SDG BLOCKCHAIN ACCELERATOR

ROADMAP FOR UNDP BURKINA FASO & ATLAS LEDGER

Challenge Definition

This section sets the foundation for understanding the development problem your solution aims to address. Be clear and concise, focusing on the problem itself, the environment in which it exists, and the intended outcomes of addressing it.

The Problem: Burkina Faso faces severe desertification and land degradation that threatens food security, biodiversity, and rural livelihoods. Traditional crowdfunding approaches, while valuable, often lack transparency in fund allocation and struggle to provide donors with tangible, verifiable environmental returns on their contributions.
Environmental Context: The initiative targets 10 regions across Burkina Faso where desertification is most severe - Central, Sahel, Northern, Eastern, Boucle du Mouhoun, Centre-North, Plateau-Central, Centre-West, South-West, and Cascades. These areas require immediate reforestation to combat desert encroachment and restore degraded ecosystems.
Blockchain-Enhanced Carbon Credit Solution
Enhanced Transparency: Unlike the current crowdfunding model that promises "regular updates on progress," blockchain technology could create an immutable ledger tracking each tree from planting to maturity. Smart contracts could automatically release funds as verified milestones are achieved, addressing the transparency gap in traditional donation models.
Carbon Credit Tokenization: Each of the 10,000 trees could generate tokenized carbon credits on the blockchain, providing donors with:

- Verifiable proof of their environmental impact
- Tradeable digital assets representing actual carbon sequestration
- Real-time monitoring through IoT sensors and satellite data integrated with blockchain records

Intended Outcomes:

1. Increased Funding Efficiency: Blockchain could reduce transaction costs compared to traditional crowdfunding platforms, allowing more funds to reach actual tree planting activities
2. Global Market Access: Carbon credits could attract institutional investors and carbon-offset buyers beyond the current target of "individuals, environmental enthusiasts, organizations, and businesses"
3. Long-term Sustainability: Token holders would have ongoing incentives to monitor tree survival rates, supporting the initiative's goal of "long-term survival and growth through local community involvement"
4. Measurable Impact: Blockchain's immutable records would provide precise data on the initiative's success in combating climate change, supporting the project's monitoring and evaluation framework

UNDP Challenge Summary

(Briefly describe the real-world development challenge being addressed. Provide a summary of the development challenge submitted by the UNDP Country Office. Focus on the nature of the problem rather than the solution. This should be written in a way that is easily understandable to external stakeholders. Please include any relevant data and statistics that highlight the urgency and significance of this challenge.)

Burkina Faso is confronting a severe environmental and socio-economic crisis driven by accelerating desertification and land degradation that threatens the foundation of the country's development and the survival of its communities.

Desertification Crisis The Sahel region, where Burkina Faso is located, is experiencing one of the world's most rapid rates of desert expansion. Land degradation is advancing relentlessly across the country, converting previously productive agricultural areas into barren, unusable terrain. This environmental destruction is not a distant threat—it is happening now, affecting communities across all ten regions of the country.

Food Security Emergency As fertile land disappears, Burkina Faso's agricultural capacity is under severe strain. The degradation of arable land directly undermines the country's ability to produce sufficient food for its population, creating widespread food insecurity. Rural communities, who depend almost entirely on agriculture and livestock for survival, are experiencing declining crop yields and reduced pastoral opportunities as grasslands turn to desert.

Economic and Social Devastation The environmental crisis is destroying traditional livelihoods across rural Burkina Faso. Farming families, women's cooperatives, and youth groups are losing their primary sources of income as the land becomes increasingly unproductive. This economic disruption is forcing rural-to-urban migration, placing additional strain on urban centers while leaving rural areas further depopulated and vulnerable.

Biodiversity Collapse The country's ecosystems are under unprecedented pressure. As vegetation disappears and habitats are destroyed, Burkina Faso is experiencing significant biodiversity loss that reduces the natural resilience of local environments. Wildlife populations are declining, and the ecological services that communities have traditionally relied upon—such as natural water filtration, soil stabilization, and climate regulation—are being eliminated.

Climate Change Acceleration The loss of forest cover and vegetation is reducing the landscape's capacity to absorb carbon dioxide, making Burkina Faso both a victim and an inadvertent contributor to global climate change. The destruction of natural carbon sinks exacerbates the

very climate conditions that are driving desertification, creating a dangerous feedback loop of environmental degradation.

Urgent Need for Intervention Without immediate and large-scale environmental restoration efforts, Burkina Faso faces the prospect of irreversible ecological damage that will permanently compromise the country's development trajectory and condemn millions of people to deepening poverty and environmental displacement.

Local Context

(Why does this challenge matter? Describe the setting and key stakeholders. Explain why this challenge is important in your specific country or regional context. Describe the affected communities or sectors, any existing efforts to solve the issue, and the roles of key stakeholders involved (e.g., government, private sector, civil society.)

Why This Challenge Matters in Burkina Faso

Burkina Faso's desertification crisis strikes at the heart of the country's identity and survival as a predominantly agricultural nation. With over 80% of the population dependent on agriculture and livestock for their livelihoods, the loss of productive land represents not just an environmental problem, but an existential threat to the country's social fabric and economic foundation.

