challenges

<https://sheilasingapore.blog/2026/05/16/a-showcase-of-viewing-persistent-issues-through/>

- **PROCESS**

- Cross-study analysis
- Shared systemic structures
- Common causal patterns
- Interacting system archetypes
- National priority alignment
- Strategic integration

- **KEY QUESTION**

- **What structures are simultaneously influencing multiple national outcomes?**

- **OUTPUT**

- Integrated National Systems Strategy
- Cross-Ministry Coordination Framework
- National Learning Priorities
- Long-Term Structural Interventions
- Evidence-Based National Development Planning



The Persistent Structural Issues Atlas: Mapping the Global Loop

Societal problems like unemployment and health crises are not isolated failures but "persistent structural pressures" generated by underlying systems. By mapping these into four interacting layers (KSLs), we can move from managing downstream symptoms to reshaping the structural generator that produce them.

KSL 4: Institutional Allocation & Execution

Governance systems must prioritize long-term productive investment over short-term political distribution or "treating" symptoms.

KSL 4: Stb, StS

(Shifting the Burden, Success to the Successful)

KSL 3: Productive Economic Capacity

The "real" economy transforms resources and labor into goods through manufacturing depth rather than just consumption.

KSL 1: Human Formation

Societies must form disciplined, capable individuals whose technical competency—not just years of schooling—drives economic participation.

Capable Individuals & Technical Competency

KSL 1: DG, FtB

(Drifting Goals, Fixes that Backfire)

KSL 2: Ecological & Biological Resilience

The biological foundation, including soil, water, and human health, sustains the resources required for long-term production.

The Propagation of Pressure: Weakness in one layer creates stress in others; e.g., shallow production (KSL5) strains fixal allocation (KSL4).

The Propagation of Pressure: Weakness in one layer creates stress in others; e.g., shallow production (KSL3) strains fixal allocation (KSL4).

Primary vs. Secondary Issues: "Primary" issues are the structural generators (e.g., family breakdown), while "Secondary" issues are the visible symptoms (e.g., crime).

The Central Reinforcing Loop: The four layers are connected by a central reinforcing cycle that either drives national growth or deepens systemic failure.

R

KSL 3: G&U, Esc, AA
(Growth & Underinvestment, Escalation, Accidental Adversaries)

KSL 2: LtG, TOC
(Limits to Growth, Tragedy of the Commons)

ROLE OF NATIONAL DEVELOPMENT PLANS (NDPs)

- National Development Plans become:
 - **Less focused on isolated sector strategies**
 - and
 - **More focused on addressing the structural conditions influencing multiple national outcomes simultaneously.**
- **END STATE**
 - **A National Learning System capable of continuously studying, integrating, and responding to persistent issues through coherent long-term development strategies.**



CLOSING SLIDE : THE STRLDI TRANSITION PATHWAY

- **Phase 1** – Structural Recognition
- **Phase 2** – Politics Speaks Back to Its People
- **Phase 3** – Household Onboarding
- **Phase 4** – Productive-Sector Reorientation
- **Phase 5** – Demand-Spine & Supply-Spine Coordination
- **Phase 6** – STEM Deepening
- **Phase 7** – Labour Absorption Acceleration
- **Phase 8** – National Learning System
- **Phase 9** – National Systemic Integration & NDP Alignment

End Goal

A productive, labour-absorbing economy supported by capable households, strong institutions, and a continuously learning society.



WHAT IS DIFFERENT?

- **Addresses the structures producing unemployment, not only the symptoms.**
- **Recognises households as part of the economic system.**
- **Positions citizens alongside government as co-creators of solutions.**
- **Places labour absorption at the centre of economic design.**
- **Builds productive sectors before chasing employment numbers.**
- **Develops national learning capacity to prevent future crises.**

END GOAL

A PRODUCTIVE, LABOUR-ABSORBING ECONOMY

- Supported by:
 - **Capable Households**
 - **Strong Productive Sectors**
 - **Coordinated Institutions**
 - **STEM Capability**
 - **Continuous National Learning**

HOW WORK WITH STRLDI UNFOLDS

Stage 1:

LEADERSHIP DEVELOPMENT

Learning to Work with Structure

- Systems Thinking Capability Building
- Five Disciplines Practice
- Assumption Testing
- Feedback Loop Analysis
- Leverage Point Discovery

Output: Leaders capable of seeing and working with systemic causes rather than symptom

RESULT

Persistent Issue → Structural Understanding → Leadership Capability → Coordinated Action → Behaviour Change Over Time

Stage 2:

SYSTEMIC RESEARCH

Seeing the System Whole

- Behaviour Over Time Analysis
- Persistent Issue Mapping
- System Archetype Identification
- Structural Diagnosis
- Shared Understanding of the Issue

Output: A visible picture of the structures generating the persistent outcome.

Stage 3:

SYSTEMS STEWARDSHIP & STRATEGY RENEWAL LABS

Translating Insight into Action

- Cross-Sector Learning
- Strategy Testing
- Intervention Sequencing
- Implementation Alignment
- Continuous Learning

Output: Coordinated action capable of shifting Behaviour Over Time patterns.



HOW THE WORK UNFOLDS

Three interconnected modes of practice.
All three are engaged, depending on the system and the stage of readiness.



“ We do not just provide answers. We build the capability to ask better questions, see deeper, learn together, and steward what matters. ”

DISTINCTIONS TO “SYSTEMS”

SYSTEM MANAGEMENT / ANALYSIS

DETAILED COMPLEXITY

- Exists because of a defined purpose, mandate, target, or objective.
- Boundaries are known, visible, and often formally defined.
- The parts are generally visible and can be mapped directly.
- Management focuses on improving performance within the system.
- Most organisational "systems" discussions fall into this category.
- Problems are often solved through process improvements, resource allocation, compliance, and management intervention.

