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Investing in rural people

President's Report on proposed grant under the global/regional grants window to the International Center for Tropical Agriculture (CIAT) for Climate-smart Dairy Systems in East Africa through Improved Forage and Feeding Strategies: Enhancing Productivity and Adaptive Capacity while Mitigating Greenhouse Gas Emissions

Note to Executive Board representatives

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For: Approval

Recommendation for approval

The Executive Board is invited to approve the recommendation for the proposed grant under the global and regional grants window as contained in paragraph 11.

President's Report on proposed grant under the global and regional grants window to the International Center for Tropical Agriculture (CIAT) for Climate-smart Dairy Systems in East Africa through Improved Forage and Feeding Strategies: Enhancing Productivity and Adaptive Capacity while Mitigating Greenhouse Gas Emissions

I. Background and compliance with IFAD Policy for Grant Financing

1. **Background.** Animal source foods are critical components of a balanced diet and contribute to nutrition security, especially for children. Mixed crop-livestock systems are the most prevalent livestock production systems among smallholders in sub-Saharan Africa. They produce 70 per cent of the meat and 90 per cent of the milk in Eastern and Central Africa along with a variety of other foods, while providing livelihoods to 50 million of Africa's rural poor people. As a result of high population growth (4.7 per cent annually in Eastern and Central Africa) and diet shifts, the demand for animal source foods is rising, particularly in rapidly expanding urban areas. Responding to the growing demand for dairy products and increasing pressure on the natural resource base, this project supports the sustainable intensification of smallholder dairy production in Rwanda and the United Republic of Tanzania. In areas facing feed deficits, increasing the production, storage and availability of high-quality feed, and knowledge of best practices for feeding and watering, will provide opportunities for sustainable increases in livestock production. Building on its expertise with tropical forages and sustainable forage-based systems, the International Center for Tropical Agriculture (CIAT) will develop climate-robust options for enhancing both productivity and environmental benefits (such as increasing soil fertility and mitigating greenhouse gas emissions). Through their engagement with development partners, farmers will access forages, acquire skills and knowledge for integrating the forages into their farming systems, and improve feeding strategies.
2. **Compliance with IFAD Policy for Grant financing.** The proposed project is in line with the goal and objectives of IFAD's 2015 Policy for Grant Financing.¹ It will support the development, testing and adoption of innovative, pro-poor technologies and approaches to improve food and nutrition security, raise incomes and promote policy advocacy. The proposal is embedded in an IFAD loan project so that research outputs contribute to broader development outcomes and impacts. Knowledge generation and sharing will be central to overall project implementation through documentation of outputs and learning exchange among various stakeholders. The project is part of the Consultative Group on International Agricultural Research (CGIAR) Livestock Agri-food Systems Research Programme, which means that the technologies, approaches and strategies developed, tested and promoted will be applied to other IFAD investments and shared with international actors. In the process, these outputs will contribute to global public goods. Furthermore, the

¹ See EB 2015/114/R.2/Rev.1.

project will be implemented in collaboration with national agricultural research systems and policymakers, strengthening these partners' institutional and policy capacities.

II. The proposed project

3. The overall project goal is to promote climate-smart crop-livestock systems through improved forage and feeding strategies for smallholders. The project objective is to: develop pro-poor, context-specific forage options for crop-livestock systems; and improve the efficiency of natural resource use within these systems. This will be achieved through; piloting forage integration into crop-livestock systems; assessing its impacts on productivity, environment and livelihoods; and supporting the widespread adoption of sustainable forage and feeding strategies.
4. The target groups will be: (i) 8,000 poor smallholder farmers, including women and marginalized groups along the dairy value chain; (ii) 40 extension agents; and (iii) 10 policymakers, planners and investors.
5. The project will be implemented over four years and will comprise the following components and activities:
 - (i) Component 1. Assessment of opportunities for increased productivity and natural resource efficiency of crop-livestock systems at the farm, country and regional levels. Activities will include:
 - Conducting a regional-level livestock feed assessment; and
 - Identifying and characterizing smallholder feeding systems.
 - (ii) Component 2. Design of context-specific forage options for increasing productivity, environmental benefits and adoptability. This component will be achieved through:
 - Spatial targeting of forage interventions; and
 - Identifying best-practice forage system technologies for piloting.
 - (iii) Component 3. Assessment of multidimensional trade-offs of forage-based crop-livestock interventions through:
 - Ex situ evaluation of best-practice options for greenhouse gas mitigation and productivity criteria; and
 - In situ evaluation of best-practice forage options through on-farm trials.
 - (iv) Component 4. Support for scaling up technology through IFAD investment projects and other development partners' initiatives. This component will be implemented through:
 - Ex ante assessment of plot- and farm-level impacts of best-practice options; and
 - Training and exchange visits.