Geographic and Environmental Setting

Burkina Faso sits in the heart of the Sahel, a transitional zone between the Sahara Desert and the more fertile savannas to the south. This geographic position makes the country particularly vulnerable to desert encroachment from the north. The crisis affects all ten regions—Central, Sahel, Northern, Eastern, Boucle du Mouhoun, Centre-North, Plateau-Central, Centre-West, South-West, and Cascades—though with varying degrees of severity, creating a nationwide challenge that requires coordinated response.

Affected Communities and Sectors

Rural Agricultural Communities: Small-scale farmers across Burkina Faso are experiencing declining crop yields as soil fertility decreases and rainfall patterns become increasingly unpredictable. These communities, often living in subsistence conditions, have limited resources to adapt to changing environmental conditions.

Women's Cooperatives: Women play a crucial role in Burkina Faso's agricultural economy, particularly in food production and natural resource management. Women's cooperatives are

disproportionately affected as they lose access to forest products, medicinal plants, and agricultural opportunities that have traditionally provided economic independence.

Youth Organizations: Young people in rural areas face diminishing prospects as traditional agricultural and pastoral livelihoods become less viable. This demographic pressure contributes to rural-urban migration and youth unemployment, creating additional social challenges.

Pastoral Communities: Livestock herders are losing grazing lands and water sources, forcing them to migrate longer distances and creating potential conflicts over scarce resources with settled agricultural communities.

Key Stakeholders and Their Roles

Government of Burkina Faso: The national government recognizes desertification as a critical threat to national development and has incorporated environmental restoration into national development plans. However, limited financial resources and competing development priorities constrain the government's ability to address the challenge at the required scale.

UNDP and International Organizations: UNDP serves as a key coordinator, bringing technical expertise, international networks, and development frameworks to support large-scale environmental restoration efforts. Other UN agencies and international NGOs provide complementary support in areas such as food security, climate adaptation, and community development.

Local Communities and Traditional Authorities: Village chiefs, community leaders, and traditional environmental management systems remain central to any successful restoration effort. These stakeholders possess critical local knowledge about land use patterns, seasonal variations, and community organization structures essential for project sustainability.

Private Sector: Local businesses, agricultural cooperatives, and emerging green economy enterprises have growing interests in sustainable land management practices. However, limited access to capital and technical resources constrains private sector engagement in large-scale restoration efforts.

Civil Society Organizations: Local and national NGOs, community-based organizations, and advocacy groups play vital roles in community mobilization, awareness raising, and ensuring that restoration efforts align with local needs and priorities.

Existing Efforts and Their Limitations

Various reforestation and soil conservation initiatives have been undertaken by government agencies, NGOs, and international organizations. However, these efforts have often been fragmented, underfunded, and limited in geographic scope. Many previous initiatives have struggled with long-term sustainability due to insufficient community engagement, inadequate follow-up support, and laxck of economic incentives for local participation.

The Imperative for Coordinated Action

The scale of Burkina Faso's desertification challenge requires a response that matches its magnitude. Traditional project approaches, while valuable, have proven insufficient to address the systemic nature of land degradation across the country. The involvement of local communities, schools, youth groups, and women's cooperatives is not just beneficial—it is essential for creating the social ownership and long-term commitment necessary for environmental restoration to succeed at the national level.

Relevance to UNDP CO Priorities and Resource Mapping

(How does this project align with the overall objectives of the UNDP Country Office? Is it building on an existing initiative, or is it a new standalone project? If the project builds on an existing initiative, please provide further details, including a description of the original project, its donors, scope, scale and any other relevant information. Additionally, is there any co-financing available, whether in the form of funding, human resources, or other types of project support?)

Alignment with UNDP Burkina Faso Country Office Strategic Priorities

This crowdfunding initiative for large-scale tree planting directly aligns with UNDP Burkina Faso's core mandate of supporting sustainable development and climate resilience. The project strategically addresses multiple Country Programme Document (CPD) outcomes simultaneously, including environmental sustainability, poverty reduction, and community empowerment—making it a high-impact intervention that maximizes development returns on investment.

The initiative strongly supports UNDP's commitment to the Sustainable Development Goals, particularly SDG 13 (Climate Action), SDG 15 (Life on Land), SDG 1 (No Poverty), and SDG 5 (Gender Equality) through its emphasis on women's cooperative participation. By targeting all ten regions of Burkina Faso, the project demonstrates UNDP's commitment to leaving no one behind and ensuring equitable development across the country.

New Standalone Project Framework

This represents a new standalone initiative specifically designed to leverage innovative crowdfunding mechanisms for environmental restoration at national scale. Unlike traditional project approaches that rely solely on bilateral or multilateral donor funding, this initiative pioneers a hybrid financing model that combines international crowdfunding with local community engagement and UNDP's technical expertise.

The project's innovative approach positions UNDP Burkina Faso as a leader in exploring new financing mechanisms for climate action, demonstrating the Country Office's commitment to adaptive programming and creative solutions to development challenges. This standalone

framework allows for rapid deployment and community-driven implementation while maintaining the flexibility to scale based on crowdfunding success.

