

Meeting report

2nd Transition Space meeting Tana River

12-13 February 2025

DAY 1 - Tuesday 12th February 2025 (Ngong Hills Hotel, Nairobi)

8:30-9:00	Registration and Coffee
9:00-11:00	<ul style="list-style-type: none"> • Welcome - Getting to know the group • Introduction of the EPIC Africa project (for newcomers) and the role of the TS meetings • Introduction of the 3 storylines (how we arrived at them based on the output of TS1?) • Introduction of the 3 value clusters (how we arrived at them based on the output of TS1?)
11:00-11:30	Coffee Break
11:30-13:00	<ul style="list-style-type: none"> • Group exercise: Position yourself in the space based on the values you intuitively think are best represented (exercise for each scenario) (or alternatively: values you think are 'at risk' in each scenario)
13:00-14:00	Lunch Break
14:00-16:00	<ul style="list-style-type: none"> • Subgroup exercise (1 for each scenario): Define clear (ideally measurable) objectives for each of the value clusters (to build a 'dashboard' showing potential trade-offs between different values)
16:00-16:30	<ul style="list-style-type: none"> • Closing Day 1 – Wrap up
16:30	Transition Space drinks / snacks

DAY 2 - Wednesday 13th February 2025 (Ngong Hills Hotel, Nairobi)

8:30-9:00	Welcome + coffee
9:00 – 9:40	Interactive refreshing of Day 1 outcomes
9:40 – 11:00	<ul style="list-style-type: none"> • Introduction: Why modelling? How does it link to transition spaces? • Explanation of how a model works, what a model logic is, and how it can work in this context
11:00 – 11:30	Coffee Break
11:30 – 12:30	Part 1: Subgroup exercise first driver
12:30 – 13:30	Lunch Break
13:30 – 14:30	Part 2: Subgroup exercise first driver
14:30 – 16:00	Plenary sharing and enriching reflection
16:00 – 16:15	Closing and wrap up
16:15 -	Drinks and informal talks



Participants

From the EPIC Africa consortium

Edo Abraham	TU Delft
Anna Gralka	TU Delft
Viktoria Martin	KTH
Shreyas Savanur	KTH
Carlos Guerrero Lucendo	VITO
Erik Laes	VITO
Yves De Weerd	VITO
Rafatou Fofana	VBA
Salifou Dene	VBA
Eric Ofosu-Antwi	UENR
Mamud Musah	UENR
Simon Mulwa	KALRO
Primrose Nabwire	KALRO
Kevin Kiambe	KALRO
Stephen Nzioka	KALRO
Frank Annor	TAHMO

External participants

Ruth Wambui Wainaina	ACTS
Joel Onyanjo	ACTS
George Mutua	Waris Topmake Suppliers
Douglas Gichangi	KenGen
Caroline Lumosi	The Nature Conservancy
Sally Mlingi	Africa Urban Lab
Nancy Marangu	Chemichemi Foundation
Winnie Tubey	Technical University of Kenya
Anne Osio	Technical University of Kenya
Pamela Ochungo	Technical University of Kenya
Robert Kimati Nyarodia	Technical University of Kenya
Juma Ignatius	Power Shift Africa
Esther Maina	Kenya Space Agency
Jacqueline Wang'ombe	Digital Green
Peter Odhiambo	Strathmore University
Beatrice Langat	Kenya Water Institute
Lilian Mutangili	Kenya Water Institute
Morris Gatheru	KALRO



What is a Transition Space?

Supporting transitions within the perspective of sustainable development requires an active involvement of different **quadruple helix actors** (civil society, private sector, government & administration, and knowledge institutes). All these actors have different ideas and visions regarding certain societal issues. However, to initiate and stimulate societal transitions a mutual understanding of one or more systemic issues and shared long-term actions is indispensable. A Transition Space (TS) is a way to **reframe problem perceptions** in the context of **long-term visions** of the different actors and to create a **strong interaction between the members** based on an **agreement on relevant values**. It is a systemic instrument to co-develop a **common vision**, an **agenda**, and a **supporting network** to tackle complex societal issues in a selective and strategic way. The TS members make up an innovation network, within which various perceptions of the persistent problem and possible directions for solutions can be deliberately confronted with each other and subsequently integrated.



DAY 1

Overview

The aim of the first day was to co-create sustainable future visions and pathways on a sustainable WEF system for the Tana River basin. In preparation for the meeting, a first version of three future visions was created by the EPIC Africa team with the help of a visual harvester ([Flatland Agency](#)). These future visions and storylines were displayed in the meeting room, and based on the discussions the visual harvester further enriched the storylines with captivating graphics.

Opening and Orientation

Against the backdrop of climate, political, and social uncertainty, the session opened with the guiding principle: **“The times are urgent. Let us slow down.”** Participants were invited to momentarily step out of their daily pressures and engage in **long-term, value-driven thinking**. The space was positioned not just as a technical exercise, but as a reflective and collaborative environment in which diverse voices could shape alternative futures.

