



Contracting authority: European Commission

Direct award under the Development of Smart Innovation through Research in Agriculture/DeSIRA – climate-relevant actions at country level (FOOD/2018/041-071) action »

Annex A.2 – Grant application form – Full application

BGUE-B2018-21.020704-C1-DEVCO

BGUE-B2018-21.020704-C1-DEVCO

BGUE-B2019-21.020704-C1-DEVCO

Reference:

Call Reference Number: Ares(2018)1889429 - 09/04/2018: EU initiative on climate-relevant innovation through research in agriculture and food systems in developing countries – DeSIRA - Call for Expression of Interest from EU Delegations

Deadline for submission¹ of concept notes:

«**Scall.CNDeadline**» at «**Scall.CNDeadlineTime**» (Brussels date and time)

(in order to convert to local time click [here](#)²)

To reduce expense and waste, we strongly recommend that you use only paper for your file (no plastic folders or dividers). Please also use double-sided printing if possible

[Number & title of lot]	
Title of the action:	Climate Smart Agriculture Research and Innovation Support for Dairy Value Chains in Eritrea
Name of the lead applicant	Teagasc -Agriculture and Food Development Authority, Ireland
Nationality of the lead applicant ³	Irish

Dossier No	
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(for official use only)

NOTICE

¹ Online submission via PROSPECT is mandatory for this call for proposals (see section 2.2.2 of the guidelines). In PROSPECT all dates and times are expressed in Brussels time. Applicants should note that the IT support is open from Monday to Friday 08:30 to 18:30 Brussels time (except for public holidays).

² An example of a time converter tool available online: <http://www.timeanddate.com/worldclock/converter.html>

³ An organisation's statutes must show that it was established under the national law of the country concerned and that the head office is located in an eligible country. Any organisation established in a different country cannot be considered an eligible local organisation. See the footnotes to the guidelines for the call.

When processing your application, any personal data (e.g. names, addresses and CVs), will be processed⁴ solely for the purposes of the performance management and monitoring of the call for proposal and of the contract by the data controller without prejudice to possible transmission to the bodies charge with monitoring or inspection tasks in application of Union law.

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<http://ec.europa.eu/europeaid/prag/annexes.do?group=A>

⁴ In order to avoid requesting the applicants for the same information more than once, information already available to the Contracting Authority may be used to the extent possible.

⁵ Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data.

The aim of the regulation is to align the provisions of Regulation (EC) no 45/2001 with the principles and rules laid down in Regulation (EU) 2016/679 applicable to the Member States.

⁶ This link will lead you to the 'privacy statement' published as annex A13 to the practical guide general annexes.

Contents

FULL APPLICATION FORM.....	4
1 General information.....	4
2 The action.....	4
2.1. Description of the action	4
2.1.1. Description (max 13 pages)	4
2.1.2. Methodology (max 5 pages).....	18
2.1.3. Indicative action plan for implementing the action (max 4 pages).....	23
2.1.4. Sustainability of the action (max 3 pages)	26
2.1.5. Logical Framework	28
2.1.6. Budget	28
2.2. Lead applicant's Experience	29
3 The lead applicant, the co-applicant(s) and affiliated entities	42
4 Associates participation in the action	43
5 Declarations	47
5.1. Declaration by the lead applicant (full application).....	47
5.2. Mandate (for co-applicant(s))	48
6 Annex 1: Risk Register	51
7 Annex 2: Acronyms and Abbreviations	53

FULL APPLICATION FORM

1 General information

Reference of the call for proposals	Direct award under the Development of Smart Innovation through Research in Agriculture/DeSIRA – climate-relevant actions at country level (FOOD/2018/041-071) action
[Lot number you are applying to:]	Livestock: Eritrea allocation
Number of the proposal⁷	<i>Number applicable for Restricted procedure only.</i>
Name of the lead applicant	Teagasc – The Irish Agriculture and Food Development Authority
Title of the action	Climate Smart Agriculture Research and Innovation Support for Dairy Value Chains in Eritrea
Location of the action	Eritrea
Duration of the action	4.3 Years