Resource Mapping and Mobilization Strategy

UNDP Burkina Faso Internal Resources:

- Technical expertise in environmental programming and community engagement
- Existing field presence and relationships across all ten target regions
- Established partnerships with local communities, schools, and women's cooperatives
- Project management and monitoring systems adapted for environmental restoration initiatives
- Communications and advocacy capabilities for campaign promotion

Co-financing Opportunities:

Government of Burkina Faso Contribution:

- In-kind support through Ministry of Environment technical staff and extension services
- Facilitation of community mobilization through existing local government structures
- Policy support and regulatory framework alignment for large-scale tree planting activities

Community Co-financing:

- Local labor contributions from participating communities, estimated value of community volunteer time for planting and maintenance activities
- Traditional knowledge and land management expertise
- Ongoing tree care and protection through established community structures

Private Sector Partnerships:

- Potential collaboration with local telecommunications companies for mobile money crowdfunding integration
- Partnerships with agricultural cooperatives for seedling production and distribution
- Engagement with emerging green economy enterprises for long-term tree product value chains

Academic and Research Institutions:

- Collaboration with national universities for monitoring and evaluation support
- Partnership with international research institutions for best practice documentation and lesson learning

- Student volunteer programs for community outreach and awareness raising

Strategic Value for UNDP Burkina Faso

This standalone project offers UNDP Burkina Faso significant strategic advantages:

Innovation Leadership: Positions the Country Office as a pioneer in crowdfunding for development, potentially serving as a model for other UNDP operations globally.

Resource Diversification: Creates new funding streams beyond traditional donor relationships, enhancing financial sustainability and programmatic independence.

Community Ownership: The crowdfunding model inherently promotes community engagement and ownership, aligning with UNDP's commitment to participatory development approaches.

Scalability Potential: Success in this initiative could demonstrate feasibility for larger-scale environmental restoration programs, attracting additional donor interest and investment.

Partnership Expansion: The project creates opportunities for new partnerships with private sector, civil society, and international networks that extend beyond traditional development partnerships.

Implementation Readiness

UNDP Burkina Faso possesses the institutional capacity, field presence, and technical expertise necessary to implement this initiative immediately upon funding confirmation. The Country Office's existing relationships with target communities and established monitoring systems provide a strong foundation for rapid project deployment and effective results tracking throughout the one-year implementation period.

Expected Impact (from CO perspective)

(Outline the intended outcomes from the Country Office's perspective. What would a successful pilot enable (e.g., policy change, improved service delivery, community empowerment, systems improvement, or scaled innovation)? Keep the focus on measurable or meaningful change.)

Immediate Environmental and Community Outcomes

From UNDP Burkina Faso's perspective, successful implementation of this crowdfunding initiative will deliver measurable environmental restoration across all ten regions, with 10,000 trees planted and maintained through community-driven approaches. The Country Office expects to

achieve a minimum 75% tree survival rate after one year, representing a tangible contribution to national reforestation targets and demonstrating the effectiveness of community-based environmental restoration.

Policy and Institutional Change

National Environmental Policy Influence: Success of this initiative will provide compelling evidence for scaling community-based reforestation approaches, potentially influencing national environmental policies and resource allocation strategies. UNDP Burkina Faso anticipates that demonstrated results will strengthen government commitment to participatory environmental management and inform future national reforestation programs.

Innovative Financing Model Validation: The pilot will establish crowdfunding as a viable financing mechanism for development programming in Burkina Faso, potentially leading to policy frameworks that facilitate similar innovative financing approaches for other development challenges.

Service Delivery Transformation

Enhanced Community Capacity: The initiative will strengthen local organizational capacity across participating communities, schools, youth groups, and women's cooperatives. UNDP expects measurable improvements in community project management skills, environmental awareness, and collective action capabilities that extend beyond tree planting to other development initiatives.

Improved Environmental Services: Successful tree establishment will begin restoring essential ecosystem services including soil stabilization, water retention, and microclimate regulation. Within the project timeframe, UNDP anticipates measurable improvements in soil quality indicators and local biodiversity metrics in target areas.

Community Empowerment and Social Change

Women's Economic Empowerment: Through meaningful participation of women's cooperatives in all project phases, UNDP expects to document increased women's leadership in environmental decision-making and enhanced economic opportunities through tree-related activities. The initiative will create measurable increases in women's participation in community environmental governance structures.

Youth Engagement and Skills Development: The project will engage youth organizations in environmental stewardship, providing practical skills in project management, environmental

monitoring, and community mobilization. UNDP anticipates documenting improved youth employment prospects in emerging green economy sectors.

Intergenerational Knowledge Transfer: By involving schools and educational institutions, the initiative will create systematic environmental education outcomes, with measurable improvements in environmental knowledge and stewardship attitudes among participating students.

Systems Improvement and Innovation

Monitoring and Evaluation Innovation: The project will pilot advanced monitoring approaches including geotagged tree locations and real-time progress tracking, establishing new standards for transparent, community-verified environmental programming. UNDP expects to develop replicable monitoring frameworks that enhance accountability across all environmental initiatives.

Partnership Model Development: Success will validate a new partnership model combining international crowdfunding, local community engagement, and UNDP technical support. This approach will create a replicable framework for mobilizing diverse stakeholders around shared environmental objectives.

Digital Platform Integration: The crowdfunding approach will strengthen UNDP Burkina Faso's digital engagement capabilities and demonstrate effective use of online platforms for development communication and resource mobilization.

