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Photo: Paddy field on the border of Gunung Leuser National Park, Aceh Province, Indonesia, by Diane Russell, February 19, 2017.

TECHNICAL NOTE:
**NATURAL RESOURCE MANAGEMENT IN RESILIENCE
AND FOOD SECURITY (NRM-RFS) PORTFOLIO
REVIEW**

TABLE OF CONTENTS

| | |
|---|-----------|
| Acknowledgements and Disclaimer | 3 |
| Acronyms | 4 |
| Overview | 6 |
| Box 1: Definitions of NRM and WRM | 7 |
| Policy Context | 7 |
| CDCSs | 8 |
| Box 2: Cambodia—Example of an NRM DO in a CDCS | 8 |
| 2017–2021 GFSS Country Plans | 8 |
| Box 3: GFSS 2018 Bangladesh—Example of Indirect NRM Impacts | 9 |
| NRM Technical Integration Approaches | 9 |
| CSA and Sustainable Intensification (SI) | 9 |
| Box 4: CSA Example | 10 |
| Other integrated NRM approaches | 10 |
| Box 5: A Selection of Integrated NRM Projects | 12 |
| Operational Approaches | 12 |
| Colocation and Blended Funding | 12 |
| Mission Approaches to Facilitate Sectoral Integration | 13 |
| Barriers and Gaps | 14 |
| Recommendations | 15 |
| Measuring and Valuing NRM | 16 |
| Box 6: New Developments in Measuring NRM within RFS | 16 |
| Conclusion | 17 |
| References | 18 |

ACKNOWLEDGEMENTS AND DISCLAIMER

The *Natural Resource Management in Resilience and Food Security (NRM-RFS) Portfolio Review* and allied publications were produced through the Food Security Service Center II under Consulting Agreement #I00098-TO#302. In addition to the Contracting Officer's Representative (COR), Emily Weeks of the RFS/Policy, Analysis, and Engagement Office (PAE); Kristi Tabaj, advisor from the Bureau for Humanitarian Assistance (BHA); and an advisory team from the RFS Centers/Offices funding the effort (Agriculture-led Growth; Resilience; Water, and Policy-PAE) guided the work.

The review team—Michael Colby, Diane Russell, and Jennifer Harte—is immensely grateful to these dedicated staff, and to the staff in Missions who took the time to provide a wealth of program details, insights, and recommendations. However, they take responsibility for any errors or misinterpretations in the review and note that it does not necessarily represent the views of the U.S. Agency for International Development (USAID) or the U.S. government.

ACRONYMS

| | |
|------------|---|
| AgNRM | USAID/Ghana Agriculture and Natural Resources Management Project |
| BHA | USAID Bureau for Humanitarian Assistance |
| CC-IR | Cross-Cutting Intermediate Result |
| CDCS | Country Development Cooperation Strategy |
| CDF | Community Development Funds |
| CIFOR | Center for International Forestry Research |
| COR | Contracting Officer's Representative |
| CREMA | Community Resource Management Area |
| CSA | Climate-Smart Agriculture |
| DDI | USAID Bureau for Development, Democracy, and Innovation |
| DO | Development Objective |
| DRG | Democracy Rights and Governance |
| ECOFISH II | Enhanced Coastal Fisheries in Bangladesh Activity |
| EG | Economic Growth |
| EMMP | Environmental Mitigation and Monitoring Plan |
| ENRM | Environment and Natural Resource Management |
| EYCD | Education, Youth, and Child Development |
| FMNR | Farmer-Managed Natural Regeneration |
| GDA | Global Development Alliance |
| GFSS | Global Food Security Strategy |
| GHG | Greenhouse Gas |
| HATO | Humanitarian Assistance and Transitions Office |
| HEARTH | Health, Ecosystems, and Agriculture for Resilient, Thriving Societies |
| IR | Intermediate Result |
| IWRM | Integrated Water Resource Management |
| JRF | Joint Results Framework |
| LEAFS | Low Emission Agriculture and Food Systems |
| MEL | Monitoring, Evaluation, and Learning |
| NCS | Natural Climate Solutions |
| NGO | Nongovernmental Organization |
| NRM | Natural Resource Management |
| OHH | Office of Health and HIV/AIDS |
| PAE | Policy, Analysis, and Engagement Office |
| PES | Payments for Ecosystem Services |
| RFS | USAID Bureau for Resilience and Food Security |
| RiPA | USAID/Ethiopia Resilience in Pastoral Areas Project |
| SAGE | Strategic Advisory Group for Emergencies |
| SI | Sustainable Intensification |
| SIIL | Sustainable Intensification Innovation Lab |
| TDY | Temporary Duty |