The session began with a short, guided meditation was held to foster calm and presence in the group. Participants then introduced themselves by selecting a symbolic “role” (e.g., detective, guide, mediator, magician) that best represented their contribution to the transition process. They shared personal traits that would help—or hinder—they in enacting that role. This exercise helped build mutual understanding and humanized the participants beyond professional titles.



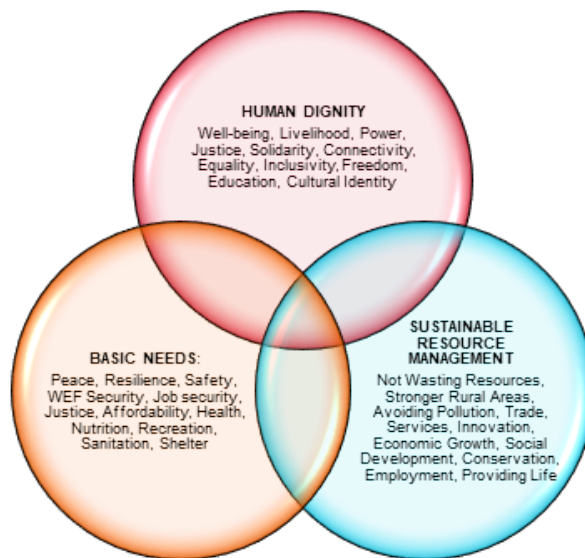
Future Thinking and Scenario Exploration



First, the group was reminded that the future is not predetermined: “**The best way to predict the future is to create it.**” The EPIC Africa facilitators then introduced the three desired future states, i.e., visual and narrative depictions of potential pathways toward sustainability for the Tana Basin (cf. “Assessment of the Three Future Visions” section).



Values and Evaluation Framework



Participants were reminded of the core value clusters identified in the 1st TS meeting:

- **Human Dignity:** e.g., justice, empowerment, well-being, cultural identity
- **Basic Needs:** e.g., access to water, food, energy, sanitation, safety
- **Sustainable Resource Management:** e.g., long-term ecological and economic viability, local economic development, equitable benefit-sharing

These values served as benchmarks to assess how well each scenario supported a sustainable and inclusive future.

Interactive Assessment: “Voting with Your Feet”





The “voting with your feet” exercise is a dynamic and embodied method used to gauge how the TS participants connected with the different future scenarios presented during the workshop. Rather than engaging in discussion alone, participants were invited to **physically move around the room** and stand near the scenario that according to them most resonated with each of the value clusters identified in the previous TS meeting. This simple act transformed abstract preferences into **something visible and tangible**, revealing **patterns of alignment and tension** in the group. Some chose to stand squarely in

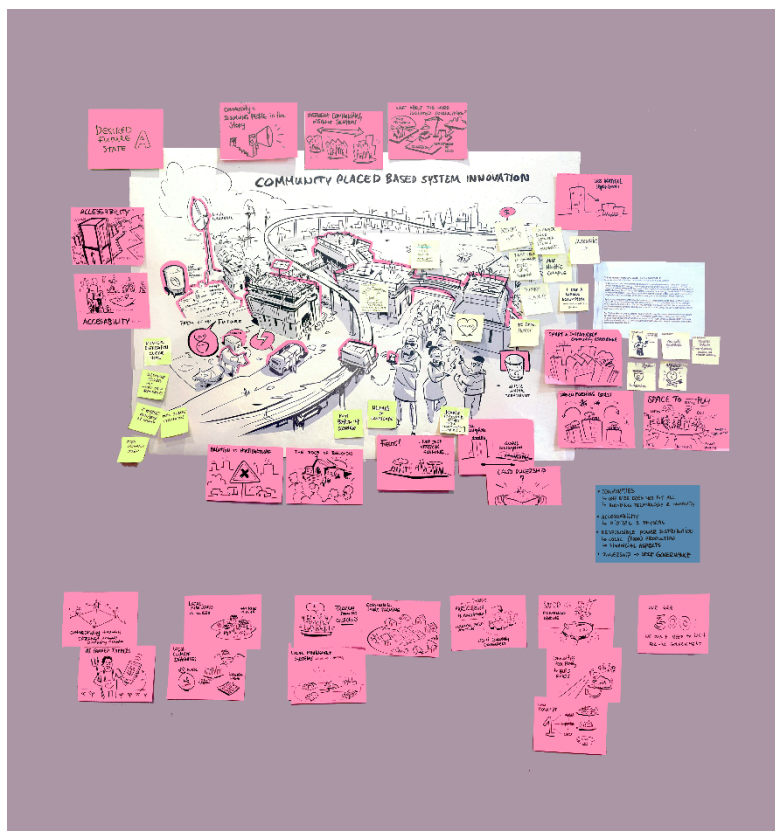
front of one scenario, while others positioned themselves between two, signaling a sense of overlap or internal conflict. The exercise **sparked spontaneous reflections**, as participants shared why they moved, what drew them to a particular vision, and what trade-offs they were grappling with—be it spiritual connection, technological realism, or community cohesion. Crucially, this method created **space for intuition and emotion to play a role in decision-making**, allowing people to express preference not just intellectually but physically. It offered facilitators a richer, more immediate sense of which futures felt not only plausible, but livable, and emphasized that engagement with the future must include the body, the heart, and the social context—not just the head. The detailed assessments of the 3 future visions of a sustainable WEF system in the Tana River basin are reported in the next section.





