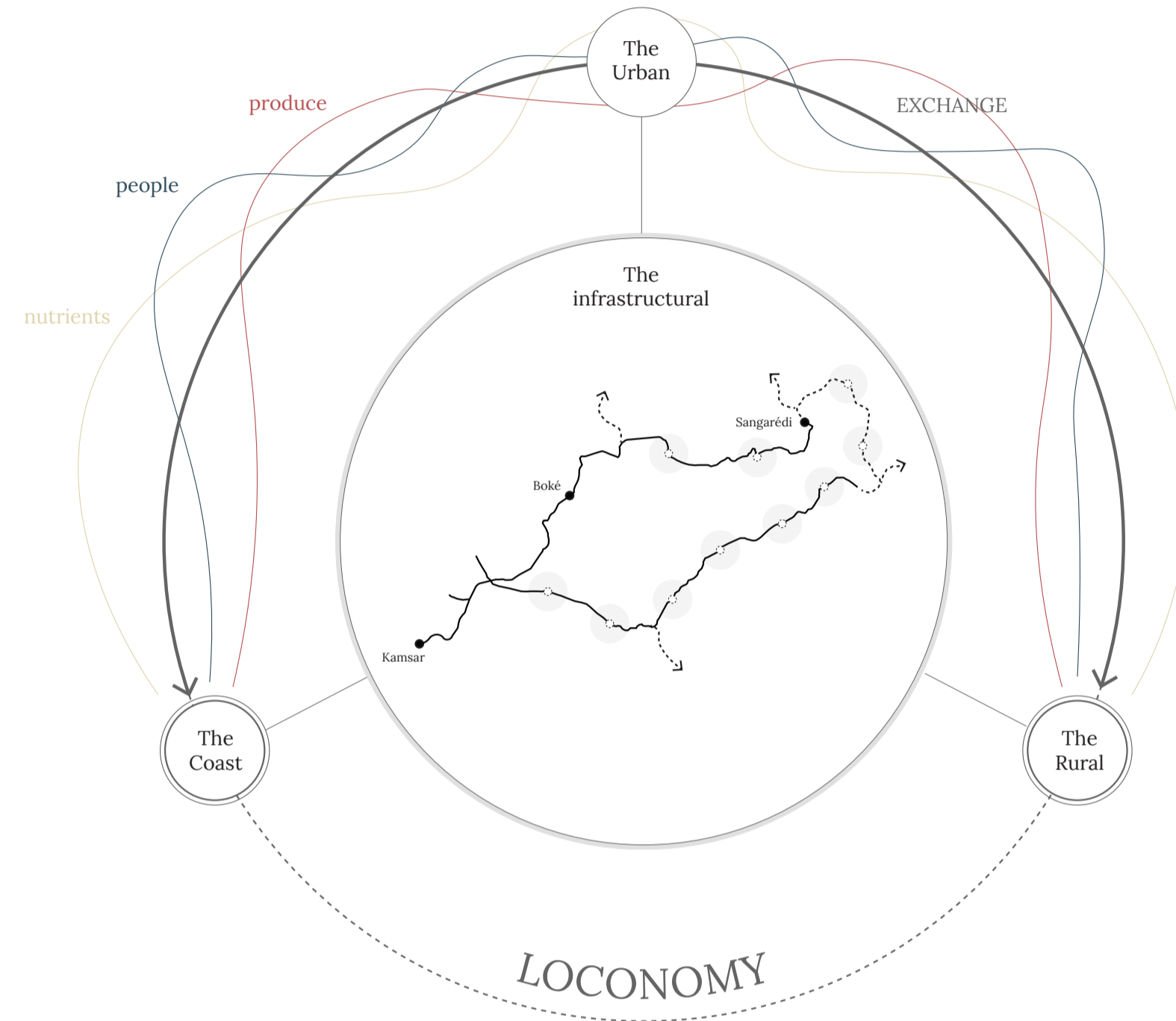


LOCONOMY

Design proposal for a post-extractive future in Boké [Guinea]

valdemarr van staveren van dijk - june 2026 - 5241472 - TU Delft

Loconomy's future pairs post capitalist development with continued but moderated bauxite extraction in Boké, Guinea. The material stays relevant, yet extraction is no longer tied to endless growth, relieving pressure on the planetary boundaries. Reduced consumption slows mining, allowing ecological regeneration to take hold before operations move forward. The model channels development across three sustainable pillars - spatial justice, ecological protection and economic development - through strengthening situated closed-loop exchange of materials, produce, nutrients and knowledges while protecting ecological cornerstones.



The coastal role

The coast is protected yet productive. All mangroves remain intact, supporting a sufficiency economy of fishing, solar salt harvesting, and suspended oyster farming. The oyster system forms a closed loop: shells are cleaned, dried, and reused for seed or sent inland as agricultural fertiliser. Oyster structures also act as living breakwaters, reducing surge and erosion. Strategically placed clearings create a Venturi effect that drives tidal turbines, adding diversified renewable energy to the regional mix.

The urban role

Growth stays within existing centres, each taking on a defined regional function. Kamsar remains the essential port, replacing its fuel generator with a green energy station distributing tidal, wind, and solar power. Former export facilities shift to processing coastal products and producing fertilisers from shells, fish scraps, and salt. Boké becomes the region's exchange hub with its market and diversified education centre. Sangarédi, once a mining town, becomes the inland gateway and processing node for bauxite and agricultural goods.