2 The action

2.1. Description of the action

2.1.1. Description (max 13 pages)

i. Relevance of the action to Call themes and country needs

In accordance with the objectives and main themes of the DeSIRA call, the proposed action is founded on the need to bring about an inclusive, sustainable and climate-relevant transformation of the Eritrean dairy value chain to enhance food and nutrition security, reduce poverty, create job opportunities for young people, and address other key Sustainable Development Goals (SDGs). In accordance with the main themes of DeSIRA, the proposal aims to accelerate access to innovation in the Eritrean dairy sector, encompassing the development and transfer of technologies for primary milk production, for all stages of dairy processing and for the more efficient and effective organisation of the full value chain. In addition, the proposal aims to support the strengthening of the national and regional research and knowledge transfer capacities conducive to innovation and adding to the store of knowledge and evidence to feed development policies.

The opportunity for employment, and especially youth employment, all along the value chain will form an integral part of the programme, as will the objective of integrating gender mainstreaming into the project activities.

The proposal aims to create a multi-stakeholder partnerships involving the EU, Member States, global research institutes and local Eritrean stakeholders involved in the promotion of Agricultural Knowledge Innovation System (AKIS) that will empower smallholder dairy farmers, facilitate private sector investment along the dairy value chain, strengthen human and institutional resources of the public research and extension services to accelerate the impact of innovation at scale, particularly in the context of the severe climate change impacts expected in Eritrea.

The proposed action is fully aligned with the Eritrean Government's (GoSE) ongoing development strategy⁸, Ministry of Agriculture's Sector Development Plan (2018-2021) and with a number of initiatives supported in Eritrea by the Lead Applicant and some of the co-applicants. In particular, the proposal is aligned with the national agricultural development strategy of the Ministry of Agriculture (MoA)⁹, the Ministry of Agriculture's *Small and Medium Commercial*

⁷ When the contracting authority has evaluated the concept note it informs the lead applicant of the outcome and allocates a proposal number.

⁸ National Indicative Development Plan 2014-2018.

⁹ Agriculture Sector Strategy, 2014.

Farmers' Strategy (SMCFS) (2019), and the National Adaptation Plan of Action of the Ministry of Land, Water and Environment (MoLWE). It is also aligned with the broad Eritrean national objectives for the agricultural sector, which is expected to contribute towards attainment and maintenance of domestic supplies of staple food items, improved food security levels of disadvantaged populations, development of agro-processing capacity and creation of gainful employment¹⁰. The proposal also complements ongoing GoSE pro-poor agri-development programmes, especially the Minimum Integrated Household Agricultural Package (MIHAP). Finally, it is fully consistent with the policies and strategies being supported in Eritrea by international agencies such as the FAO, EU and UN¹¹. In particular, the DeSIRA project team is committed to coordinating with FAO as it expands its programme focus on dairy and livestock, including a plan to conduct a national livestock census and develop a resilience strategy.

Located on the eastern side of the Sahel, Eritrea is affected by desertification and prone to the vagaries of erratic and unpredictable weather patterns. About 70% of the total land area is classified as hot and arid and receives an annual rainfall of less than 350 mm. Eritrea's agricultural systems are predominantly rain-fed and susceptible to climate change. In terms of the future impacts of climate change, Eritrea is anticipated to experience temperature increases above global average, with rises of 1.1 to 3.8°C by 2060, and 1.6-5.4 °C by the 2090s¹². While uncertainty around changes in precipitation persists, there is general agreement that the country will experience more frequent droughts¹³.

The livelihoods of close to 70% of the population are based on subsistence agriculture, which accounts for less than 20% of Eritrea's gross domestic product (GDP) and 20-30% of its commodity exports. The performance of the agricultural sector is hampered by over-reliance on traditional farming practices; environmental degradation, including climate change; and insufficient and irregular rainfall. All of these constraints lead to low levels of agricultural production and productivity. The sector is further weakened by underdeveloped value chains, which suffer from weaknesses in input supply (seed, fertiliser, knowledge, equipment, finance, etc.) and market access (price information, aggregation, transport, value addition, trading finance etc.). As part of this project, the project team will undertake detailed market analysis and conduct various feasibility studies in order to strengthen the commercial development of farming and the overall dairy value chain.