III. Expected outcomes

6. The project is expected to have the following outcomes:
 - (i) Identification of opportunities and challenges for increasing productivity, resilience and natural resource efficiency of crop-livestock systems;
 - (ii) Development of pro-poor forage and feed technology options suited to specific socioeconomic and biophysical environments;
 - (iii) Integration of pro-poor technology options into crop-livestock systems, and assessment of the costs and benefits involved in realizing livelihood and environmental benefits; and

- (iv) Scaling up pro-poor technology options through development partners and policymakers.

IV. Implementation arrangements

7. CIAT will be responsible to IFAD for all fiduciary and technical matters related to the project. CIAT was selected as grant recipient because of its expertise in forage research and its leadership of the CGIAR Research Programme on Climate Change, Agriculture and Food Security, which will cofinance the project. In addition, CIAT will collaborate with the International Livestock Research Institute in project implementation since it implements the Livestock Agri-Food Systems Research Programme, through which cofinancing will be provided. These two institutions will jointly implement the project, bringing their individual expertise on modelling and greenhouse gas emission measurement. This partnership will ensure efficiency, effectiveness and value for money in project implementation.
8. National research institutes will lead all field-level activities. The project will be implemented based on CIAT's project management policy (which includes contractual and financial guidelines). CIAT will provide scientific and operational oversight, and report to IFAD.
9. There are no deviations from the standard procedures for financial reporting and audit. CIAT will ensure that:
- (i) The entire project implementation period is covered by audit, including the 2 per cent cost-sharing arrangement;
 - (ii) Its accounts are audited yearly in accordance with international audit standards and IFAD's financial guidelines, and a copy of the audited financial statements is submitted to IFAD within six months after the end of each fiscal year;
 - (iii) An audit opinion letter on the statement of expenditures is submitted to IFAD by independent auditors, disclosing the amount of funds from various sources received and spent; and
 - (iv) The annual audit report submitted to IFAD will include IFAD funds and any cofinancing, and will consolidate expenditures incurred by sub-grantees, which will be accountable for the use of sub-grant funds and subject to normal audit oversight.

V. Indicative project costs and financing

10. The total project cost is US\$3 million, of which IFAD will provide a grant of US\$2 million and CGIAR will provide cofinancing totalling US\$700,000 from the Livestock Agri-food Systems Research Programme and US\$300,000 from the Climate Change, Agriculture and Food Security Research Programme. The project budget by component and expenditure category is presented tables 1 and 2.

Table 1
Costs by component and financier
 (Thousands of United States dollars)

<i>Components</i>	<i>IFAD</i>	<i>Cofinancing</i>	<i>Total</i>
Component 1: Productivity and natural resource efficiency opportunities	272	-	272
Component 2: Context-specific forage options	196	60	256
Component 3: Forage-based crop-livestock interventions	1 162	688	1 850
Component 4: Technology scale up through IFAD investment projects	370	252	622
Total	2 000	1 000	3 000

Table 2
Costs by expenditure category and financier
 (Thousands of United States dollars)

<i>Expenditure category</i>	<i>IFAD</i>	<i>Cofinancing</i>	<i>Total</i>
Direct costs			
Salaries and allowances	563	307	870
Equipment and materials	250	244	494
Operating costs	102	51	153
Goods, services and inputs	286	257	543
Travel and allowances	128	108	236
Consultancies	220	-	220
Training	151	32	183
Workshops	101	-	101
Subtotal	1 800	1 000	2 800
Indirect costs			
Management fee (8 per cent)	160	-	160
Cost share percentage (2 per cent)	40	-	40
Total	2 000	1 000	3 000

VI. Recommendation

11. I recommend that the Executive Board approve the proposed grant in terms of the following resolution:

RESOLVED: that the Fund, in order to finance, in part, the project Climate-smart Dairy Systems in East Africa through Improved Forage and Feeding Strategies: Enhancing Productivity and Adaptive Capacity while Mitigating Greenhouse Gas Emissions, shall provide a grant of two million United States dollars (US\$2,000,000) to the International Center for Tropical Agriculture (CIAT) for four years upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented to the Executive Board herein.