The infrastructural role

Infrastructure binds the region. The former bauxite railway is expanded for passengers and produce, linking villages and urban cores through frequent shaded stations that double as sub regional hubs for first aid, gathering, and exchange. All ore moves by rail, removing heavy trucks from rural roads. Strengthened and safely lit rural roads draw power from a widespread renewable energy network carrying tidal, wind, and solar energy across the countryside. Connectivity underpins the flow of goods, knowledge, and social life.

The rural role

The countryside balances slowed extraction with ecological repair. Key ecological corridors are secured from settlement and mining. With global demand reduced, mining advances only as regenerated sites become available, supported by rail transport and modular bulk storage near loading points. Regeneration follows a fixed sequence: decompacting soil, building water systems, producing biochar and ash, fertilising with coastal inputs, and planting pioneer species. Each site is then zoned for its future: stewardship landscapes, communal agroforestry, or new rural villages. Extraction's aftermath becomes the foundation for regenerative rural life.



figure 1. coastal protection and productivity through living breakwaters and tidal turbines



figure 2. sub-regional train stations as territorial centrepiece, enabling regional exchange



figure 3. sequential mining in the rural landscape through slowed extraction and land regeneration

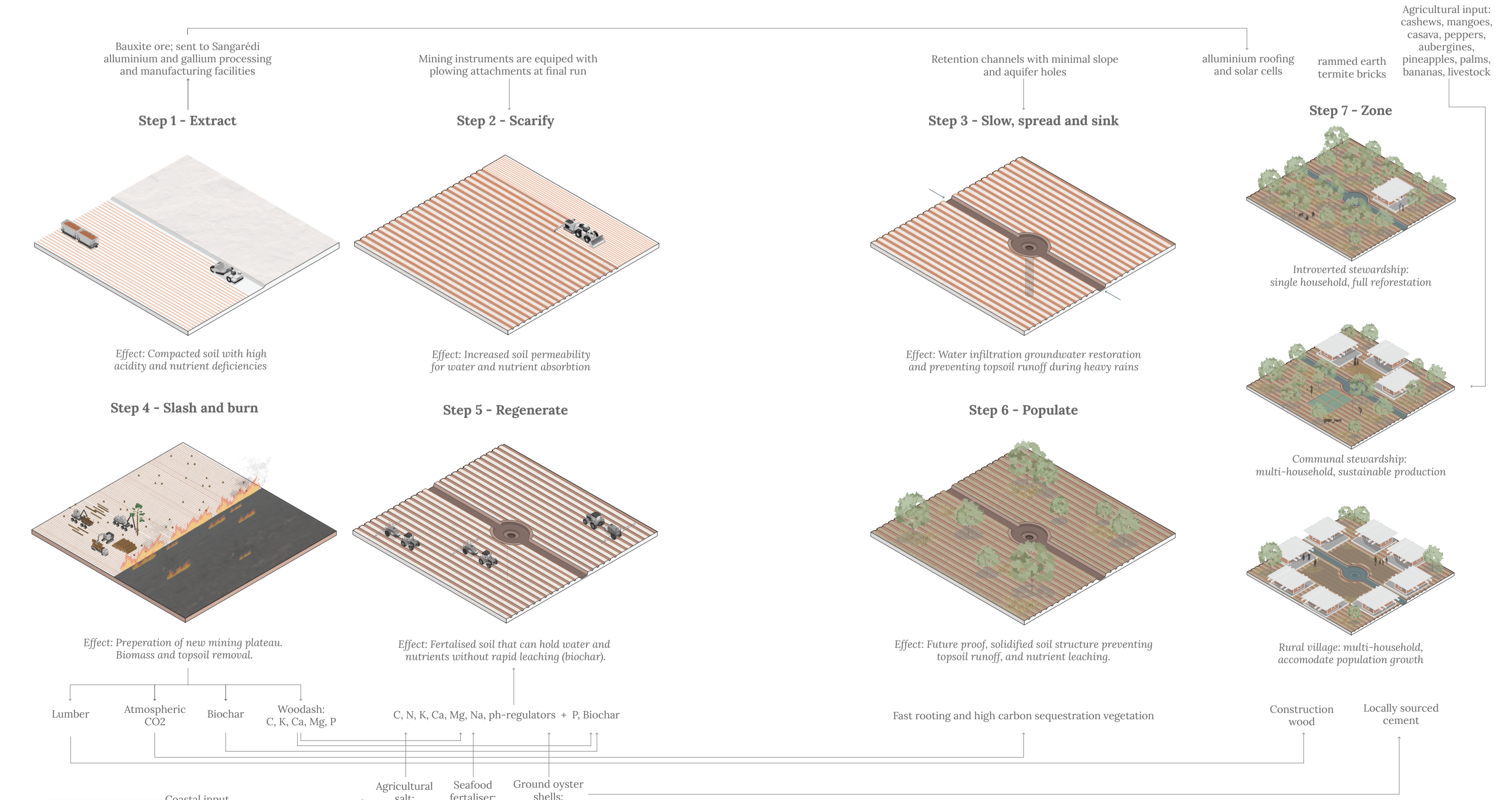


figure 4. sequential mining under loconomy through regional nutrient closed loops

