

## Concept Note for Grant Proposals

<b>1. Grant Sponsoring Division:</b> RIA	<b>2. Co-sponsoring Division(s):</b> APR, ESA, WCA
<b>3. Title of the grant:</b> Integrated fish-rice-vegetable food systems for improved livelihoods, food and nutrition security and climate resilience in Malawi, Ghana and Côte d'Ivoire: Scaling up lessons learnt from Cambodia (or in Asia)	
<b>4. Value of IFAD grant up to:</b> USD 3.5 million	<b>5. Co-financing:</b> minimum 20% of IFAD grant amount
<b>6. Implementation period:</b> 36 months	<b>7. GRIPS ID:</b> 2000002866
<b>8. Selected Strategic Priority<sup>1</sup>:</b> <b>1. Production for food security, nutrition and income generation</b>	
<b>9. Window:</b> Indicate Global/Regional <input checked="" type="checkbox"/> Country <input checked="" type="checkbox"/>	<b>10. Country/Countries:</b> Côte d'Ivoire, Malawi, Ghana and Cambodia (or in Asia)
<b>11. Recipient:</b> Select <u>one</u> of the following options <ul style="list-style-type: none"> <li>• Competitive selection at CN stage <input type="checkbox"/> and name of recipient</li> <li>• To be selected competitively at design stage <input checked="" type="checkbox"/></li> <li>• Direct selection <input type="checkbox"/> and name of recipient</li> </ul>	
<b>12. Rationale for recipient selection and recipient capacity:</b> This implementing institution will be selected through a competitive process. The rationale for selection and the capacity of the recipient will be criteria in the selection process.	
<b>13. Background/relevance:</b> Climate change has emerged as a major challenge for agricultural development in Africa. It poses a great risk to rural livelihoods and threatens food and nutrition security. Dwindling fish catches and low rice yields in and around most lakes, floodplains and inland valley swamps in Africa, the use of sub-optimal technologies and management practices, weather and climate variability, and gender-related constraints indicate the need for a transition to agricultural systems that use water, land, and other resources/inputs more efficiently. The benefits of integrating fish with crops and livestock are two-fold: it a) enables rural people, especially women and youth, to improve their livelihoods and incomes, and b) increases food and nutrition security as the implementation of integrated fish-rice-vegetable (IFRV) systems increases the resilience to shocks and long-term climate variability. Rice is an important food crop in Malawi where 300,000 (mostly smallholder) farmers cultivate 61,000 ha of rice per year. The average size of rice plots is less than 0.5 ha per household. Most rice areas under cultivation are rainfed (85%), yielding 1.0-1.5 tonnes/ha/y. The remaining 15% are irrigated, yielding 3.5-4.0 tons/ha/y. At current production levels, rice is not a viable option to mitigate the effects of climate change on rural-poor communities. Nonetheless, there is a window of opportunity to pilot IFRV systems as a 'climate-smart' option for enhancing productivity, increasing incomes, diversifying diets and improving the nutrition of rural people in Malawi. The Chikwawa and Zomba Districts (Southern Region), and the Nkhotakota District (Central Region) have been identified as suitable pilot locations. While rice is gaining importance in Malawi, it has always been a staple food in Côte d'Ivoire and the second most important cereal (after maize) in Ghana. With an average rice consumption of 73 kg/capita/yr and 63 kg/capita/yr for Côte d'Ivoire and Ghana respectively, the countries' dependency on rice and the governments' investment in the development of the rice sector are significant. For about 150,000 of the 2 million rice farmers in Côte d'Ivoire, there is a great deal of potential for integrating aquaculture with rice production. Early trials of integrated rice-fish systems have shown the capacity for further scaling. The local rice-fish technology was developed for inland valley swamps in the Soubre region, Côte d'Ivoire. Knowledge from Cambodia (or in Asia) will help to build on current technology through the implementation of IFRV systems. The scaling of this improved technology will greatly increase adoption rate Intensive testing and promotion of integrated fish-rice (+ vegetable) food systems has taken place in several Asian countries. Some of the lessons learned in Cambodia (or in Asia) include: 1) small fish in aquaculture should target both commercial and small household fish ponds for optimal impact, 2) investments should focus on a) increasing the capacity for the management of the brooding population and b) simple infrastructure, which is key for the sustainability of the system in the long term, and 3) when managed, both wetlands and seasonal flood plains can provide a source of fish for nutrition throughout the year. Additionally, the project will build on research from Ghana on genetically modified tilapia. It will disseminate a faster-growing strain of Nile tilapia that is suitable for both small-scale and commercial aquaculture. As there is a similar climate in Ghana, Malawi and Côte d'Ivoire, these strains are expected to be well suited to all three locations. A project in Malawi has found that over 10,000 farmers practise integrated aquaculture-agriculture. The results indicate that the implementation of integrated aquaculture-agriculture systems is closely linked to drought resilience and a reduction in poverty, hunger and malnutrition. The proposed project aims to transform expanding rice farming systems to include both fish and vegetables in Malawi, Côte d'Ivoire and Ghana to a) increase productivity and incomes and b) improve food and nutrition security. It will do so in collaboration with the National Agricultural Research and Extension Systems (NARES), the private sector and other IFAD-funded projects such as the Sustainable Agricultural Production Programme (SAPP). This proposal addresses several Sustainable Development Goals (SDGs, 1, 2, 5, 8) and contributes to Malawi, Ghana and Côte d'Ivoire meeting their country targets. The project will increase the availability of and access to fish (supplying essential fatty	

