

From ecological fit to economic proof: Botswana's safflower strategy redefines dryland resilience

19 December 2025 | News

In an exclusive AgroSpectrum interview, Nnyaladzi Madzikigwa, Author and Director of Saffenergy Initiatives, Botswana, explains why safflower is emerging as a strategic resilience crop rather than a speculative diversification bet.



In an exclusive AgroSpectrum interview, Nnyaladzi Madzikigwa, Author and Director of Saffenergy Initiatives, Botswana, explains why safflower is emerging as a strategic resilience crop rather than a speculative diversification bet.

Nnyaladzi argues that safflower's real advantage lies in income stability, low input dependence, and multi-stream value creation—qualities that make it economically superior to high-yield but volatile dryland staples under climate stress. By rejecting bulk commodity markets and anchoring safflower in cooperative-owned processing, traceability, and ethical origin branding, Botswana is positioning the crop as an identity-based export for nutraceutical, cosmetic, and wellness markets.

Crucially, the model integrates biodiversity stewardship, women- and youth-led ownership, and GBV-responsive livelihoods, reframing safflower not merely as an agronomic intervention but as a national strategy for climate resilience, social recovery, and rural economic sovereignty.

From Ecological Fit to Economic Proof

Botswana's ecosystems have long demonstrated resilience under climatic stress—but resilience alone does not attract capital. What hard economic evidence (yield stability, cost curves, margin resilience) can demonstrate that safflower is not just climate-compatible, but commercially superior to traditional dryland staples under Botswana's conditions ?

Saffenergy Initiatives frames safflower not as a speculative diversification experiment, but as a deliberately chosen economic resilience instrument suited to Botswana's dryland realities. Under arid and semi-arid conditions, the crop offers a rare combination of yield stability, low input intensity, and diversified revenue potential.

Unlike traditional dryland staples that swing sharply with rainfall variability, safflower delivers predictable output even in stressed seasons. Its modest water, fertiliser, and pesticide requirements reduce production risk and protect farmer margins when climate shocks hit. Crucially, safflower's value does not rest solely on seed yields: oil, cake, petals, and secondary by-products create multiple income streams. In cooperative pilots where safflower is integrated with poultry and mixed farming systems, household income volatility has fallen sharply. For Saffenergy, this stability—rather than peak agronomic performance—is what makes safflower economically compelling in Botswana's climate context.

Avoiding the Commodity Trap

Many climate-resilient crops fail because they enter global markets as low-value commodities. How will Botswana position safflower not as another bulk oilseed, but as a differentiated, biodiversity-anchored product capable of sustaining premium pricing in global nutraceutical, cosmetic, and wellness markets?

The strategy, Saffenergy argues, is to refuse participation in bulk oilseed markets altogether. Botswana's opportunity lies in differentiation, not scale. Safflower is being positioned outside commodity pricing dynamics and anchored instead in biodiversity, climate resilience, and ethical production, including links to GBV recovery and livelihood reintegration programmes.

The target markets are nutraceuticals, cosmetics, and wellness segments where traceability, provenance, and ethical sourcing command premiums. By combining low-input dryland cultivation with cooperative-led traceability, social impact certification, and origin branding tied to ecosystem stewardship, Botswana safflower is repositioned from a price-taking commodity into an identity-based product. In this model, value is protected by trust and narrative, not by volume.

Value Addition vs. Value Capture

Local processing often creates jobs—but not necessarily wealth—if branding, IP, and market access remain offshore. Which segments of the safflower value chain (processing, formulation, branding, certification, IP) must remain in Botswana to ensure that rural communities capture value rather than merely supply raw inputs ?

For communities to capture wealth rather than wages, Saffenergy insists that critical nodes of the value chain must remain in Botswana. These include primary processing such as oil pressing and cake production, downstream formulation for cosmetics, wellness blends, and animal feed, ownership of certification and traceability systems, brand control and storytelling, and intellectual property linked to formulations and indigenous knowledge.

At Saffenergy, these functions are cooperative-owned by design. Export partners may handle distribution, but product identity, narrative authority, and margin capture remain local. This approach is not ideological, the organisation argues, but structural: Without control over these nodes, rural economies default to extractive models regardless of crop choice.