Kanayo F. Nwanze
 President

Appendix: Results-based logical framework

	Objectives-hierarchy	Objectively verifiable indicators	Means of verification	Assumptions
Goal	To promote climate-smart dairy production through improved forages and feeding strategies	25% milk yield increase; 5% GHG emission intensity of dairy production decrease	In-situ productivity measurements (M&E reports); GHG emission and productivity measurements in the Mazingira lab	Successful collaboration between researchers, rural development projects, extension and farmers
Objectives	To support the wide-scale adoption of pro-poor context-specific forage-options that improve productivity, livelihoods and lower environmental impact.	At least 8,000 farming households in Tanzania and Rwanda are aware of and have access to improved forages and feeding strategies for improving productivity and eco-efficiency	Project progress reports; M&E reports	Farmers are interested have the capacity to implement forage-based eco-efficient technologies; Planting materials available; Improved feeding practices will improve milk productivity;
Outcomes/Outputs	1. Assessment of opportunities to increase productivity and NR efficiency of crop-livestock systems at multiple scales	15 agents, NGOs, policy makers, planners and investors have access to the feed assessment and have an increased understanding of the need and opportunities for improved forages and feeding strategies		
	2. Design of pro-poor context-specific forage options for productivity, environmental and adoptability considerations	50 agents, NGOs, development partners and 8,000 smallholders understand which pro-poor specific best-bet forage system technology is suitable and likely to be adopted where; 1 0000 farming households buy in to piloting best-bet forage system technologies on their farm	Publications (including maps, reports, peer-reviewed papers); reports of meetings in which results are presented and discussed Workshop reports; reports of meetings IFAD loan project reports	Farmers are interested and willing to participate in the studies; Adequate rainfall Good collaboration and communication between researchers and development partners (incl. IFAD loan projects)
	3. Assessment of pro-poor multi-dimensional trade-offs of forage-based crop-livestock interventions	50 agents, NGOs, policy makers, planners and investors are aware of the GHG and productivity impacts; 8,000 smallholders aware of the potential costs and benefits of best-bet forage system technologies	Reports of trainings and farmer field schools; IFAD loan project documentation	
	4. Support for scaling by IFAD investment projects and other development partners	50 agents, NGOs, development partners are aware of the potential farm- and regional-scale, short-, medium- and long-term impacts of the adoption of best-bet forage system technologies; 25 NGOs and extension agents use this information to improve forages and feeding strategies;		

	Objectives-hierarchy	Objectively verifiable indicators	Means of verification	Assumptions
		2 policy development processes are informed by project results. 2 IFAD loan projects integrate the findings in their planning and implementation		
Key Activities	Conduct a regional-level feed assessment	Five leverage points to increase livestock productivity and reduce GHG intensity identified		
	Identify and characterise smallholder feeding systems	60 feed baskets and gaps quantified		
	Spatial targeting of forage interventions	2 sets of forage suitability maps are available		
	Identify best-bet forage system technologies for piloting	5 suitable forages and feeding strategies are selected for each of the study sites		
	Evaluate best-bet options for GHG and productivity criteria ex-situ	Mitigation potential quantified for three different feed baskets		
	Evaluate best-bet forage options in-situ through on-farm trials.	36 trials established in 4 project sites; evaluation of forages on productivity and environment carried out		
	Ex-ante assessment of farm-level and regional impacts of best-bet options.	Impacts and potential trade-offs quantified; two sets of recommendations for policy-makers, NGOs, extension services, IFAD loan projects developed		
	Organise trainings and exchange visits.	Fifty trainings and exchange visits organised		