

GLOBAL POLICY DOCTRINE

Soil Capitalism & the Post-Chemical Agriculture Era

Strategic Framework for International Policy, Investment, and Global Food Security

(Executive Doctrine for G20, Davos, UNFCCC, World Bank, and Global Agri-Investment Forums)

1. CONTEXT: THE PARADIGM SHIFT

The 21st century marks a decisive transition in global agriculture:

From input-intensive chemical monocultures → to biologically-driven, capitalized soil systems.

Key drivers:

- Soil degradation affecting >40% of arable lands
- Climate volatility disrupting global yields
- Population growth requiring 70–100% more food by 2050
- Global trade instability and geopolitical tensions

Soil Capitalism positions soil as a **strategic natural asset**, measured not merely by area, but by **biological productivity, carbon stock, and ecosystem services**.

2. POST-CHEMICAL AGRICULTURE ERA

Core Premise

Chemical-intensive agriculture is reaching systemic limits:

- Diminishing returns on synthetic fertilizers
- Soil biota collapse and humus loss
- Environmental externalities: water pollution, greenhouse gas emissions, biodiversity loss

Solution: Nature-based soil regeneration technologies (NBSRT), including humic technologies, biochar, and microbial amendments.

3. HUMIC TECHNOLOGIES: STRATEGIC VALUE

3.1 Biogeochemical Enhancement

- Restores soil organic matter
- Activates native microbial communities
- Improves soil structure and water retention

3.2 Agroecological Resilience

- Stabilizes yields under climatic extremes
- Enhances nutrient use efficiency
- Increases plant stress tolerance

3.3 Economic & Financial Leverage

- Reduces per-unit production cost
 - Mitigates volatility of revenue streams
 - Creates investable soil-based assets (Soil Capital)
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4. GEOPOLITICAL & GEOECONOMIC IMPLICATIONS

Food Security

- Stabilizes regional and global supply chains
- Reduces dependence on chemical imports
- Supports sovereign food autonomy

Climate Security

- Carbon sequestration via soil organic matter
- Natural climate buffering of agroecosystems

Investment Leverage

- Integration into ESG-aligned investment funds
 - Climate-smart agriculture financing mechanisms
 - Soil restoration bonds & carbon credits markets
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5. GLOBAL KPI & METRICS FRAMEWORK

Dimension	KPI	Target/Benchmark
Soil Health	Soil Organic Matter Index	+3–5% / year
Climate Resilience	Soil Carbon Sequestration	+0.5–1.5 t C/ha/year
Productivity	Yield Stability Index	<5% seasonal variation
Economic Efficiency	Cost-to-Yield Ratio	-10–15% per ha
ESG Alignment	Biodiversity & Biota Index	+10–15% native species recovery

6. IMPLEMENTATION STRATEGY

Phase 1 — Strategic Pilots

- Target degraded regions
- Demonstrate yield stabilization, ROI, carbon co-benefits

Phase 2 — National Scaling

- Policy incentives for soil restoration
- Integration into climate & food security strategies

Phase 3 — Transnational Adoption

- Cross-border soil capital initiatives
 - Global knowledge sharing platforms
 - Financing via MDBs and green funds
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7. FINANCIAL MODELS FOR SOIL CAPITALIZATION

Example: Humic Technologies Investment

Scenario	Area	Cost (USD)	Yield Stabilization	ROI
Conservative	1,000 ha	60,000	+3%	4–6x
Aggressive	100,000 ha	6,000,000	+8%	10–15x
Climate Stress	100,000 ha	6,000,000	+15%	20–30x

Key Insight: Soil as a capital asset generates both **biological AND financial dividends**.

8. POLICY RECOMMENDATIONS

1. Recognize **soil capital** as a sovereign and corporate asset.
 2. Incentivize nature-based soil regeneration technologies globally.
 3. Integrate soil-centric metrics into SDGs, ESG frameworks, and climate finance instruments.
 4. Prioritize cross-border collaboration for knowledge transfer, monitoring, and verification.
 5. Align investment portfolios with post-chemical agriculture outcomes: yield stabilization, carbon sequestration, and biodiversity restoration.
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9. GLOBAL STRATEGIC THESIS

The Post-Chemical Agriculture Era requires:

- Investment in **biological productivity of soils**
- Adoption of **humic and soil regeneration technologies**
- A shift from **short-term yield maximization** → to **long-term soil capitalization**

Outcome: A globally resilient food system, stabilized commodity markets, and climate-adaptive agroecosystems.

10. CALL TO ACTION FOR GLOBAL LEADERS

- Governments, IFIs, MDBs, and private investors must **redefine agricultural capital**
 - Soil is now a **measurable financial and ecological asset**
 - Strategic deployment of humic technologies is essential for **sustainable global food security in the 21st century**
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Prepared for:

G20 Agricultural Ministers | World Bank & IFC | UNFCCC / FAO | Global ESG Investment Funds

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Global Soil Capital & Agri-Biological Systems Strategy Council
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З повагою,

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З повагою,

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