| | |
|-------|---|
| TOC | Theory of Change |
| USAID | U.S. Agency for International Development |
| WASH | Water, Sanitation, and Hygiene |
| WRM | Water Resource Management |
| ZOI | Zone of Influence |

OVERVIEW

Agriculture and food systems are essential to human survival, and are severely threatened by climate change, natural resource degradation, and loss of biological diversity. Concurrently, agricultural extensification and unsustainable farming practices accelerate climate change and threaten the ecosystems and many of the natural resources upon which food security depends. Sound natural resource management (NRM), mainstreamed and monitored from plot to landscape scale, is central to addressing these challenges.

The [2022–2026 Global Food Security Strategy \(GFSS\)](#) foregrounds the climate and water crises (pages 14–16) and adds new Cross-Cutting Intermediate Results (CC-IRs) for enhanced climate change mitigation and adaptation (CC-IR 4), improved NRM (CC-IR 5), and improved water resource management (WRM) (CC-IR 6). Resilience is woven throughout the strategy.

The GFSS is complemented by a bold, new USAID [Climate Strategy 2022–2030](#), an Agency [Environmental and Natural Resource Management \(ENRM\) Framework \(2020\)](#), and fresh approaches to integrated programming, such as the Global Development Alliance (GDA) [Health, Ecosystems, and Agriculture for Resilient, Thriving Societies \(HEARTH\)](#).

This technical note summarizes findings from the *Natural Resource Management in Resilience and Food Security (NRM-RFS) Portfolio Review*, which supports key objectives of RFS to enhance the role of NRM in the U.S. Agency for International Development’s (USAID) agriculture; food security; water, sanitation, and hygiene (WASH); and resilience programming. The review focused on five themes whose interconnectedness is increasingly important in an ever more crowded world of people needing nutritious food, healthy water, fuel, fiber, and other natural resources, and resilient ecosystem services to support agricultural economies:

- WRM;
- Climate change adaptation and mitigation;
- Land tenure and resource property rights and governance;
- Environmental policy issues (e.g., biodiversity conservation); and
- NRM other than the above items.

In addition to an inventory of Feed the Future and integrated programming incorporating these five NRM themes, RFS wanted to better understand:

- How RFS staff can better measure the value of NRM to agriculture and food security. What factors encourage them to incorporate NRM into their programming?
- The barriers to integrating or mainstreaming NRM. Where are there gaps that need to be filled?
- Mission and Bureau staff recommendations for realizing the potential of NRM to enhance food and water security, mitigate and adapt to climate change, and secure other benefits, such as equitable and effective governance of lands and natural resources.

The NRM-RFS team interviewed 30 Washington, D.C.-based staff, reviewed Bureau and Agency policies and guidance documents related to these themes, conducted desk reviews of post-2015 programming portfolios of 17 “high-priority” Missions,¹ and interviewed 38 staff members from 11 of these priority RFS countries, which included 9 of Feed the Future’s 12 target countries in that period. The other two interviewed Missions were just added to the Feed the Future target list in June 2022.

Box 1: Definitions of NRM and WRM

According to the 2020 ENRM Framework, NRM is the management of natural resources, such as land, water, soil, plants, and animals, to sustain nature’s productivity, with focus on how management affects the quality of life for present and future generations.

The NRM-RFS team proposes adding the following to the definition to incorporate important principles of governance, economics, and ecosystem services from USAID’s [Nature, Wealth, and Power](#) framework for rural development (USAID 2013b), and the United Nations’ (UN) [Millennium Ecosystem Assessment](#) (2005): NRM is shaped by rules, rights, policies, processes, and institutions engaging multiple stakeholders with differing access to power and influence, to govern resources and people’s uses of them, as well as economic markets. Agricultural productivity and food security also depend on the provision of ecosystem services, such as water cycling, availability, and quality; climate, flood, and pest/disease regulation; nutrient cycling; pollination; soil formation/fertility; fuel; and bio/genetic diversity.