Livestock production represents an important element of Eritrean agricultural systems, with cattle being the most important component of these systems. Estimates from the MoA show that 98% of Eritrean farmers own livestock as an important household asset and means of livelihoods.

Dairy farming in Eritrea has undergone significant change since the attainment of independence in 1991. Traditionally, dairying was mainly confined to urban and peri-urban areas such as Asmara, Dekemhare, and Keren. However, over the past 25 years, the sector has been expanding in rural areas including in remote villages. This expansion has been driven both by supply and demand factors. However, production continues to be mainly subsistence in nature and major contributions come from small-scale producers who own almost 90% of dairy animals. Overall improved dairy cattle numbers are very low (23,500 in total in 2018) and are kept by 5,700 households, 60% of which are found in Maekel and Debub regions. These two regions accounted for 65% of the 25.35 million litres of milk produced in 2018.

Over 50% of the total milk produced is sold informally in the local market and less than 20,000 litres is processed daily by five processing plants (Asmara Milk Factory, Elabered, Isayas Tedros, Asmara Meat & Milk Products & Azieb Pvt. Ltd). Seasonality of demand linked to the two big fasting seasons in Eritrea is a major problem for both farmers and processors. The annual per capita consumption of pasteurized milk is about 12 litres, i.e. about 33 ml/capita/day, which is lower than the 200ml recommended by FAO. Assuming that about 75% of 400,000 Asmara residents require milk, about 45,000 litres of pasteurized liquid milk should be made available in the market daily so as to meet the demand. The long fasting seasons in Eritrea have a significant impact on milk consumption.

The Government's national agriculture strategy seeks to address the factors constraining the sector from achieving its potential. A key thrust of the strategy is to formalize the dairy value chain and, considering its health benefits, increase national consumption of processed milk instead of the raw milk currently being consumed. It also seeks to improve value addition, based on the use of the anticipated increases in milk production. The national dairy sector aims at both increasing the number of improved breeding cows and further improving their productivity.

¹⁰ The State of Eritrea, Ministry of Foreign Affairs (2016), Eritrea: Initial National Report (1999-2016). Prepared on the African Charter on Human and People's Rights (ACHPR). (http://www.achpr.org/files/sessions/62nd_os/state-reports/1st-1999-2016/achpr_eritrea_initial_report_1999_2016.pdf)

¹¹ FAO (2016). Country Programming Framework for the State of Eritrea 2017-2021. (<http://www.fao.org/3/a-br856e.pdf>) ; EU/EDF 10-financed programme 'Support to the agricultural sector/food security in Eritrea' (2009-2019); *The Strategic Partnership Cooperation Framework (SPCF) between The Government of the State of Eritrea and The United Nations 2017-2021* <https://www.unicef.org/about/execboard/files/ERITREA-SPCF-2017-2021.pdf>

¹² UNDP (2016): Support to Eritrea's Second National Communication (SNC).

¹³ Ministry of Agriculture (2010). Climate change adaptation program in water and agriculture in Anseba Region. Project/programme proposal to the Adaptation Fund.

These environmental and natural resources, upon which the majority of the population of the country depend for their livelihoods, are however, under immense pressure resulting from land degradation, deforestation, overgrazing, soil erosion, unsustainable land management practices and loss of biodiversity. The environmental challenges are further exacerbated by climate change manifested in climate variability, recurring drought, depletion of groundwater, and flash flooding, all of which have significant impact on agricultural production and the livelihoods of the rural population. Projected climate change impacts are significant and include a temperature increase above the mean global value, increasing variability in rainfall, more frequent dry spells and more severe droughts. The effects of these impacts on water resources and agriculture will exacerbate food insecurity.

To date, agri-food research and innovation systems have failed to impact in a significant way on the lives and livelihoods of smallholder farmers. This is due to problems such as inadequate public policies and government investments to create a favourable innovation climate in agriculture. Empowering smallholders, facilitating private investment, and strengthening public research and extension services are essential to address capacity blockages for agri-food innovation to impact at scale, in particular in the context of climate change.