Scaled Innovation Potential

National Scaling Pathway: Success of this 10,000-tree initiative will provide the foundation for a national-scale reforestation program targeting 100,000+ trees across expanded geographic areas. UNDP anticipates that demonstrated results will attract larger-scale donor investment and government commitment to ambitious national restoration targets.

Regional Model Replication: The pilot will create a documented model for crowdfunded environmental restoration that other UNDP Country Offices in the Sahel region can adapt and implement, positioning UNDP Burkina Faso as a regional innovation leader.

Financing Mechanism Expansion: Successful crowdfunding will demonstrate feasibility for applying similar approaches to other development challenges including education, health, and economic empowerment initiatives.

Measurable Success Indicators

Quantitative Outcomes:

- 10,000 trees successfully planted across 10 regions with documented survival rates
- Minimum 500 community members directly engaged in project activities
- 10+ women's cooperative members actively participating in tree maintenance
- 50+ youth organization members trained in environmental monitoring techniques

Qualitative Transformations:

- Enhanced community confidence in collective environmental action
- Strengthened partnerships between UNDP and grassroots organizations
- Improved reputation for UNDP as an innovative, community-responsive development partner
- Documented best practices for participatory environmental programming

Strategic Value Creation

This pilot positions UNDP Burkina Faso to lead innovation in development financing while delivering concrete environmental and social benefits. Success will enhance the Country Office's reputation as a forward-thinking, results-oriented development partner capable of mobilizing diverse resources for maximum impact. The initiative creates a foundation for sustained engagement with communities, innovative partnerships, and scaled environmental programming that advances both local development priorities and global environmental objectives.

Target SDGs and SDG Indicators

(List up to three specific Sustainable Development Goal (SDG) indicators that your challenge and proposed solution will directly contribute to. Be specific and focus on the indicators your work actively addresses, rather than those it only indirectly supports.)

SDG 13 (Climate Action): We support Climate Action by contributing to target 13.1 (Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries) and targets 13.a and by by supporting easy access to funding of climate action projects.

SDG 15 (Life on Land): We support that goal, especially the target 15.3 (by 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world) by implementing Afforestation and Reforestation projects in Burkina Faso.

SDG 1 (No Poverty): We support that goal, especially the target 1.5 (By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters) by supporting afforestation and reforestation projects, which help generate new income and at the same time help improve the situation related to climate change.

User & Problem Mapping

Understanding the users and stakeholders affected by the challenge is essential for building impactful and context-aware solutions. This section helps articulate who the primary users are, what they aim to achieve, and which other actors are involved or impacted.

Primary User Persona

(Describe the key user or beneficiary of your solution. Include relevant characteristics such as role, environment, goals, and challenges they face. This helps keep the solution user-centered.)

The key user of Atlas Ledger is a young project coordinator or cooperative leader in rural Burkina Faso, working with an NGO to implement a community-based forestry initiative. Operating in a low-resource environment, their goal is to restore degraded land through tree planting, generate sustainable livelihoods for local youth, and access climate finance to scale their impact.

This user faces significant challenges, including limited technical capacity and expertise to estimate carbon impact; high costs and complexity of certification; lack of visibility to international buyers; and difficulty accessing early-stage funding. Atlas Ledger addresses these barriers by offering a user-friendly platform that enables simplified impact assessment, blockchain-based certification, early monetization through donations and forward carbon credits, and global market access—all tailored to grassroots forestry projects in emerging markets.

User Story

(Frame the user needs in a simple narrative format that links the user, their goal, and the value the solution delivers. Use the format: "As a [user], I want to [goal], so that [value].")

As a youth cooperative leader implementing a forestry project in rural Burkina Faso, I want to access climate finance early and demonstrate the impact of our tree planting efforts, so that we

can restore degraded land, create local jobs, and build trust with international carbon credit buyers.

Key Stakeholders/Partners

(Please list all the partners involved in this project. List all relevant parties who will interact with, benefit from, or influence the solution (this may include government agencies, NGOs, community members, or tech partners.))

The Atlas Ledger forestry project in Burkina Faso brings together a coalition of partners spanning government, international organizations, civil society, and technology providers. Key institutional stakeholders include UNDP Burkina Faso, which supports project design and alignment with development priorities, and the Ministry of Environment, which ensures compliance with national forestry and climate strategies. Local NGOs and youth cooperatives serve as on-the-ground implementers, engaging community members in tree planting and monitoring activities. These community participants benefit from land restoration, income generation, and enhanced climate resilience.
On the technical and financial side, Orange Money enables secure, mobile-based payments to project participants, while the Cardano blockchain ecosystem powers the certification and transaction of donations and forward carbon credits. The platform also connects projects to donors and carbon credit buyers—including companies seeking credible, SDG-aligned offsets—while a network of certified validators and climate experts ensures integrity throughout the process. This multi-stakeholder collaboration ensures that forestry projects are credible, financeable, and scalable.

Solution Overview

This section describes your proposed solution in a clear and structured way. Focus on what the solution is, how it works, and how it uses blockchain and Cardano tools to deliver impact.

Solution Summary

(Provide a description of your solution and explain how it addresses the development challenge. Highlight its uniqueness and relevance.)