WRM is the process of planning, developing, and managing water resources, in terms of water quantity and quality, within and across water uses for the benefit of humans and ecosystem functions. WRM includes the institutions, infrastructure, incentives, and information systems that support and guide water management and uses. Integrated water resource management (IWRM) is a process that promotes the coordinated development and management of all water, land, and related resources (from [WRM Technical Brief](#), page 13).

POLICY CONTEXT

Country Development Cooperation Strategies (CDCSs) and GFSS Country Plans reviewed did not contain much explicit NRM-related language. But, the lack of explicit NRM-related language in these plans did not necessarily mean that there was little or no NRM programming. Box 2 describes Cambodia CDCSs Development Objective (DO) 1, which contains explicit NRM references. Box 3 provides an example of a country plan with less explicit, but still important, NRM outcomes. Several Missions are in the process of updating their country plans, and as indicated in the key informant interviews, Missions aim to increase the integration of NRM with agriculture, water, and resilience.

¹ Selected from Bureau-provided lists of each of RFS’ four Centers’ priority countries.

CDCSs

Most of the CDCSs reviewed are dated between 2020–2025, which would have aligned with the [2017–2021 GFSS](#), while anticipating increased attention to climate change.

Several of the 17 CDCSs reviewed contained DOs and/or Intermediate Results (IRs) that referenced NRM in the context of agriculture and food security. In some cases, it was clear where these DOs and IRs resulted in programming, as documented in Box 1 for Cambodia. In other cases, the links were less clear or NRM programming was not discovered (e.g., lack of recent programming on fisheries or WRM in Lake Malawi, despite mention in CDCS).

Box 2: Cambodia Example of an NRM DO in a CDCS

[Cambodia's 2020–2025 CDCS](#) incorporates an example of a strong NRM DO, DOI: Inclusive and Sustainable Economic Growth Broadened. This DO links to the CDCS goal by supporting the economic conditions necessary for increased prosperity and resilience in the country, and by focusing on good governance issues related to NRM. IR 1.3 is “Improved management of natural resources for sustainable and accountable development, including a focus on critically threatened landscapes and support for watershed management, to create a stronger foundation for inclusive and sustainable economic growth” (CDCS, page 32).

The follow-through from the Cambodia CDCS to programming includes projects that integrate fisheries, watersheds, river basins, and agricultural productivity. As the CDCS notes, “The strategic/thematic shift focus on watershed management is a new effort to focus resources on key waterways like the Mekong River and Tonle Sap (Cambodia’s Great Lake), in alignment with the new Mekong-U.S. Partnership, focusing on livelihoods (e.g., fishing and fisheries), and a major source of nutrition for the Cambodian people” (CDCS, page 32).

2017–2021 GFSS Country Plans

Virtually all the GFSS Country Plans reviewed were developed in or around 2018, in alignment with the 2017–2021 GFSS, which focused on poverty reduction through agriculture-led growth accomplished by boosting farm and crop productivity and improving markets for targeted value chains. While nutrition was a feature of the 2017–2021 GFSS and Feed the Future, it tended to be incorporated in strategies as a separate DO or IR. There was little or no intersection found between nutrition and NRM in strategies or programming, despite [compelling evidence](#) of such links from research by the Center for International Forestry Research (CIFOR), largely funded by USAID.

Box 3: GFSS 2018 Bangladesh Example of Indirect NRM Impacts

At first glance, NRM did not appear to be highly prioritized in the [2018 GFSS Bangladesh Country Plan](#). Despite a substantial \$50 million agriculture budget and 15 Feed the Future-funded activities, program documentation makes little reference to NRM/WRM outside of a successful climate-smart agriculture (CSA) package, which introduced practices such as more efficient deep placement urea fertilizers to reduce nitrogen pollution and resulting greenhouse gas (GHG) emissions.