<sup>1</sup> The indication of a strategic priority **only applies to Global/Regional grants.**

acids, multiple, highly available micronutrients and animal protein), vegetables (increasing the dietary diversity and micronutrient contribution) and rice (an energy-rich staple food), reducing hunger and improving nutrition and health. In doing so, it contributes directly to long-term capital development.

#### **14. Direct and indirect target group:**

The project will directly target 10,000 smallholder farmers in Malawi, Ghana and Côte d'Ivoire who generally cultivate rice and are willing to extend their range of production to fish and vegetables. Of the target group, at least 60% will be women and at least 40% will be youth.

Through secondary adoption and outreach activities, especially to neighbouring locations, the project indirectly targets an estimated 100,000 smallholder farmers in each country. Other indirect target groups include local and national staff, community leaders, village development committees, natural resources management committees, national NGOs within the area of rural development, youth groups and service providers (i.e. input providers, buyers, and other actors along the IFRV value chains).

#### **15. Goal, objectives and expected outcomes:**

The overall *goal* of this project is to improve livelihoods, food and nutrition security, and climate resilience in Malawi, Ghana and Côte d'Ivoire.

The *objectives* of this project are to increase income; increase supply of, access to, and consumption of fish, vegetables and rice; and to increase the efficiency of water and land use among rural-poor households through adoption of IFRV systems.

The *expected outcomes* are:

- (1) Increased participation of women and youth from smallholder farming households in implementing IFRV food systems;
- (2) Increased availability of, access to, income from and consumption of fish, vegetables and rice in the targeted population groups;
- (3) Improved water management and soil health in targeted geographies, leading to increased adaptive capacity and resilience to the impacts of climate change ;
- (4) Increased capacity of local and district actors/institutions to plan, implement and monitor IFRV systems;
- (5) Greater understanding of the benefits of IFRV systems through robust, evidence-based assessments;
- (6) Increased understanding of partners and policy makers to guide policies and boost investments in IFRV food systems at national/regional level

#### **16. Key activities by component:**

##### **Component 1: Building capacities and resources of smallholder farmers/institutions for the adoption of IFRV food systems**

- a) Develop a context-specific approach and a detailed work plan for Malawi, Ghana and Côte d'Ivoire using lessons learnt from Cambodia (or in Asia);
- b) Exchange of expertise/personnel/farmers for capacity development and transfer of proven technologies between Asia and Africa;
- c) Train NARES staff and farmers on the implementation of IFRV models to test new technologies and offer support throughout the implementation process to ensure better management practices;
- d) Adopt and adapt farmer-to-farmer extension models to fit the Malawi, Ghana and Côte d'Ivoire contexts.

##### **Component 2: Developing context-specific IFRV food systems for improved productivity, climate resilience, and food and nutrition security**

- a) Develop appropriate technology packages for transforming existing rice production into productive, nutritious and resilient IFRV systems ;
- b) Integrate social behaviour change communication for women's empowerment, gender equity and nutrition education into capacity development activities to ensure enhanced consumption of fish and vegetables produced for increased nutrient intakes and dietary diversity, especially in women and young children;
- c) Continuous assessment and adaptation of IFRV systems to maximize the measurable benefits.

##### **Component 3: Assessing the benefits (to people, productivity and ecosystems) of improved IFRV systems:**

- a) Assess impact on productivity, incomes, and food and nutrition security of IFRV systems
- b) Identify gender-related constraints on the role of women and youth in current rice farming practices to inform the potential for IFRV systems
- c) Assess water budgeting and soil health in relation to weather variability and adoption of IFRV systems

##### **Component 4: Building strong national and regional collaborations for scaling**

- a) Conduct workshops and meetings at both country- and regional level to boost investments in and promote the uptake of IFRV systems;
- b) Adopt and adapt learnings from Malawi, Ghana and Côte d'Ivoire to strengthen and expand South-South collaboration;
- c) Develop policy briefs with governments and regional institutions;
- d) Build partnerships and source investments for future scaling on both country- and regional level.