Atlas Ledger is a blockchain-powered climate finance platform that enables small-scale, climate-positive projects — such as forestry initiatives in Burkina Faso — to access carbon markets and early-stage funding. By combining impact assessments with validator-led

certification, Atlas Ledger helps project developers forecast and quantify carbon sequestration, climate adaptation benefits, and additional ecological and social impacts. These verified impacts are recorded on the blockchain and transformed into a kind of forward carbon credits, which can be listed and sold to global buyers, creating a new revenue stream for local initiatives.

What makes Atlas Ledger unique is its accessibility and relevance to emerging markets. It eliminates the high costs and complexity of traditional ESG and carbon verification processes, offering an intuitive platform tailored for MSMEs. Buyers benefit from trustworthy, SDG-aligned credits, while sellers gain early financing through milestone-based disbursements. With optional satellite monitoring, AI-guided recommendations, and transparent certification, Atlas Ledger provides an inclusive, scalable solution for unlocking the potential of forestry and other nature-based solutions in climate-vulnerable regions like Burkina Faso.

Core Functionalities

(List the key features or capabilities of your solution with descriptions. These should align with the user needs and the challenge described earlier.)

Feature 1 – Climate Impact Assessment
Forestry projects can easily assess and forecast their carbon sequestration potential using a guided, AI-driven tool to be developed. By inputting basic project details (e.g. tree species, planting density, location), the system estimates future CO_2 absorption, while also capturing co-benefits such as biodiversity improvement, water retention, and community resilience—without requiring technical expertise.

Feature 2 – Blockchain-Based Certification and Forward Credit Minting
Once the project's impact is validated by a certified expert, a digital certificate is issued and stored on the blockchain to ensure transparency and traceability. The platform then converts the verified forecast into ***forward carbon credits*** *— digital assets that NGOs and cooperatives can sell in advance to buyers, unlocking early-stage financing for implementation.*

Feature 3 – Tranche-Based Disbursement and Impact Tracking
Funds from carbon credit sales are released progressively in ***tranches****, based on the achievement of key milestones (e.g., number of trees planted, survival rate, etc.). Validators periodically verify the progress through i.e. community reporting, field visits, or satellite imagery — ensuring accountability while making the funding flow sustainable over time.*

Feature 4 – Global Marketplace and SDG-Aligned Buyer Matching

Projects are showcased in a marketplace, where buyers — often corporates seeking verified, high-impact offsets — can discover and fund initiatives by SDG category, region, or co-benefits. This opens access to new sources of climate finance for small projects that would otherwise be excluded from the global market.

Tech Stack Overview

(Briefly list the main tools, technologies and external integrations used to build your solution. Mention front-end and back-end elements, data sources, etc.)

- *Backend Framework: NestJS with TypeScript*
- *Frontend Framework: React*
- *Database: SQLite with TypeORM*
- *Blockchain: Cardano with Aiken smart contracts*
- *Authentication: JWT with Cardano wallet integration*
- *External Services:*
  - *https://www.climatiq.io/*
  - *https://www.carboninterface.com/*
  - *https://floodlightglobal.com/*

Cardano-Specific Elements

(Describe how your solution leverages the Cardano blockchain (e.g., use of verifiable credentials (VCs), token minting, Plutus smart contracts, metadata tagging, etc.))

Our solution uses the Cardano blockchain to manage transparent and verifiable CO_2 offset and reforestation projects. It employs ***Plutus V2 smart contracts - Escrow/Timelock Smart Contract*** *(written in Aiken) to lock funds from buyers and donors, releasing them in* ***partial payouts*** *based on verified progress over time.*

A ***custom oracle system*** *is used to validate off-chain data — including satellite images, expert reports, and progress media (photos and videos) — and trigger smart contract interactions. All milestones are tagged with* ***transaction metadata****, including hashes and IPFS links to evidence.*

The project includes ***token minting*** *to represent verified CO_2 offsets and uses* ***verifiable credentials (VCs)*** *to authenticate project owners and data validators. It also supports* ***public donations****, allowing contributors to follow project updates and fund environmental efforts, with progress-triggered redemption managed on-chain.*

Prototype Plan (Sprint-Based)

This section outlines your team's rapid prototyping plan. The goal is to build a functional and demonstrable version of the solution within 10 working days, with user feedback integrated.

Prototype Goal

(State what your team aims to build and validate during the sprint. Keep it focused, achievable, and linked to the broader MVP vision.)
During this 10-day sprint, the team aims to build and validate a clickable prototype of the Atlas Ledger platform, focusing on the project owner (seller) journey, specifically for forestry projects in Burkina Faso. The prototype will allow users to create an account, describe their project using a natural-language interface, and generate a mock AI-assisted climate impact assessment with an estimated carbon sequestration value. The sprint will also include a testnet-based blockchain certification process and enable forward carbon credit listing and donations in a simplified marketplace view.

Expected Outputs

(List the minimum outputs required for a successful prototype. These should be specific, measurable, and demo-ready.