Over time (decades), USAID-funded rice production activities have seen a three-fold increase in yields and a decrease in total hectares planted by each farmer (also necessitated by population growth). This can be seen as a land-and-water-sparing win for NRM, and an example of improved water management. WASH programming tends to focus on behavior change for health, rather than watersheds or multi-use water management.

USAID/Bangladesh also has a long history of support to inland (freshwater) fisheries and aquaculture. Documentation for the current \$24.5 million Feed the Future Aquaculture and Nutrition project (2018–2023), implemented by CGIAR's [WorldFish](#), again makes no reference to NRM or WRM, but aquaculture best practices include resource management elements, not unlike CSA practices do for livestock and crops. Similarly, WorldFish's newer (2020–2024) \$10 million Enhanced Coastal Fisheries in Bangladesh ([ECOFISH II](#)) Activity aims to improve fishing and agricultural practices and to teach people new trades and skills that increase their incomes, reduce their reliance on forests and wetlands, and strengthen their resilience against climate-related economic shocks.

NRM TECHNICAL INTEGRATION APPROACHES

CSA and Sustainable Intensification (SI)

In the context of Feed the Future, CSA and SI are closely related.² Both could include heat/drought/flood/pest/disease-resilient crop or livestock varieties, reduced tillage, and cover crops; more efficient fertilizer management and other techniques for soil fertility management; other technologies for water capture and infiltration and erosion control; and tree/shrub, biomass, and integrated pest management. The practices used in projects were not always specified in the available Mission or project documentation.

SI has the explicit aim of reducing pressure on natural lands through improved productivity. In the online journal, [The Royal Society](#), ecologists David Tilman and David Williams show how “sustainable intensification is a critical solution to biodiversity loss, ecosystem degradation, and greenhouse gas emissions, as well as improved productivity.”

² RFS documents contain multiple references to CSA and SI, but many do not provide definitions, examples, or measures of what is to be done or the impact of what was done. The NRM-RFS team thus used a broad definition of NRM to incorporate CSA and SI as they involve the management of soil, water, and vegetation to adapt to and mitigate the impact of climate change, and with the aim of reducing pressure on natural systems.

CSA was a frequent feature of Feed the Future programming under the 2017–2021 GFSS, which structured most of the projects reviewed. CSA approaches appeared to focus mainly on productive and adaptive interventions at the plot and farm level (e.g., drought-tolerant varieties, low-till vegetation and/or nutrient management, and irrigation efficiency), which is understandable given Feed the Future’s main target of smallholder farmers, often in fragile economic and environmental situations.³

Box 4: CSA Example⁴

Mali’s [Sene Yiriwa](#) (2021–2026)—“Prosperous Agriculture” in English,—set in the Delta Zone of Influence (ZOI), focuses on integrated, climate-smart agro-pastoral production systems; improved production of nutrient-dense foods, including livestock; improved NRM and agroforestry; and sustainable harvest and production of non-timber forest products, fodder crops, and irrigation to sustainably improve on-farm resilience to climate-, economic-, and conflict-related shocks and stresses. In addition, the activity also focuses on providing access to climate meteorological data, improving land and water resource management, and increasing the availability of nutrient-dense foods.

While informants highly valued CSA, they recognized that to deal with climate stress and natural resource degradation (e.g., soil erosion, fertility decline, and water stress), and to build resilient agroecosystems, interventions at ecosystem scales are needed. These efforts were not just the job of RFS or Missions; they should be coordinated across sectors and projects, as well as across the Agency.⁵

Other integrated NRM approaches

The review found multiple examples of RFS programming that aimed to improve NRM and WRM at landscape or ecosystem scales:

Fisheries management that incorporates protection of marine and/or freshwater habitats as a key food security concern (Bangladesh, Cambodia, Senegal, and Malawi). Fisheries management was historically biodiversity- and/or water-funded, but over the past decade, it has become increasingly likely to be cofunded with Feed the Future. While some may not see fisheries management as NRM or WRM, it indisputably involves not only the management of wild fish, but typically also management of coastal zones, mangroves, and other fishery habitats, as well as fishing efforts. Fish and shellfish are essential for food security and income in many RFS priority countries, per USAID’s [Fishing for Food Security](#).