Assessment of the Three Future Visions

Community place-based system innovation



CLEAN POWER, FOOD AND WATER TO ALL THE PEOPLE

Towards vibrant & self-reliant communities across Tana in 2063

In this scenario we envision thriving communities who have become highly self-reliant in generating renewable energy, clean water, growing and trading their own crops. Each local community owns and runs its own wind and solar park, enjoying a rock-steady supply of clean electricity. Every home has its own battery to store access energy, ready to use for those rare emergency moments. Ground pumps ensure access to clean water to all, while used water is recycled for agricultural use. Every community guards its own clean water reservoir.

Agriculture is not only sustainable but also 'smart'. Local farmers use data to ensure maximum yields. Rooftops are turned into lush green gardens, providing families with all the produce they require. Agricultural surplus not only provides for own consumption but also generates additional revenue streams. The days of manual labor are gone, the use of agricultural robots has become the norm.

By 2063 local communities across Tana thriving, because they're not only self-reliant but also closely connected to the rest of the world. Superfast and cheap mobile internet enables local entrepreneurs and farmers alike to sell crops, goods & services both nationally and internationally. And of course, superfast mobile internet empowers and helps train the skill

Positive Aspects

- Widely seen as the scenario most aligned with **human dignity**, by placing people and communities at the centre.
- Appreciated for its **holistic integration** of services, infrastructure, culture, and ecology — fostering local **resilience and autonomy**.
- Recognized for its **balance between tradition and innovation**, blending appropriate technology with community values.
- Participants noted its strong sense of **place, belonging, and identity**, particularly through housing and communal design.
- The scenario was praised for supporting **bottom-up innovation** and **community control over resources**.
- Seen as **inclusive**, especially for vulnerable or economically marginalized groups, who may be excluded from highly technocratic models.
- Offers **flexibility and space for growth**, rather than portraying a rigid or utopian future.
- Supported **self-determination and freedom** through local economic activity like fishing, recreation, and small enterprises.
- Participants found it **realistic and relatable**, echoing the needs and aspirations of communities they know.

Concerns

- Some participants questioned the **power dynamics**, particularly the role of private companies (e.g. logging) operating in community spaces.
- Uncertainty about whether communities had **true ownership** or remained **dependent on external actors**.
- A few worried about the scenario **romanticizing current conditions**, without addressing structural barriers or needed governance reforms.
- Doubts around **economic viability** and **market access**: how local products like food or fish circulate in broader systems was unclear.

Suggestions for Enrichment

- Clarify and **strengthen community ownership mechanisms**—beyond symbolic inclusion, ensure legal and institutional support.
- Make **power-sharing more visible**: show how companies can be held accountable to community interests.
- Include more detail on **food systems and trade flows**, especially around the circulation of local produce.
- Emphasize **transformative governance**—how communities would not just survive but thrive through supportive policy, education, and finance.
- Reflect **youth and gender dynamics** more explicitly to ensure the scenario speaks to a wide range of lived experiences.



WEF-based urbanization



WELCOME TO OUR CITY GARDENS OF EDEN

Towards sustainable, smart supercities across Tana in 2063.

In this scenario we envision the emergence of sustainable supercities that are closely connected with both the countryside and markets overseas. These “smart cities” are powered by wind, solar and hydrogen energy. Tall skyscrapers are covered in paper-thin solar panels that instantly process sunlight into clean electricity. New water purification technology enables steady access to clean drinking water.

The combination of a data driven approach and super soils have turned every rooftop into a lush garden full of crops, vegetables and produce. Fossil fuels and coal are banned, ensuring that smog, gridlocks and air pollution are something from the past. Small, electronic cars and a state-of-the-art public transport system make sure the city runs both cleanly and smoothly.

Because the high quality of life, these sustainable supercities have become magnets for both talent and foreign capital. The global renaissance of African culture has originated in these supercities, which are bustling with new ideas, trends and cultures from all around the continent and beyond. Good governance has resulted in an even distribution of wealth and the emergence of a new African middle class. Cheap superfast internet and a hyperloop train ensure a close

Positive Aspects

- Recognized for its **bold vision** of high-tech, sustainable cities that integrate WEF systems at scale.
- Participants appreciated the focus on **smart infrastructure, green mobility, and zero-emission design**.
- The emphasis on **rooftop agriculture, solar facades, and clean public transport systems** was seen as future-ready and climate-aligned.
- The scenario was praised for highlighting Africa's cultural revival and economic dynamism, including a **strong urban middle class**.
- Some valued the **direct alignment with global markets and digital connectivity** as a means for regional integration and youth opportunity.

Concerns

- Several participants noted that the scenario risked being **overly idealized or 'techno-utopian'**, with limited clarity on affordability and equity.
- There were **concerns about exclusion**: who gets to live in these supercities and who is left behind?
- The model was seen by some as **disconnected from rural realities or socio-spiritual traditions**.
- Questions were raised about **feasibility**, especially in terms of governance, cost, and the ability to serve informal or marginalized populations.