**17. Project cost: (indicative)**

Components (C)		IFAD Grant	Co-Financing	Total
<b>C1</b>	Develop context-specific project approach			
	Exchange of expertise/ personnel/ farmers			
	Train and support NARES staff			
	Adapt and adopt farmer-to-farmer extension models			
<b>C2</b>	Develop appropriate technology packages			
	Integrate SBCC for women's empowerment,			
	Ongoing adaptation and refinements technologies			
<b>C3</b>	Year 1 Baseline studies.			
	Years 2-4 and end-line assessments:			
<b>C4</b>	Conduct workshops and meetings			
	Adopt and adapt learnings from target countries.			
	Develop policy briefs			
	Build partnerships and source investments			
<b>Total</b>		<b>Up to 3,500,000</b>		

**18. Risks:**

Persistent droughts are the main risk to the project. The new national initiative of agriculture irrigation – an important driver for the project – will help reduce such risks. No major climate risk factors are envisaged in Côte d'Ivoire. The transfer of established methods and knowledge from Asia will reduce the risks related to technology and expertise.

**19. Monitoring & Evaluation, KM and Learning:**

A monitoring and evaluation (M&E) system will be established for the project to track outputs, outcomes and impact. The project will set up a novel digital platform during Year 1 that will monitor performance during Years 2-4. Efficient remote sensing technologies combined with physical observations will be used to capture real-time progress at farm level. A technical dashboard will be created and monitored by technical staff who will provide technical support to smallholder farmers in real time. M&E will be conducted by the project management team and reviewed regularly. The grant recipient will submit progress reports to IFAD. The reports will review the progress made, including the developments on technical and financial components, and highlight implementation issues. They will additionally provide a list of planned follow-up actions. Reporting guidelines and processes to be followed by staff and partners will be developed during the inception phase.

**20. Supervision modalities:**

The project will be supervised in line with IFAD's Grant Financing Procedures (2019). Supervision will be the responsibility of RIA and PMI. The frequency of supervision missions as well as related arrangements will be detailed in the grant proposal.

**21. Linkages:**

The project is strategic as it is the first of its nature in Sub-Saharan Africa. However, by year 3, linkages will be sought with on-going IFAD country operations such as the Sustainable Agricultural Production Programme in Malawi, as well as the Agricultural Production and Marketing Project (PROPACOM) and the new Agricultural Value Chain Development Programme (PADFA) in Côte d'Ivoire.

Other potentially synergetic projects in Malawi include: (i) *Resilient aquaculture as the ability to predict disease outbreaks through developing novel molecular approaches for advancing prediction and mitigation of disease outbreaks in aquaculture* – funded by the Newton Foundation; and (ii) *Resilient small-scale fisheries by building social and ecological resilience as a result of climate change* – funded by the Royal Norwegian Embassy, Malawi.

In Ghana the project will be linked to two on-going projects: the Ghana Agricultural Sector Investment Programme and the Rural Enterprises Programme.

By the end of the project, the successful bidder will prepare a manual gathering the main lessons learned and providing technical guidance on how to operate IFRV systems in Sub-Saharan Africa.

**22. Scaling up:**

An innovative scaling up strategy will be adopted. Farmer-to-farmer extension models that have been tested and rolled out in West Africa in partnership with the private sector will be adjusted to the context and implemented. Success stories and knowledge products will be disseminated to establish marketing pathways for other agro- and natural resource-based enterprises in the region.

**23. Sustainability.**

After the first production cycle, the targeted households will experience concrete benefits from the interventions: 1) improved livelihoods and income, 2) access to diverse and nutritious foods and 3) resilient use of water and land. A number of factors will lend credibility to the implementation process and benefits of the project, which will lead to sustained scalability: 1) the use of lead farmers, in particular women and youth, 2) capacity building and knowledge generation in the targeted communities, 3) participatory monitoring and evaluation, 4) Engagement of research institutions (analyses published by academics and students) and 5) promotion of the project interventions and results through different channels, including the media. These demonstrable results will lend credibility to the implementation and benefits of the project which will lead to sustained scalability.

The project includes income-generating activities with a focus on gender and age-targeted vulnerable rural communities. Through collaboration with the private sector and NGOs, it will promote value addition, lead to the identification of lucrative markets and improve access to loans through linking producer groups to money lending institutions. In addition, the social benefits of this proposed project will be realized and appreciated by the governments of Malawi, Ghana and Côte d'Ivoire, as well as the general population, triggering greater investments. This will stimulate interest and funding for similar projects in the region.

**24. Other aspects:**