Hence, innovative and transformative measures are urgently required to assist stakeholders in the sector across the agricultural value chain to cope with the effects of current and projected change in climate patterns. Climate Smart Agriculture (CSA) has been identified as a viable alternative to provide solutions towards increased productivity while addressing the effects of changing climate and weather patterns.

Since 2014, the GoSE has increasingly focused on developing the knowledge and production capacity of smallholder farmers through the transformation of traditional production systems using modern technologies, including newly-constructed irrigation dams¹⁴. However, ongoing structural and institutional weaknesses mean that State services including extension, training and research systems are under-resourced and not operating to their full potential. Weak human capacity to undertake research and innovation; limitation in research animals and facilities; absence of access to global animal and forage genetic resources; lack of knowledge and skills in managing land, water, forages, animals, and the environment to improve resilience to climate change are limiting the rate of progress.

Ireland has been a strong development partner with Eritrea since independence. Teagasc has an MOU with the MoA in Eritrea. Vita and Self Help Africa (SHA) (both are co-applicants in this proposal) are also part of that MoU. SHA supported farmers in building cooperatives prior to independence, while Vita, with the active support of Teagasc, has implemented over 27 projects valued at over €25M since 2000, focussing on food, energy and water security.

ii Target groups and final beneficiaries, needs and constraints and impact of proposed actions

It is proposed that the project will support the development of improved, competitive, sustainable, climate smart and equitable value chains for dairy commodities in three Zobas (Dehub, Maekel and Anseba). The focus will be on the whole dairy value chain from farm to market. A major focus will be on the orientation of key actors in the value chain to market requirements and to the use of climate smart production and value-added initiatives. The target groups will be all the actors along the value chain, with a new emphasis of involving the private sector. These include:

1. resource-poor livestock farmers;
2. private and cooperative input and output market agents and service suppliers, including milk collection and processing entities, as well as AI and veterinary services;
3. Small scale entrepreneurs (e.g. National Union of Eritrean Women) and
4. public-sector bodies including the National Agriculture Research Institute (NARI), Hamelmalo Agricultural College (HAC), MoA, and regional governments (Zobas).

In addition, the project will impact the following final beneficiaries:

1. unemployed youth who will benefit from additional employment opportunities flowing from a more productive farming sector and stronger overall value chain;
2. consumers of the new high-value dairy products who will enjoy greater availability of more cost-effective, quality products; and
3. national economy which will benefit from increased employment, additional food exports and reduced food imports.

The dairy value chain is currently very weak in Eritrea, with little focus on the market. The service providers are mainly government agencies (MoA and regional government). The technical and management capacities of target groups are also very weak. The main issues to be addressed in terms of strengthening the value chain were identified from an ongoing dairy pilot project (being supported by Teagasc and its partners), from ongoing discussions with stakeholders in Eritrea,

¹⁴ Over 800 water reservoirs of varying sizes have been constructed since 1991, leading to the irrigation of 57,530 ha of land, increasing to 71,580 ha by 2021.

and from a formal workshop held in Asmara in November 2018 organised by MoA and involving all of the key stakeholders in the dairy value chain.

Smallholder farmers: The production and productivity from livestock systems are low, with dairy cows commonly producing less than 8 litres of milk per day and less than one calf per annum. A study undertaken by the regional administration in Debub Region in 2016 identified the following constraints impacting on smallholder dairy producers: shortage of animal feed; lack of knowhow on intensive dairy production; absence of improved/appropriate breeds of dairy cattle; lack of capital to start or grow farming operations; and prevalence of livestock diseases. A report produced by the first Teagasc mission to Eritrea in 2013 identified the following additional constraints: lack of a dairy extension programme; lack of milk cooling and transport facilities; lack of processing plants; and inconsistent AI service. There is a long history of importing Holstein Friesians to cross with indigenous breeds to increase milk production. The experience to date has been disappointing, especially as the level of Holstein genes in the herd exceeded 50%. These animals are bred for high milk yields based on the feeding of high-quality concentrates. Given the quality of the feed resource in the Eritrean system, these imported animals perform poorly in terms of milk productivity; produce high levels of enteric methane production (due to presence of low productivity animals); and provide low gross margin and poor farm profitability. There is an argument to be made that forage-based production systems in Eritrea will deliver better gross margins for farmers. There is also significant capacity for improved production, conservation and utilisation of forages in Eritrea, as well as a potential benefit in resilience and adaptation.