Suggestions for Enrichment

- Emphasize more **equitable access to affordable housing, quality public services, and digital infrastructure** to avoid deepening socio-economic inequalities.
- Reflect **cultural diversity** not only in architecture but also in urban rhythms, with dedicated spaces for ritual, communal gatherings, and culturally rooted governance structures.
- **Strengthen the rural-urban interface** by clarifying interdependencies around food systems, water catchment management, and seasonal labour mobility.
- Ground the economic vision in **realistic pathways** for broad-based inclusion, such as green job creation, targeted skills training, and support for local entrepreneurship and cooperatives.



Water Families



WATER FAMILIES.

Towards interconnected water systems and communities across Tana.

Rivers are the lifelines in the Tana basin. In this scenario we envision how all stakeholders around rivers work closely together to take care of the river. No longer mankind tries to force rivers to do its bidding but rather the other way around. Main question would be: what would the river want? Logging companies and local communities work together to protect the river's eco-system and to take care of the water resources. The main idea is that all stakeholders are part of an interdependent water families, where the more affluent family members (such as logging companies) take care of the poorer family members (such as families who are affected by flooding rivers).



Positive Aspects

- Participants appreciated the strong **emphasis on interdependence and stewardship**, placing the river at the center of both ecological and community systems.
- The scenario was praised for its **cultural and spiritual resonance**, especially the idea of asking “*what would the river want?*” as a design principle.
- Many found it **emotionally powerful and grounded in lived reality**, reflecting how communities already relate to rivers.
- The vision of **equitable cooperation between actors** (e.g. companies and vulnerable communities) was seen as aspirational but deeply important.
- The storyline **resonated** for those with **rural roots and traditional knowledge**, offering a respectful and inclusive future framework.
- It was also valued for elevating **ecological limits and responsibilities** above short-term gains.

Concerns

- Some found the scenario **overly idealistic or unclear** in terms of how power imbalances (e.g. between corporations and communities) would be addressed in practice.
- There were **doubts about enforceability**: who ensures that more powerful actors actually care for the vulnerable?
- A few participants noted that it **lacked technical specificity** and might struggle to appeal to planners or investors looking for concrete interventions.
- Concerns were raised about whether the “family” metaphor might **obscure political and economic conflicts**.

Suggestions for Enrichment

- Strengthen the **governance mechanisms**: show how accountability and shared responsibility can be formalized.
- Clarify how **different types of knowledge (traditional, scientific, legal) interact** in river governance.
- Show how river families could **generate livelihoods** – e.g. through tourism, ecosystem services, or green jobs.
- Include **practical examples of how upstream-downstream cooperation** could work.
- Make space for more **dynamic change**: show how this model evolves over time and adapts to new pressures.



The “Museum of the Future”

As part of the Transition Space methodology, participants were invited into a symbolic exercise: to contribute to a “Museum of the Future.” Unlike conventional museums that house relics of the past, this museum was envisioned as a living space where essential cultural, ecological, and spiritual elements are preserved — not because they are obsolete, but because they are non-negotiable foundations for any desirable future.



Below is a list of the ideas that were contributed:

- 1. Indigenous Knowledge Should Be Preserved:** Participants emphasized the importance of protecting ancestral knowledge systems — including spiritual, agricultural, ecological, and healing practices — which are often undervalued in modern development but essential for community resilience and sustainability.
- 2. Community Values (e.g., Local Markets):** The social fabric of mutual care, respect, and local solidarity was identified as a core asset. These values not only strengthen community cohesion but also serve as a foundation for collaborative action and intergenerational learning.
- 3. Intergenerational Transmission of Practices:** Knowledge and values passed from elders to youth were seen as vital to cultural continuity. Without this transmission, future societies risk losing essential wisdom rooted in experience and adaptation.
- 4. Existing Green Spaces Should Be Retained — Free:** Parks, trees, and natural gathering places were named as essential public goods. Participants stressed that these spaces must remain accessible to all, supporting health, leisure, and ecological connection.



5. Women’s Training and Prosperity: A card highlighted the role of women’s education and skills development in building inclusive futures. Empowering women through training supports family wellbeing, economic independence, and broader community progress.

6. Sustainability, Accessibility, Participation: These three principles were offered as baseline conditions for any future. Systems that are not ecologically sustainable, socially accessible, or democratically shaped were seen as incompatible with just transitions.

7. Africa at the Centre: Participants emphasized that future development must be grounded in African leadership, values, and perspectives — not shaped externally. This principle reflects a call for decolonized, self-determined futures where Africans define their own priorities and lead the transitions that affect their lives.

8. Everyday Tools and Materials: A card referenced “the things we use,” suggesting that certain tools, techniques, or crafts may hold cultural or practical value that should not be lost, even as technology evolves.

DAY 2

Overview

Opening Reflections

The day began with a reflective exercise: participants shared what had stayed with them after Day 1 — insights, emotions, and moments of inspiration. The facilitator emphasized the importance of holding onto the “lightness” and imaginative freedom experienced on Day 1, even as discussions moved into more technical and realistic terrains.

