5 Key Conclusions and Programme Implications

5.1 Demand is High, Finances Constrain Adoption

Demand for RA-PURE systems is exceptionally strong, with 97% of farmers willing to adopt if supported. Across households, suppliers, and service providers, the dominant constraint is affordability, driven by high upfront costs and limited access to finance. The challenge is therefore not behaviour change, but enabling adoption through accessible and appropriate financing mechanisms.

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Farmers willing to adopt RA-PURE if supported

5.2 Solar Irrigation is the Primary Entry Point, Anchored on Key Crops

Across all three data sources (households, service providers, and suppliers), solar-powered irrigation combined with RA practices is the most preferred and recommended RA-PURE combination. This directly addresses the dominant climate challenge (drought) and the current productive energy gap (15% irrigation use despite widespread energy access). Solar irrigation trials should anchor the RA-PURE field trial programme. The four priority crops preferred by farmers are maize, beans, kale and black nightshade, which are not only widely grown but also compatible with regenerative practices and responsive to irrigation.

5.3 Biogas-Bioslurry Systems are a High-Potential Secondary Pathway

The livestock-biogas-bioslurry system, particularly evident in Nandi, shows strong potential for integrated RA-PURE application, offering dual benefits of energy generation and improved soil fertility. However, adoption remains limited in most counties, indicating the need for targeted approaches that align with livestock systems, improve affordability, and strengthen technical support.

5.4 The Core Gap is Practical Integration, Not Awareness

RA practices and energy access are both present across counties, but largely operate independently. While awareness of RA-PURE is relatively high, adoption remains low due to the difficulty of integrating systems at the farm. There is a need to connect existing practices and technologies into practical, farm-level applications that directly address water, soil, and productivity constraints.

5.5 Counties Require Differentiated Approaches

Readiness varies significantly across counties. Nandi and Uasin Gishu provide strong foundations for scaling, while Bungoma, Busia, and Kakamega offer high potential due to existing RA and solar adoption. However, with zero RA-PURE adoption and 27% awareness, Kericho will not be effectively reached by a one-size-fits-all programme, requiring tailored approaches to sensitisation and adoption.

5.6 Supply Systems are Fragmented and Favour Specialisation

The supply ecosystem is active yet largely specialised, with most actors focusing on either RA inputs or energy technologies rather than integrated solutions. This reflects differences in technical expertise, customer segments, and business models. Rather than forcing integration at the supplier level, there is a stronger case for coordinated delivery models that leverage specialised actors within a connected ecosystem.

5.7 Trusted Information Channels are Key to Adoption

Farmer groups, extension services, and peer learning are the most effective and trusted channels for disseminating information. These channels complement one another and provide a strong foundation for scaling awareness and adoption. However, weak linkages with private-sector providers limit farmers' access to technologies and services, underscoring the need to strengthen these connections.

5.8 Institutional Support Remains Limited

Despite active field-level engagement, institutional investment in RA-PURE integration remains low, with limited budget allocation and weak policy alignment. Stronger integration into county planning, budgeting, and policy frameworks will be necessary to support sustained scale-up.

5.9 Gender and Youth Inclusion are Critical

Women play a central role in farming systems but face constraints in access to finance, land, and decision-making. Youth participation remains limited despite their potential to adopt new technologies. Addressing these gaps will be important for equitable and accelerated adoption of RA-PURE systems.

5.10 Demonstration and Evidence will Drive Scale

A significant proportion of farmers remain uncertain about the benefits of RA-PURE due to limited direct experience. Across stakeholders, demonstration sites and visible success stories are identified as the most effective drivers of adoption. Well-designed, crop-based demonstration plots, particularly around solar irrigation and biogas systems, will be essential for building confidence and stimulating demand.

6 Programme Recommendations

6.1 Establish Accessible Financing Models for RA-PURE Adoption

Develop and deploy blended financing mechanisms that reduce upfront costs for farmers. This should include PAYGO models for solar irrigation, cooperative-based lending, targeted subsidies, and grant support for initial adoption. Special attention should be given to women and youth, who face greater financial barriers.

6.2 Anchor Field Trials on Solar Irrigation and Priority Crops

Prioritise solar-powered irrigation as the main entry point for RA-PURE field trials. Demonstration plots should focus on maize, beans, kales, and black nightshade, integrating irrigation with regenerative practices such as composting, intercropping, and mulching. These crops offer quick, visible results and strong scalability.

6.3 Scale Biogas-Bioslurry Systems in Livestock-Based Areas

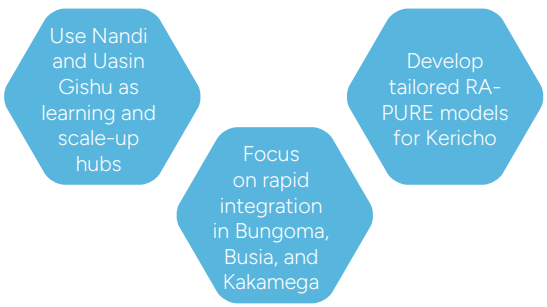
Promote the livestock-biogas-bioslurry model in counties with strong livestock systems such as Nandi, Nakuru, and Bungoma. Support should include financing for biodigesters, technical training, and integration with soil fertility programmes to maximise both energy and agricultural benefits.

6.4 Promote Practical Integration at the Farm Level

Design and implement simple, farm-level RA-PURE packages that connect existing practices and technologies. Focus on linking water access (irrigation), soil health (RA practices), and productivity outcomes, rather than introducing complex or entirely new systems.

6.5 Apply Differentiated County-Level Implementation Strategies

Adopt a targeted rollout approach:



6.6 Strengthen Coordinated Delivery Across Specialised Suppliers

Support coordination among specialised RA and PURE suppliers rather than forcing integration within single businesses. Facilitate partnerships, joint delivery models, and shared service platforms to improve farmer access to complete RA-PURE solutions.

6.7 Leverage Trusted Information and Delivery Channels

Scale dissemination through farmer groups, extension systems, and peer learning networks. Strengthen linkages between these channels and private sector providers to improve access to technologies, services, and after-sales support.

6.8 Strengthen Institutional Integration and Policy Support

Advocate for the inclusion of RA-PURE approaches in county development plans, budgets, and agricultural strategies. Support public institutions in allocating resources for integrated pilots and aligning policies with climate-smart, energy-enabled agriculture.

6.9 Mainstream Gender and Youth Inclusion

Design targeted interventions that address barriers faced by women and youth. This includes inclusive financing models, tailored training programmes, and engagement strategies that ensure both participation and influence over decision-making.

6.10 Invest in Demonstration, Evidence, and Learning Systems

Establish well-designed demonstration sites and farmer exposure programmes to showcase the benefits of RA-PURE. Strengthen monitoring, evaluation, and learning systems to generate evidence, support adaptive programming, and inform policy and scale-up.