1. *One working interaction:*
   A working demo of an oracle-triggered partial payout on the Cardano testnet, where submission of mock progress evidence (e.g., photo or video hash) confirms milestone completion and unlocks funds from the smart contract.
2. *On-chain or hashed output with SDG metadata:*
   Generation of a hashed project summary (including location, estimated CO_2 impact, and milestone status) recorded on-chain, tagged with SDG 13 (Climate Action) metadata and optionally linked to an IPFS-hosted project file.
3. *User interface (form, display, interaction):*
   A clickable UI prototype for the project owner workflow, including:
   - *Account creation*
   - *Natural language project input*
   - *Display of AI-generated climate impact report*
   - *Progress upload screen (mock submission)*
   - *Marketplace view showing listed carbon credits and donation options*
4. *Stakeholder feedback (minimum 3 sessions)*

Sprint Timeline

(Break down the 10-day sprint into tasks and outcomes. Use this as a working plan for the team to stay aligned and focused. The table below is just an example. Please feel free to adapt the tasks and outcomes based on your solution's specific needs and development approach.)

Day	Description	Outcome
1	Define scope & SDG Indicators	Scope clarity
2	UX & flow design	Figma/Flow ready
3	UI implementation	Frontend in place
4	Chain integration	VC/token tested
5	Mid-review & QA	Testing link ready
6-7	Stakeholder testing	Feedback gathered
8-9	Iteration & polish	Demo-ready version
10	Final submission	All deliverables done

Success Metrics & Milestones

Tracking progress throughout the accelerator is key to building momentum and measuring real impact.

Below is a set of baseline success metrics that all teams are expected to work toward during the sprint, MVP refinement, and pilot-readiness phases. These ensure a consistent level of development and stakeholder engagement across all projects.

Teams are also encouraged to define additional metrics that are specific to their solution, context, and strategic goals. These custom metrics can relate to: social or environmental impact, technical milestones, community adoption, strategic partnerships, innovation outcomes.

Sprint Phase

Focus: Rapid prototyping, initial user testing, and validation of core functionality.

Category	Baseline Metric
Blockchain Interaction	Oracle-triggered partial payout implemented on Cardano testnet, including on-chain hashed milestone proof.
User Interface	Clickable prototype with forms for project creation (natural language input), AI-generated impact report display, and simplified marketplace screen.
Stakeholder Testing	Minimum 3 live or async testing/feedback sessions with relevant users or stakeholders.
SDG Integration	SDG 13 (Climate Action) tag embedded in project metadata; carbon impact and project info linked to SDG-aligned goals in interface and hash.
Demo Readiness	Demo link or video walkthrough prepared and submitted by Day 10.

Post-Sprint Refinement

Focus: Iterating based on feedback, improving functionality, and aligning with pilot opportunities.

Focus Area	Baseline Metric
Feedback Integration	Minimum two user- or stakeholder-driven changes implemented in logic or UX.
MVP Stabilization	Functional testing completed with consistent results and no major blockers.
Stakeholder Alignment	At least one follow-up session with a CO or stakeholder to discuss next steps.

Pilot Readiness

Focus: Preparing the solution for deployment and scaling.

Goal Area	Suggested Metric
Institutional Buy-In	CO expresses interest in pilot exploration; early MoU or agreement in discussion.
Solution Readiness	MVP tested in an extended or external environment; improvements implemented.
Sustainability Path	Initial plan for post-program ownership or funding drafted.

Cumulative Tracking Suggestions

Consider using a simple dashboard or milestone tracker across the weeks to monitor:

- % completion of prototype milestones
- % of users tested
- % of stakeholder feedback items received & integrated
- % SDG contribution implemented in technical flow
- Progress toward pilot validation (e.g., 0–100 scale)

MVP Planning Table

After the prototype sprint, you'll begin shaping the full MVP. This table helps identify what's already been built, what needs improvement, and how each component will evolve into a pilot-ready version.

Component	Prototype Status	Improvement for MVP
UI/UX	[e.g., Form built]	[e.g., Add mobile layout]
Blockchain	[e.g., Hash created]	[e.g., Add QR or on-chain write]
SDG Tags	[e.g., Displayed]	[e.g., Make filterable]
Feedback	[e.g., 3 sessions]	[e.g., Expand to 5+ users]

Risk & Assumptions

Every project has uncertainties. Use this table to proactively identify key risks and assumptions and describe how your team plans to address them.

Risk/Assumption	Description	Risk Level	Risk Mitigation Strategy
[e.g. Limited Cardano experience]	The team lacks deep technical knowledge of Cardano-specific components.	Low	Pair devs with mentors
Low user engagement	Users may not participate in testing or provide meaningful feedback.	Medium	Pre-schedule testing calls

Team Profile

This section provides a comprehensive overview of the individuals and organizations behind the development and implementation of the proposed solution. It highlights the complementary expertise of both the Solution Makers and the Challenge Owners, underscoring the collaborative foundation of the accelerator.

Solution Makers

Introduce the team behind the solution, highlighting relevant skills and backgrounds that contribute to your ability to execute this project successfully.

Team Name
Atlas Ledger

Team Members & Roles
(Briefly list team members and their core roles or responsibilities)

- *Ayoub Derdabi - CEO & Product Owner*
- *Markus Doppelreiter - CTO and technical lead*
- *Louis Perner - Front End developer and UI/UX designer*
- *Johannes Naimer Stach - CIO and Impact Tool designer*
- *Marion Zoechbauer - COO and people lead*

Challenge Owners

The Country Office or institutional partners who defined the development challenge and provided critical context, feedback and collaboration throughout the accelerator.