³ Identified CSA programming possibly missed some low- or no-cost interventions on the mitigation dimension of the generally accepted, three goals definition of CSA.

⁴ The July 28, 2022, [Agrilinks presentation on CSA](#) described a number of landscape-scale CSA options.

⁵ This approach is aligned with the objectives of the new RFS-USAID Bureau for Development, Democracy, and Innovation (DDI) Low Emission Agriculture and Food Systems (LEAFS) Advisory Group.

Watershed management/restoration to ensure water sustainability (Guatemala, Cambodia, Ethiopia, and Nepal). USAID has worked on watershed management for decades, integrating biodiversity/forests, irrigation, WASH, and health. BHA appears to be more active in watershed work recently than Feed the Future (e.g., in Ethiopia). Payments for Ecosystem Services (PES) is another approach, used especially for climate change mitigation (Natural Climate Solutions (NCS)), that focuses on preventing or reducing deforestation, or increasing reforestation, by incentivizing carbon sequestration.

Farmer-Managed Natural Regeneration (FMNR) (Kenya and Ethiopia) spread throughout the Sahel through the work of nongovernmental organizations (NGOs), such as [World Vision](#), with modest USAID support. A major policy breakthrough was devolving rights to trees to farmers and local communities in the Maradi and Zinder districts of Niger, which formally were owned by the state. The regenerated trees were then used to improve soil fertility; provide fodder, fuelwood, and shade; and to capture/retain water. Although not strongly featured in current programming, FMNR is included in the review because it was mentioned by several RFS key informants as best practice for CSA and NRM that resulted in large-scale impact.

Pasture/rangeland management and regeneration (Ethiopia, Kenya, and Mali). Farmer-pastoralist conflict is a major problem in many African countries. At the same time, pastoralists are also engaged in important biodiversity conservation and NRM activities, such as in the conservation conservancies in [Kenya](#) and [Namibia](#). Working with pastoralists has thus become an important activity to address conflict, food insecurity (through the livestock sector), and rangeland management for both livestock and wildlife.

Integrated agriculture and food security programming around **biodiverse-protected and community-conserved areas** that safeguard ecosystem services to the agro-economy (e.g., water cycles and nutrient cycles), and where SI approaches are being deployed to reduce pressure on natural resources and ecosystems (Democratic Republic of the Congo, Ghana, Mozambique, and Honduras).

Issues of **land tenure and resource property rights** (Burkina Faso, Niger, East Africa Regional, Democratic Republic of the Congo, Ghana, and Mozambique) underpin both sound and poor NRM. SI requires some level of secure land tenure so that farmers can reap the returns from longer-term investments, such as agroforestry. Weak property rights create what is called “open access situations” where there is confusion about ownership, access, and/or management roles and responsibilities, precipitating overexploitation of the resource. In the agriculture setting, weak rights can lead to underinvestment by the farmer due to uncertainty about returns.

Box 5: A Selection of Integrated NRM Projects

Cambodia's [Fish Restoration for Food Security](#). In 2019, construction of the first fishway in Cambodia's Tonle Sap Watershed allowed millions of fish from 106 species to ascend the Mekong River for spawning and rearing, increasing local food security.

Ethiopia's Feed the Future [Resilience in Pastoral Areas \(RiPA\) project](#) (2020–2025) targets lowlands pastoralist families and communities to promote the viability and resiliency of pastoralist communities through continued market development and improved natural resource (land/pasture and water) management.

Guatemala's [Western Highlands Integration Program](#) (USAID 2013a) integrated and colocated work on watershed restoration, tree crops, and agroforestry with other development interventions, including nutrition, in the Western Highlands, an area of high food insecurity. Guatemala's Economic Growth Office is said to be structured to be conducive to blending of funding streams and layering of activities. Colocation of food security, livelihood/economic growth, and other programming is implemented in the Western Highlands.

[Ghana's Agriculture and Natural Resources Management Project \(AgNRM\)](#) project was designed with USAID's holistic [Nature, Wealth, and Power](#) framework in mind. It is perhaps unique in that Feed the Future funding was used in 2017 to better understand [the value of ecosystem services that support agricultural productivity](#) in the target areas (Feed the Future 2017). Community-led biomonitoring was an innovative model to protect and monitor the population of plants and animals within the Community Resource Management Areas (CREMAs). Also notable, AgNRM estimated GHG emissions in the project's ZOI.