SYSTEMIC STRUCTURES

DYNAMIC COMPLEXITY

- Exists whether or not anyone recognises it.
- Boundaries are not predefined and must be discovered.
- The causal relationships are often hidden and revealed through inquiry.
- Learning focuses on revealing and changing the structure producing behaviour.
- Most persistent national and societal issues fall into this category.
- Problems require understanding feedback loops, delays, system archetypes, and underlying structures.

DISTINCTIONS TO “SYSTEMS”

EXAMPLES OF SYSTEM MANAGEMENT / ANALYSIS

- Organisation and its divisions
- Industry and its organisations
- A vehicle and its components
- The human body and its organs
- Supervisor–supervisee relationships
- Employer–employee relationships
- Government ministries and departments
- Corporate operating systems

KEY DISTINCTION

SYSTEM MANAGEMENT ASKS:

"How do we improve the performance of the system we can already see?"

SYSTEMIC STRUCTURE INQUIRY ASKS:

"What hidden structure is producing the behaviour we keep observing over time?"

EXAMPLES OF SYSTEMIC STRUCTURES

- Persistent unemployment
- Economic diversification challenges
- Low labour absorption
- Weak manufacturing growth
- Declining STEM capability
- Educational performance patterns
- Poverty traps
- Wildlife–human conflict
- Gendered violence
- Organisational decline and attrition
- Public sector performance patterns
- Climate change

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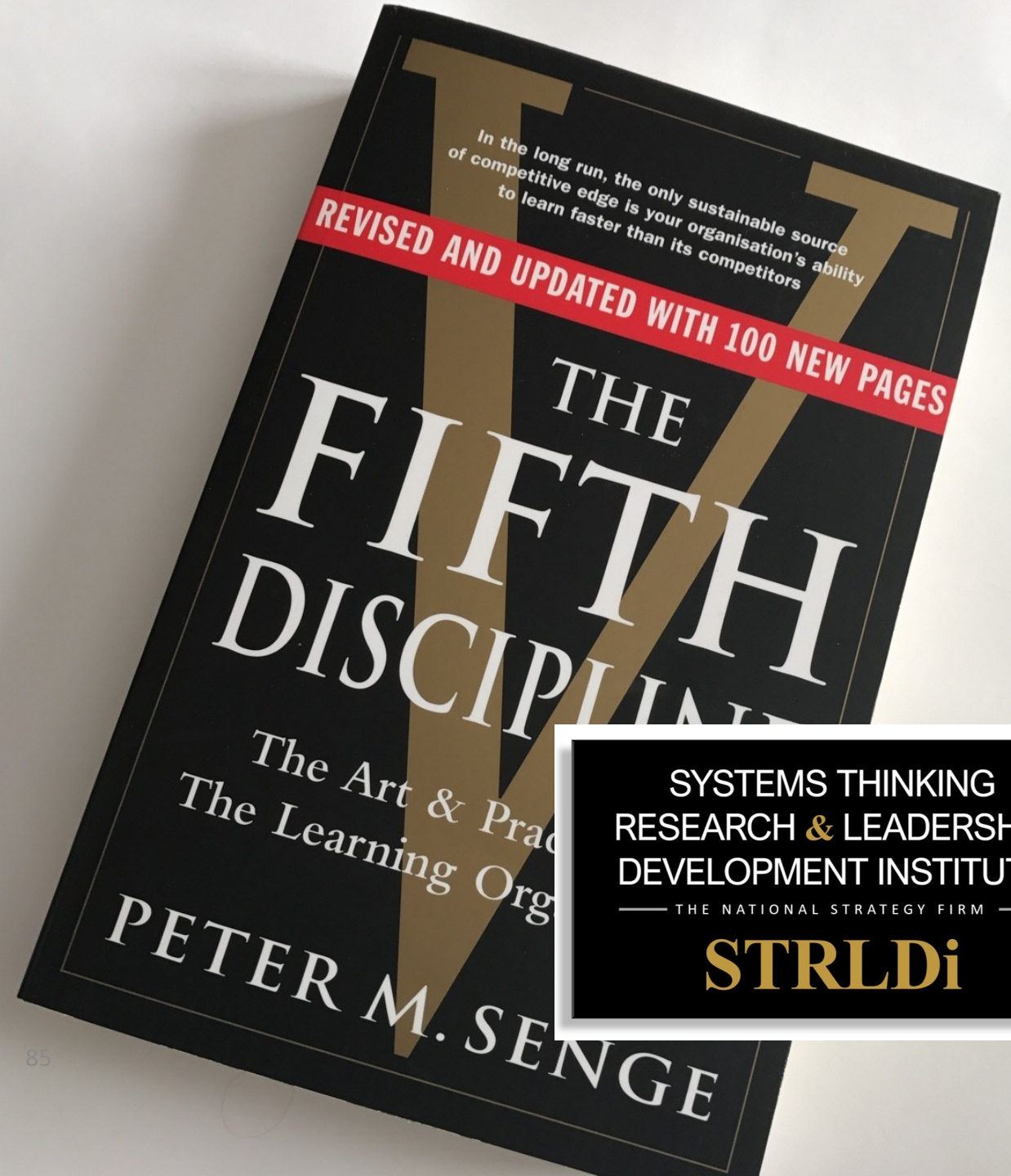
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