Connecting Vision to Reality: “Pockets of the Future”

Participants were asked to **identify real-world examples** — projects, policies, or practices already underway in Ghana or Burkina Faso — that reflect the desired future states co-created in Day 1. These were referred to as “**pockets of the future.**” Participants wrote them down and taped them under the narrative scenarios they best matched. This exercise revealed that many “futuristic” ideas are already happening — though small and fragile — showing that the imagined futures are rooted in current realities. The pockets of the future are described in the next section, under the heading of the relevant future storyline.

Modeling for Insight, Not Prediction

Facilitators from the EPIC Africa team introduced the role of quantitative models (especially the CLEWS framework) in decision-making, with an emphasis on the following points:

- Models do not predict the future, but offer **insights into trade-offs and interlinkages** across water, energy, and food (WEF) systems.
- Modeling helps **explore the impact of policies**, such as renewable energy targets or land-use changes.
- They can simulate multiple scenarios, showing **potential pathways and consequences.**
- **Numbers matter**, especially to policymakers who prioritize cost and feasibility.
- By integrating values into numbers, the project aims to “**translate heart-based insights into head-based language**” that resonates with decision-makers.
- The ultimate goal is to equip the TS participants to influence policy by **telling stories behind the figures** — rooted in community values, justice, and ecological integrity.

One important principle should always be kept in mind: “**All models are wrong, but some are useful.**”

Examples like Uganda’s biofuel strategy illustrated how reducing wood fuel use (good for forests and CO₂ reduction) could still increase emissions via LPG use — highlighting complex, non-linear trade-offs in sustainability planning.

Participants discussed:

- How values like ecosystem services or social well-being can be integrated into models using proxies or constraints.
- The limitations of least-cost optimization and the need for broader, multi-criteria analysis.

EPIC Africa - Energy Planning and Modelling through Integrated Assessment of Climate-Land-Energy-Water Nexus in Sub-Saharan Africa: the Cases of the Tana and Tana River Basins





Afternoon Session: Defining Design Criteria



Participants broke into groups aligned with the three future storylines. Each group acted as a high-level government commission, tasked with **developing design criteria** — concrete indicators or policy guidelines — across five **STEEP dimensions**: Social, Technological, Economic, Ecological, Political. These criteria will later be used to inform and parameterize the model calculations — making them more value-sensitive and grounded in community vision.



Community Place-Based System Innovation



“Pockets of the Future”

1. **Local mini grids on the rise** → Decentralized energy systems are enabling communities to generate and manage their own power independently from national grids.
2. **Local climate initiatives** → Grassroots actions are addressing environmental challenges through locally led adaptation and mitigation strategies.
3. **Farmers forming collectives** → Agricultural cooperatives strengthen farmers’ bargaining power, improve access to markets, and promote shared infrastructure.
4. **Communal smart farming** → Shared, tech-enabled agricultural systems allow smallholders to increase efficiency and sustainability through collective ownership.
5. **Communities pool money to build local roads** → Residents take direct action to improve infrastructure, reinforcing self-reliance and shared responsibility.
6. **AI-powered farmers** → Artificial intelligence tools are being adopted at the local level to support data-driven, adaptive farming practices.



7. **Internet connectivity fosters community education** → Digital access enables local learning networks, empowering communities through remote education and skill-sharing.
8. **SACCO** → Community savings and credit cooperatives (SACCOs) provide financial inclusion and capital for local development.
9. **“We Are 300”** → A declaration of collective identity, strength, and self-governance — emphasizing grassroots leadership and solidarity.

Design Criteria

S – Social

Community Identity & Belonging

- Public spaces (arts, stories) that reflect and reinforce our cultural community
- Cultural & creative centres
- Diverse communities – age, gender, ability

Community Interaction & Gathering

- Public participation & social gathering
- Placemaking spaces for meaningful community gathering
- Appreciate space for community gathering
- Having a common theatre for recreational activity

Social Proximity & Access

- Proximity – short distance between homes and services
- Good connectivity between community centres – satellites

T – Technological

Community-Based Technology & Learning

- Local smart farming centre
- Use library as centre of learning
- IT solution sharing
- Exchange best practices inter-regionally

Sustainable Mobility

- EVs and non-motorized transportation
- Modular traffic lines (non-motorized)
- Solar panels & trees for shade along link paths

Urban Design Infrastructure

- Hub near town centre
- Spider-like topology
- Rooftop food production – pilot communities by city population
- Recycling facilities

E – Economic

Livelihoods & Local Economies

- Agriculture exhibition centre
- Creative hubs & markets for local livelihoods

Decentralized Economic Clusters

- Small city clusters of 50,000 people

E – Ecological

Urban Greening & Nature Integration

- Urban woodland
- Bodies of water
- Biodiversity for urban commons
- Having more types of trees