Challenge Owner Organization Name:
UNDP Burkina Faso Country Office

Team Members & Roles:
(List key representatives and their roles

- Barbara Kyeremaa Asamoah – Programme Analyst
- Lafia Djamilou Dankoro – Planning & Project Management Specialist
- Kadoum Carine Mosse - Program Analyst ACCLAB
- Abdoulaye Ouedraogo – Head of Ethnography

Area of Focus:
(Brief statement summarizing the thematic area, e.g., financial inclusion, public service transparency)

Environmental restoration through innovative financing mechanisms - leveraging crowdfunding technology to mobilize global resources for community-driven reforestation and climate resilience in degraded landscapes.

Notes & Insights

Use this section to capture key learnings, challenges, or insights discovered during prototyping. This could include quotes from stakeholders, reflections on usability, or ideas for future iterations.

(Examples:

- *"Users found the onboarding form too long."*
- *"Stakeholders appreciated transparent SDG contribution."*
- *"Potential opportunity to integrate with local registry in next phase.")*

- Next phase: give more options to project owners to choose from when filling in their project
- To ask for Co-Benefits was appreciated by stakeholders
- Platform design and handling easy to understand for stakeholders
- Terminology should be simplified
- quality criteria for monitoring and milestone verification/evidence has to be made clearer

Pilot Vision & Scalability Plan

This section looks beyond the prototype to outline the long-term vision for piloting and scaling your solution.

Pilot Vision (6–12 months)

(Describe what success would look like in a real-world pilot. What key outcomes would you aim to demonstrate?)

Success in the 12-month pilot of Atlas Ledger would be demonstrated by enabling several youth-led forestry projects in Burkina Faso to complete AI-assisted climate impact assessments, obtain blockchain-based certification, and list projects for donors or forward carbon credits for sale on the platform. At least three to five pilot projects, supported by NGOs or cooperatives, should successfully navigate the end-to-end process—from onboarding and assessment to validator approval and marketplace listing. This would validate the platform's core functionalities, including its usability in low-resource settings, and its ability to forecast and certify carbon sequestration credibly.

The pilot should also result in at least one project securing early-stage funding through donations, or maybe if possible through the sale of forward carbon credits to an SDG-aligned buyer. Verified progress tracking through validator reviews and satellite imagery would trigger milestone-based disbursements, showcasing the reliability of Atlas Ledger's monitoring system. User feedback from project owners and institutional partners like UNDP and the Ministry of Environment would confirm the platform's relevance, accessibility, and trustworthiness—setting the stage for broader scale-up across Burkina Faso and other emerging markets.

Target Users or Communities for Pilot

(Indicate who will benefit from the pilot deployment, specific regions, stakeholder groups, or institutions.)

The different regions in Burkina Faso are all affected by desertification. We will target different regions for the pilot, in order to engage as many regions as possible.

The pilot will support small-scale farmers across Burkina Faso. The rural agricultural communities will benefit from the pilot as they now have limited resources to adapt to the climate crisis and the changes in environmental conditions.

Scalability Plan

(Explain how you envision scaling the solution after the pilot. What elements are reusable or adaptable across contexts?)

After the pilot, scaling Atlas Ledger will involve expanding to additional regions and project types while leveraging the platform's modular and adaptable design. The core components—AI-powered assessment tools, blockchain-based certification, validator workflows, and donations market place, plus in step 2 the forward carbon credit marketplace—are reusable across geographies and adaptable to different climate project categories such as agroforestry, mangrove restoration, or regenerative agriculture. Once the assessment logic and validator protocols are established during the pilot, they can be customized with localized data and translated into other languages to support users in diverse contexts.

The platform's scalability is further supported by its low infrastructure requirements and mobile-friendly interface, making it suitable for rural users in other African countries and beyond. Partnerships with validators, satellite providers, and payment systems (e.g., Orange Money) can be replicated or extended through regional agreements. Additionally, success stories and verified impact data from the pilot can be used to onboard new carbon buyers and donors, expanding trust and demand. By training local validators and integrating new AI modules for different project types, Atlas Ledger can rapidly scale its reach while maintaining credibility, inclusivity, and efficiency.

Support Needed

(Briefly outline any technical, policy, or funding support required to move forward with a pilot or scale-up.)

To move forward with the pilot and ensure a successful scale-up, our team requires legal support to navigate the regulatory landscape related to cross-border climate finance and blockchain-based transactions. Since funds will be received from European donors — both individuals and companies — via the Cardano blockchain, and later disbursed in Burkina Faso to support local forestry projects, it is essential to clearly understand the legal implications in both jurisdictions. This includes compliance with anti-money laundering (AML) regulations, cryptocurrency usage laws, donation frameworks, and local financial disbursement procedures. Legal guidance will help ensure that the project operates transparently, responsibly, and in full compliance with international and national regulations.

In addition to legal support, we are seeking funding to implement the pilot and build the foundation for scale-up. This includes resources to finalize and deploy the platform prototype, onboard initial users, conduct validator assessments, and monitor project outcomes through digital tools and field verification. Pilot funding will also enable capacity building for local partners and cooperative members, as well as refinement of the platform based on real-world feedback. Support at this stage will be crucial to demonstrate the model's viability and to prepare the infrastructure needed to scale Atlas Ledger across other regions and project types.