OPERATIONAL APPROACHES

Colocation and Blended Funding

Most Feed the Future programs co-locate activities from different RFS funding streams (Feed the Future, water, resilience, and nutrition) as part of their ZOI programming and in Resilience Focus Countries within the Resilience Focus Zone. However, independent project implementers do not always coordinate their activities, so synergies are not always realized as hoped. Examples of colocated programming include:

- Colocated activities around protected and conservation areas noted above.
- [Health, Ecosystems, and Agriculture for Resilient, Thriving Societies \(HEARTH\)](#) has 18 projects using the approach to blend and colocate agriculture, health, biodiversity, and climate funding (Cheng et al. 2022).

- BHA Watershed Activities, blending humanitarian assistance, Feed the Future, and NRM watershed rehabilitation (Ethiopia and Malawi). Some of these activities are partially funded by RFS Community Development Funds (CDF) involving TA technical assistance from the Center for Resilience.
- Similarly, Uganda’s substantial BHA, biodiversity, and resilience programs are colocated and/or layered with NRM components and Feed the Future to address systems wherever possible. The Mission blends funding to increase both technical integration and activity management efficiencies, a tactic to both bring interrelated specialists to the table for codesigns and to ensure a balance of indicators for supervision across systems.

Mission Approaches to Facilitate Sectoral Integration

While not directly focused on NRM, these approaches can serve as models for how sectors coordinate, a key need expressed by informants:

- Uganda’s Humanitarian Assistance and Transitions Office (HATO) collaborates across the USAID/Uganda portfolio to integrate agriculture-led growth, livelihoods, disaster risk reduction, nutrition, health, governance, and WASH. Technical offices on design and management teams include the Office of Health and HIV/AIDS (OHH); Economic Growth (EG) Office; Education, Youth, and Child Development (EYCD); and Democracy Rights and Governance (DRG).
- Democratic Republic of the Congo—Joint Results Framework (JRF). This monitoring, evaluation, and learning (MEL) framework was developed for learning across projects and funding streams (biodiversity, peace and security, and resilience) working in conflict zones around protected areas. To support the JRF, Mission staff from different sectors undertook joint temporary duties (TDYs) to project sites.
- Ethiopia—Strategic Advisory Group for Emergencies (SAGE) “guides the design, procurement, and implementation of shock-responsive development programming. It ensures rapid programmatic pivots of development programs when shocks occur. USAID will ensure humanitarian response is conducted in a manner that contributes to future development, responding directly where systems do not function, and building institutional capacity to the extent possible to respond to future shocks” ([Ethiopia CDCS](#), page 15).

BARRIERS AND GAPS

While many Missions determined that some aspects of NRM were important to long-term agricultural productivity, food security, and resilience, there were few options within the existing performance monitoring system to document the impacts of NRM interventions.

Aside from the ecosystem services study in Ghana, little information was found within Feed the Future-funded projects to quantify the values of NRM to agriculture and food security. As seen in the recommendations, many Mission staff know NRM is important, but they had neither the data nor the tools to determine how important. Under the 2016–2021 phase of Feed the Future, NRM-related interventions and practices were typically not disaggregated from other production-oriented practices and technologies.⁶

WRM was (re)integrated into water policy as part of the [2017 USAID Water and Development Plan](#); however, the review found few instances of WRM beyond the farm or household level in Feed the Future programming, despite informants expressing the importance of focusing on watersheds, even recommending that watersheds form the basis for Feed the Future ZOIs.

Mission informants consistently mentioned the challenges involved in sectors being stove-piped, with each sector having its own guidelines and indicators that can create barriers to integration. For example, Feed the Future programming is typically structured around a ZOI, which may or may not overlap with Climate (adaptation and mitigation), Water for the World Act, or Biodiversity priority areas. They reported a lack of support—technical assistance, mechanisms, and funding—to design and implement urgently needed, integrated, multiscale programs.

⁶ Data and analyses exist on the values of NRM and ecosystem services, but the research needed to summarize it was outside of the scope of this review.