Regenerative Resource Use

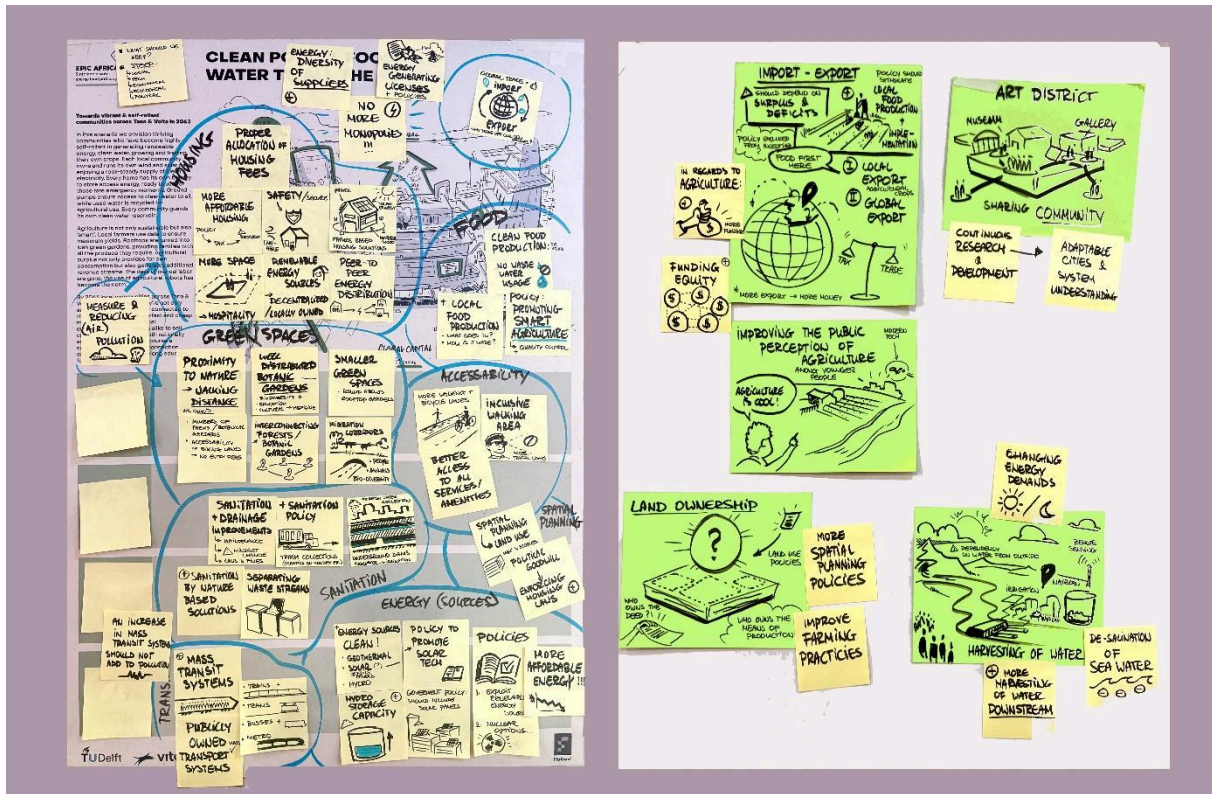
- Recycling and re-use hubs
- Spaces for foraging and natural resource gathering
- Solar panels & shade trees (also under Tech)

P – Political

Community Governance & Learning

- Library as community learning & governance anchor
- Placemaking as governance through community-led design
- Exchange best practices inter-regionally (cross-sectoral relevance)

WEF-Based Urbanization



Pockets of the Future

1. **Konza Technopolis (Machakos County)** → A flagship smart city project aiming to integrate digital infrastructure, clean energy, and planned urban growth — reflecting the ambition of a tech-forward urban future.
2. **M-KOPA Solar** → A pay-as-you-go solar energy provider using mobile money to bring clean electricity to underserved urban and peri-urban households, showing scalable urban energy innovation.
3. **Nairobi's Urban Agriculture Ordinance** → New city laws support controlled food production in dense environments, enabling integration of food systems into urban planning.
4. **Solar-Powered Boreholes in Informal Settlements** → NGOs and private-public partnerships have deployed solar boreholes to improve water access in places like Kibera and Mukuru, linking clean energy and water.
5. **Kisumu's Faecal Sludge Treatment Plant** → A WEF nexus project that recycles urban waste into energy and organic fertilizer, while reducing pollution in Lake Victoria.
6. **Urban Food Markets Digitization** → Tech-enabled platforms connect urban food vendors with farmers and suppliers, making food supply chains more efficient and transparent.
7. **Nairobi Commuter Rail Revamp** → Investments in mass transit infrastructure reduce emissions, support compact city planning, and improve mobility for low-income residents.

Design Criteria

S – Social

- **More affordable housing** – Reduces inequality and increases access to secure shelter.
- **Safety/security** – Emphasizes well-being and protection in dense urban environments.
- **Accessibility** – Better access to all services and amenities.
- **Inclusive use of urban space** – Ensures cities work for everyone, including marginalized communities.
- **Proximity to nature** – Improves mental and physical health in urban settings.
- **Publicly owned transport systems** – Ensures affordability and equitable access to mobility.
- **Hospitality** – Promoting welcoming urban spaces with a culture of care.