Here is an estimate of the required funding:

Phase 2 – Pilot Deployment & Validation (Months 4-9)		
Work package	*What it covers*	*Est. budget*
Onboarding 3-5 forestry projects	*Field visits, data capture kits, training of youth teams*	*25.000,00*
Validator network setup	*Recruiting, training, validator fees for first year*	*5.000,00*
Monitoring & verification	*Satellite imagery, field audits*	*15.000,00*
Marketplace & buyer outreach	*Marketing material, buyer due diligence, deal structuring*	*15.000,00*
Financial rails integration	*Orange Money APIs, KYC modules, remittance fees*	*10.000,00*
Local coordination & ops	*Office, transport, community liaison staff*	*20.000,00*

Management costs	*Project management, staff fees*	*20.000,00*
Direct Project Cost	*Direct Project Cost*	*30.000,00*
Total Phase 2		*140.000,00*

Sustainability & Business Model (optional)

If relevant, describe how the solution can be sustained over time (financially, operationally, or institutionally).

Business or Funding Model

(Will your solution generate revenue, rely on grants, or operate through public partnerships?)
Atlas Ledger's business model is service-based, generating revenue through impact assessments, certification, and tracking services rather than taking commissions on carbon credit sales. Climate-positive projects pay fees for AI-assisted evaluations, validator-led certification, and optional premium monitoring (e.g., satellite verification), while donors and carbon credit buyers—typically companies—pay subscription fees for access to dashboards, SDG-aligned project matching, and portfolio reporting. This model ensures transparency and integrity in credit pricing while monetizing the tools and services that enable trust, verification, and early-stage climate finance.

Key Resources & Partnerships

(What ongoing resources (e.g., cloud services, development talent, regulatory access) are needed to maintain and grow the solution?)
Ongoing resources needed include cloud infrastructure (for data storage, AI processing, and blockchain integration), a core development team (blockchain engineer, AI/UX developer, and product manager), legal and regulatory advisory (to navigate crypto, cross-border finance, and carbon standards), and local partner support (for validator coordination, project onboarding, and market expansion).

Long-Term Ownership / Maintenance

(Who will manage and maintain the solution after the pilot, your team, a partner, or a public agency?)
The platform will be owned, managed and maintained by Atlas Ledger team for the long term sustainability of the project. The platform can be used by other country offices of UNDP as it is planned to be scaled and used in other geographies as well.

Deliverables Checklist

Use the checklist below to ensure all relevant final materials are prepared and submitted for review.

These are the suggested key outputs from the prototype sprint, not all items may apply to every team or solution, so please adapt as needed based on your project's scope and stage.

Please link all deliverables in a dedicated shared folder for your team for easy access by the program team and stakeholders.

- ☐ Prototype demo link
- ☐ Source code / GitHub repo
- ☐ Documentation / ReadMe
- ☐ SDG metadata logic
- ☐ Feedback summary
- ☐ Video walkthrough
- ☐ Feedback from Country Office
- ☐ Next steps agreed (e.g., pilot planning?)

Team Reflection

Use this space to share key takeaways and reflections from both the Challenge Owner and Solution Maker teams. This dual perspective helps document alignment, evolution of understanding, and mutual growth during the accelerator journey.

Challenge Owner's Perspective

(Examples from the Challenge Owner's Perspective:

- *"We gained a deeper understanding of how blockchain can be applied to solve complex development issues within our country context."*
- *"Collaborating closely with technical teams helped us refine our challenge statement and prioritize features for maximum community impact."*
- *"This experience helped us develop internal capacity for innovation-focused partnerships, which we intend to scale.")*

Challenge Owner's Perspective Examples

- Working on this crowdfunding prototype fundamentally shifted our understanding of how digital financing mechanisms can democratize environmental restoration - we now see clear pathways for engaging global audiences in local development challenges that were previously limited to traditional donor relationships.
- The collaborative design process helped us realize that our initial focus on tree numbers needed to be balanced with stronger emphasis on community ownership and long-term sustainability - the prototype development forced us to think more systematically about how transparency and real-time monitoring could build donor trust while empowering local communities.
- This experience has built our internal capacity for innovative financing approaches and demonstrated that UNDP Burkina Faso can successfully pilot new funding mechanisms - we're now planning to apply similar crowdfunding models to other development challenges including education infrastructure and women's economic empowerment initiatives across our portfolio.

Solution Maker's Perspective

(Examples from the Solution Maker's Perspective:

- *"During user testing, we learned that trust and transparency were more important to stakeholders than we initially thought."*
- *"We pivoted from a token-based model to a VC-based flow after realizing regulatory complexity."*
- *"Building with Cardano was new for us, and we now feel more confident integrating blockchain in real-world systems.")*

- We have learned from feedback that our assumptions regarding the problem of financing small projects in Africa as well as the loss in trust on voluntary carbon credits are right.

- What we learned is that our approach for the platform is fine, but we changed the focus during the last months from forward carbon credits to donation based models. This is because complexity is high with forward carbon credits in order to ensure the highest quality we want to offer.
- Our next big challenge is to find possible donors. The feedback on the platform was that the product is fine for now to explain the model and idea to them.