RECOMMENDATIONS

Multiple Mission and Bureau staff interviewed for this review noted that segmenting NRM programming by sector, such that it is ad hoc and uncoordinated, misses a major opportunity for USAID to make a difference at the scales required to meet global challenges and Agency goals effectively and efficiently.

“It is critical to define the value-added of USAID food security programming by including NRM/WRM, environmental policy, and resource governance in a systems approach if the Agency wants to tell a compelling story to Congress.”

—USAID Mission informant

Mission staff recommended operational approaches to facilitate integration—mainstreaming—of NRM into RFS programming, including:

- Mobilize leadership and high-level support to prioritize NRM and align funding streams to achieve mutual results (e.g., Feed the Future, water, resilience, nutrition, NCS, biodiversity).
- Increase forms of funding for resilience, climate change adaptation, land tenure and resource governance, watershed management/restoration, and rangelands/pasture management.
- Provide more on-site support from RFS staff for integrated design and strategy development.
- Develop mechanisms that better foster integration across funding streams, topics, projects, offices, and/or contractors and grantees.
- Bolster Mission staffing to support NRM.
- Structure ZOIs around agroecosystems, watersheds, or landscapes to better enable monitoring their processes, functions, and results to improve manageability.
- Synchronize watershed work across Mission offices (e.g., Feed the Future, economic growth, health, water, conflict, biodiversity, democracy and governance, and humanitarian assistance).
- Synergize NRM actions across implementing partners working in one zone.
- Increase support to environmental compliance and incorporate the risks of agricultural expansion into Environmental Mitigation and Monitoring Plans (EMMPs).
- Consider how NRM approaches can reduce food loss and waste and GHG emissions.

MEASURING AND VALUING NRM

A number of Missions suggested indicators and approaches to measuring NRM, largely centered on disaggregating hectares (an approach already in process within RFS) and combining standard indicators. The review also identified two holistic approaches—within [HEARTH](#) (Cheng et al. 2022) and the Sustainable Intensification Innovation Lab (SILL) (Musumba et al. 2017)—that go beyond the usual USAID monitoring framework. Elements of improved measurement of NRM include:

- NRM results take time, often beyond the life of a project. As such, outcome measures embedded in a theory of change (TOC) are needed. A key RFS hypothesis is that land sparing through intensification will reduce land and natural resource degradation in designated landscapes and their ecosystems. What approaches—including use of proxies and narratives—within the life of a project can reveal key trajectories?
- It is thus critical to identify and map the target landscapes and agroecosystem(s) and track resource flows across the system, recognizing that impacts may come from wider trends or pressures, such as economic, policy, or demographic shifts.
- “Number of” indicators require clearer, disaggregated targets so that progress toward an NRM goal can be estimated, and again, linked to a clear TOC of how interventions will lead to results. For instance, track how training leads to adoption of improved practices at a scale that would make a measurable impact on food security, climate, and other targets.
- Measuring the value of NRM to development outcomes should involve analysis of costs and benefits. As is done with modeling in the SILL, cost/benefit trade-offs can be depicted across domains (productivity, resilience, ecosystem human/animal health, and livelihoods).
- As is done in HEARTH, extra support and funding for MEL and integrating local and international research institutions into MEL can significantly improve quality and utility.

Box 6: New Developments in Measuring NRM within RFS

RFS recently presented a list of “proposed indicators for the new GFSS” (from a June 16, 2022, webinar), which takes an important step toward addressing this pervasive measurement problem by proposing that hectares under improved management or technology indicators be disaggregated for two broad classes of intervention types, NRM and WRM. The review team believes that this first step is indeed crucial, but needs to be taken much further. Further disaggregation is critical to allow determination of exactly how NRM and WRM interventions will be implemented and their results, in terms of impacts and values. This same presentation went on to make such a proposal under IR 6 for refined measures of adaptation and recovery from shocks and stressors, its “Proposed Indicator 2: Specific Resilience Capacity Indicators.” Under this proposal, a menu of possible resilience capacity indicators would be offered for implementers to select from and report on component indicators that are most relevant to the interventions they are implementing. Many Mission staff and the portfolio review authors recommended this next-level type of indicator disaggregation for both NRM and WRM. The 2022-2026 GFSS can take this important opportunity for NRM, as it is about to do it for resilience.