T – Technological

- **Peer-to-peer energy distribution** – Decentralized, community-managed energy systems.
- **Renewable energy sources** – Solar, hydro, and other clean technologies.
- **Hybrid storage capacity** – Balancing variable supply and demand in urban energy systems.
- **Smart agriculture** – Tech-driven farming systems for efficient urban food production.
- **Separating waste streams** – Technology for efficient, clean sanitation systems.

E – Economic

- **Export surplus produce** – Leverages local productivity for regional economic benefit.
- **Policy to promote solar tech** – Government incentives to expand solar market.
- **Government policies on subsidies** – Economic support for equitable energy access.
- **No more monopolies** – Breaking centralized control to empower local actors.
- **Mass transit systems** – Economies of scale in urban transport solutions.

E – Ecological

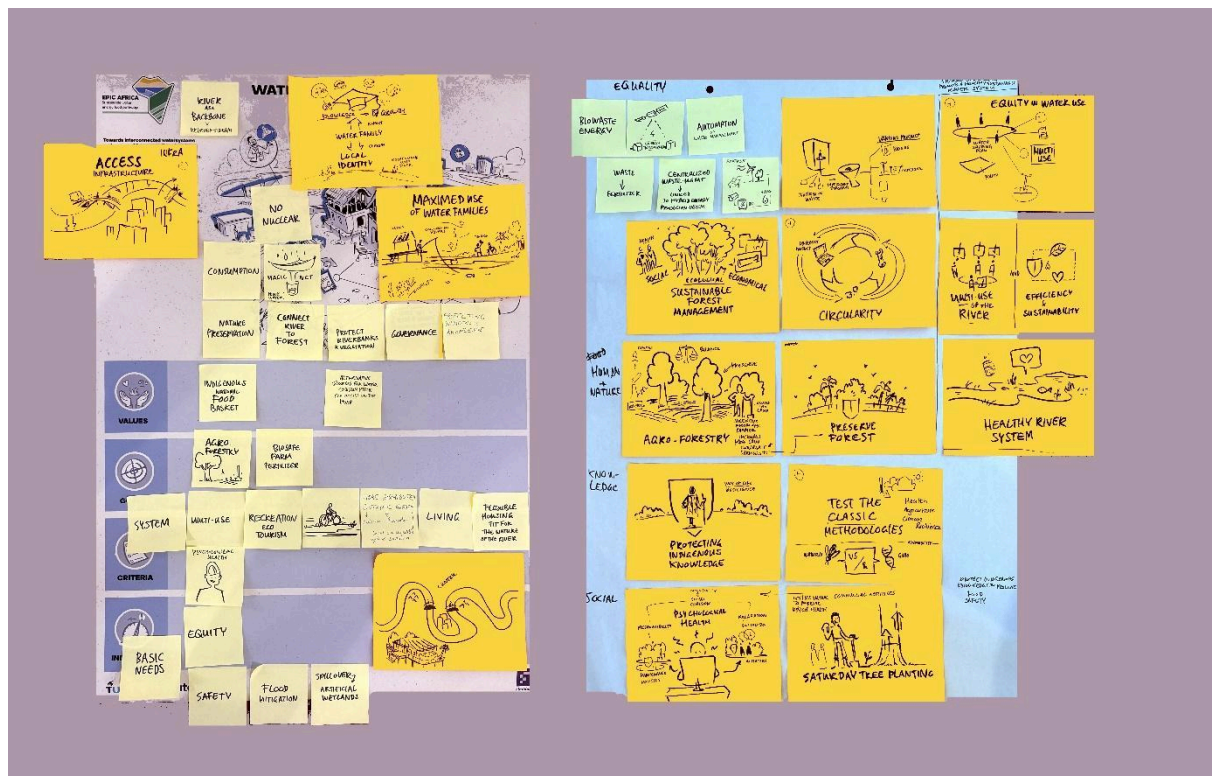
- **Interconnected forests, botanical gardens** – Integrated green infrastructure.
- **Smaller green spaces well-distributed** – Distributed access to natural spaces.
- **No waste, no leakage** – Resource efficiency and reduced urban pollution.
- **Sanitation by nature-based solutions** – Ecological waste treatment systems.
- **Clean food production** – Urban and peri-urban farming systems that avoid chemical inputs.
- **Measure & reduce air pollution** – Tackling environmental health risks in cities.

P – Political

- **Spatial planning and land use** – Strategic urban growth aligned with services and infrastructure.
- **Policy enforcement** – Ensuring laws on land, housing, sanitation, and environment are upheld.
- **Sanitation and drainage policy** – Coordinated government investment in hygiene infrastructure.
- **Policies for affordable energy** – Energy equity through supportive frameworks.