Cooperatives as Export Vehicles, Not Welfare Structures

Cooperatives frequently struggle with governance, quality control, and market discipline.

What institutional design—governance rules, professional management, digital traceability, performance incentives—will allow Botswana’s safflower cooperatives to function as export-grade enterprises rather than subsistence collectives?

Saffenergy’s answer is to design cooperatives as enterprises first and social instruments second. This means professional management rather than volunteer leadership, performance-linked incentives tied to quality and delivery, digital traceability from field to market, contractually enforced quality protocols, and a clear separation between social and commercial accounting.

GBV and psychosocial support programmes operate alongside the cooperative, not within its governance framework, ensuring that empathy does not dilute market discipline. Export markets reward consistency and reliability, Saffenergy notes, and welfare logic cannot substitute for enterprise rigor.

Competing in a Crowded Climate-Smart World

Countries such as India, Ethiopia, and Kenya are already advancing biodiversity-linked crops into global markets. What is Botswana’s unique competitive moat—ecological, reputational, regulatory, or branding-based—that prevents safflower from becoming a race to the bottom on price?

Botswana’s advantage, according to Saffenergy, is credibility rather than scale. The country brings a global reputation for good governance, clean landscapes with low chemical intensity, high trust in regulatory systems, and a compelling ethical production narrative.

When these attributes are combined with biodiversity stewardship and GBV-responsive rural development, safflower becomes more than a crop—it becomes a trusted origin. That trust underpins premium pricing and shields producers from the race-to-the-bottom dynamics that have hollowed out many commodity sectors.

Scaling Without Ecological Degradation

History shows that scaling “green” crops can unintentionally replicate extractive agricultural models. How will Botswana ensure that safflower expansion strengthens soil health, water efficiency, and biodiversity rather than simplifying landscapes and recreating monoculture risks?

Scaling, Saffenergy emphasises, does not mean monoculture expansion. Safflower’s resilience allows growth without ecological overreach when embedded within integrated farming systems, crop rotation regimes that regenerate soils, water-efficient dryland irrigation practices, and intercropping and fallow restoration strategies. Because income is diversified across by-products and poultry integration, farmers are not pressured to continuously expand acreage. In this model, ecological health is treated as an economic asset rather than an externality to be managed after the fact.

Gender, Youth, and the Political Economy of Rural Jobs

Rural agro-enterprises often promise inclusion but deliver uneven outcomes. How will safflower-based rural industries be structured to ensure meaningful participation and income security for women and youth—beyond seasonal labor or informal processing roles?

Women and youth inclusion is positioned as central rather than ancillary. Saffenergy’s GBV-focused social programme provides psychosocial support for survivors, reintegration pathways into productive livelihoods, and skills training directly linked to income streams.

Women and youth participate as cooperative shareholders, operators of processing units, and entrepreneurs in poultry and by-product enterprises. The emphasis is on continuous, year-round income rather than seasonal labour, with ownership replacing dependency. Economic agency, Saffenergy argues, is among the most effective tools for both GBV prevention and recovery.

From Pilot Crop to National Strategy

Many promising crops remain trapped in pilot mode due to fragmented policy support. What specific policy levers—procurement incentives, export facilitation, blended finance, certification subsidies—must Botswana activate to move safflower from a niche biodiversity project to a nationally scalable export strategy?

To transition safflower from pilot projects to a national strategy, Saffenergy identifies five policy levers: public procurement of safflower oil and by-products, blended finance for rural processing hubs, certification subsidies for cooperatives, export facilitation for niche biodiversity products, and formal recognition of biodiversity crops within national agricultural policy.

Above all, safflower must be framed not as a narrow crop intervention, but as a climate resilience, gender inclusion, and rural stability strategy. In Saffenergy's framing, safflower is ultimately not just about farming—it is about restoring dignity, rebuilding resilience after trauma, and creating rural economies capable of healing both people and land.

--- **Suchetana Choudhury (suchetana.choudhuri@agrospectrumindia.com)**