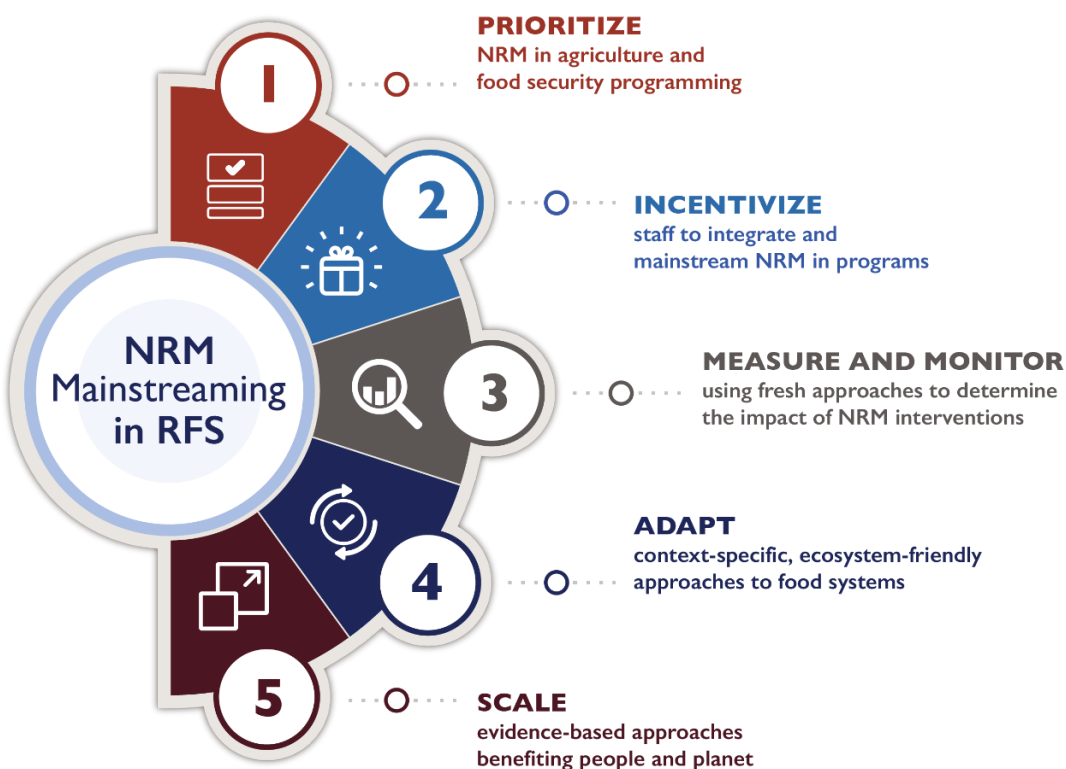
CONCLUSION

NRM mainstreaming should be seen as a necessary prerequisite for meeting Agency goals of boosting resilience, improving food security and agricultural systems productivity, mitigating and adapting to the impacts of climate change, and reducing threats to ecosystem services that are vital to rural economies and biodiversity alike. Mainstreaming would mean that NRM is incorporated across USAID programming, NRM programming is coordinated across different scales, and is consistently measured and monitored. For instance, CSA at the plot and farm level would be accompanied by conservation of ecosystem services—such as water cycling and soil conservation/fertility—upon which the farming system depends, as well as support for policies that improve land and resource governance. As an analogy, you may fireproof your home, but if the surrounding area is fire prone, and there is no institutional framework to address the problem of fire risk, your home remains in danger.

NRM mainstreaming is of course not solely the responsibility of RFS; it is shared with other sectors. Each has a part to play.

The review proposes five steps to NRM mainstreaming based on recommendations from the field, and complements these with technical recommendations in the full document. The interconnected steps involve mobilizing leadership, incentivizing staff and partners, implementing holistic and innovative approaches to measuring and monitoring, adapting programs and systems based on data and experience, and working toward scales needed to achieve USAID’s ambitious food security and climate targets.

Figure: Five Steps to NRM Mainstreaming



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