Water Families



Pockets of the Future

1. **Lake Victoria Water Users Associations (WUAs)** → Local communities organized to manage water access, protect catchments, and resolve conflicts — embodying shared water governance rooted in place.
2. **Community-Led Total Sanitation (CLTs) in Western Kenya** → Programs that empower rural communities to manage sanitation with dignity, reinforcing the Water Families value of collective responsibility and clean environments.
3. **Sacred Kaya Forests of the Coast** → Culturally protected landscapes where water sources are spiritually significant, demonstrating how indigenous governance systems sustain both ecosystems and belief systems.
4. **Solar-Powered Water Kiosks (e.g. Turkana, Kitui)** → Decentralized water access points run by local cooperatives, supporting off-grid communities with clean, reliable, and community-managed water.
5. **Women-Led Water Committees in Kajiado and Kitui** → Women take leadership in managing boreholes and water budgeting — reflecting gendered roles in water stewardship and decision-making.
6. **Riparian Buffer Protection in Upper Tana Basin** → Community groups working with NGOs and WRUAs to restore riverbanks through tree planting and regulation of land use near waterways.

7. **Water & Peace Initiatives in Northern Kenya** → Pastoralist and farming communities engage in dialogue and co-management of seasonal water points, showing water as a platform for peacebuilding.
8. **Eco-Schools in Kisumu and Kakamega** → Schools that integrate water conservation, ecological education, and hands-on stewardship into their curriculum — instilling values of care and sustainability early.
9. **Loita Maasai Springs Protection Projects** → Community efforts to protect sacred springs from overuse and contamination, blending traditional belief systems with modern conservation tools.

Design Criteria

S – Social

Cultural and Social Wellbeing

- Protecting Indigenous Knowledge – Preserving traditional wisdom about water, land, and ecological relationships.
- Bring Back Indigenous Food – Revitalizing local food systems and reconnecting with cultural food practices.
- Psychological Health – Acknowledging the importance of emotional and relational wellbeing in healthy communities.
- Saturday Tree Planting – Weekly collective activity that blends environmental care with community bonding and routine.

T – Technological

Systems Innovation & Circular Design

- Circularity – Designing systems that reuse, recycle, and regenerate rather than extract and discard.
- Multi-use of the River – Integrating irrigation, energy, domestic use, and ecosystem services into a shared water governance approach.
- Efficiency & Sustainability – Technological interventions should reduce waste and improve the sustainable use of water and land resources.

E – Economic

Livelihoods & Ecological Economies

- Agro-Forestry – Combining tree planting and farming for both income generation and ecological restoration.
- Sustainable Forest Management – Integrating social, ecological, and economic goals in managing forest landscapes.
- Bring Back Indigenous Food – Enhancing food sovereignty through local, climate-resilient crops and practices (economic & cultural relevance).

E – Ecological

Ecosystem Integrity & Stewardship

- Healthy River System – Restoring and maintaining rivers as living ecosystems with flows, biodiversity, and cultural meaning.
- Preserve Forest – Protecting forest cover as a buffer for watersheds, biodiversity, and microclimates.
- Saturday Tree Planting – Regular community-led reforestation that contributes to ecological regeneration.

P – Political

Justice, Equity, and Rights

- Equity in Water Use – Ensuring fair distribution of water resources across gender, class, and geography.
- Multi-use Governance of the River – Inclusive planning to manage competing needs and avoid conflict.
- Protecting Indigenous Knowledge – Recognizing indigenous rights and epistemologies within legal and governance systems.

Conclusion and Future Work

The 2nd Transition Space meeting for the Tana River Basin marked a significant step forward in **co-creating inclusive, values-driven pathways for sustainable water-energy-food (WEF) systems**. Over the course of two days, the TS participants engaged in scenario evaluation, participatory modelling, and collaborative design. The process reaffirmed that diverse stakeholders can align around long-term visions when these are **grounded in shared values and cultural meaning**. The exercise of “voting with your feet” revealed that preferences are not just intellectual but deeply intuitive, emotional, and context dependent. The three narrative future visions — *Community Place-Based System Innovation*, *WEF-Based Urbanization*, and *Water Families* — each resonated differently across value clusters, sparking critical reflection on trade-offs, complementarities, and blind spots. Importantly, participants emphasized that **no single future can stand alone: hybrid and context-specific combinations may be necessary to meet the Tana region’s complexity**. Through “**pockets of the future**,” participants demonstrated that many elements of these imagined scenarios already exist — albeit at a small scale. These examples of emerging innovation, grounded in real practice, will serve as important anchors for further work. Additionally, the **STEEP design criteria** developed during Day 2 provide a concrete foundation for translating storylines into parameters for modelling and policy dialogue. These criteria — spanning social cohesion, appropriate technologies, local economies, ecological safeguards, and inclusive governance — reinforce the central insight that sustainable WEF systems are **as much about values and relationships as they are about infrastructure**.

Looking ahead, the EPIC Africa team will begin **integrating these narratives, criteria, and insights into its modelling work using the CLEWS framework**. This model will help explore systemic trade-offs, test the feasibility of the visions, and surface key leverage points for transition. The results will be used to initiate **deeper policy engagement with national and regional authorities**. Future Transition Space meetings will build on this work by exploring convergence across scenarios, deepening



cross-border collaboration in the Tana Basin, and identifying pathways for implementation and investment that are just, resilient, and grounded in local realities.



Annex 1 – Modelling presentation