Milk collection centres and processors: The 2013 Teagasc report noted the following constraints impacting on milk collection centres: old buildings and facilities; lack of processing plant; lack of milk transport facilities; too few and uneven distribution of the centres with respect to dairy production sites; and absence of provision of essential feed supplies and animal health services for farmers. In regard to processing plants, the assessment noted that existing plants are limited in number and only have the capacity to produce small quantities of products, mainly drinking milk. (The daily processing capacity of the five main plants is 36,000 litres). In general, the plants are below standard from an economic and technical efficiency standpoint, with high costs and uncompetitive products.

Business supplies and services: A gap in the overall value chain is the widespread absence of those supplies and services that are critical in ensuring the success of a productive and efficient commodity value chain. Accordingly, there is a need for more organisational innovation to encourage the development of input suppliers, transport, marketing and financial services.

Small-scale entrepreneurs: Small-scale entrepreneurs (e.g. members of the National Union of Eritrean Women) often lack capital to develop their small-scale businesses some of which evolved from farms (honey production). Many of the projects fail or do not grow because of a lack of capital. A **seed fund** is generally needed so as to enable small-scale entrepreneurs to access capital from banks etc.

Public sector organisations: The effectiveness of relevant institutions is limited by weak connections between research, extension and education services, under-resourcing of the services and weak linkages with broader development processes. In particular, as noted in the Science Agenda¹⁵, the lack of trained human capital needed by universities, national research centres and an emerging private sector, specifically the paucity of PhD-level staff, is a serious constraint all over Africa. The strategic management capacity of the various state institutions, and the policy-making capacity at all levels of the GoSE are, as in many other African countries, in need of support and training to bring them up to the level needed to underpin an innovative and competitive food system.

Addressing the needs and benefits arising

The needs of the foregoing target groups will be addressed in this proposal by ensuring that a strong pipeline of contextually relevant new knowledge and technologies, complemented by existing knowledge, will be made available and applied on farm and throughout the value chain to accelerate agricultural growth and develop a strong and equitable dairy value chain. In addition, other constraints such as shortage of animal feed, absence of improved breeds, limited and below standard processing facilities etc will be addressed by supporting existing Government and private sector initiatives and by providing seed capital where required. This will be complemented by actions to address the education and training needed to produce the requisite human and institutional capacity for a more productive, competitive, and sustainable agriculture (climate smart) that will support decent job opportunities for Eritreans.

The development of this project with stakeholders and experts focused on identifying smart, ambitious and pragmatic solutions for Eritrean agriculture within a global context. It examines the extent to which activities within the project could provide leadership to the national agenda in Eritrea in adopting an integrative approach to agricultural and land use development that seeks to deliver a “triple win” of:

¹⁵ Science Agenda for Agriculture in Africa (FARA, 2014). https://faraafrica.org/wp-content/uploads/2015/04/English_Science_agenda_for_agr_in_Africa.pdf

- Increasing agricultural productivity and farm incomes.
- Adapting to and building resilience to climate change.
- Reducing greenhouse gas (GHG) emissions per Kg of food product produced.

A particular emphasis of the capacity building component will be on improving the capacity of all the actors along the value chain in relation to implementing climate smart actions.

Stakeholder attitudes

All of the main government stakeholders and relevant private sector actors (farmers, processors and service providers) have worked closely with Teagasc and its Irish partners in Eritrea for the past six years. They are positively disposed towards this proposal and their representatives participated in a stakeholder workshop in Asmara in November 2018 during which preliminary ideas were discussed and agreed. In addition, the key national partners have participated fully at all stages in the drafting of this final proposal and they fully support it.

iii Intervention logic

The expected **Impact** of the project is:

Inclusive, sustainable and climate-relevant transformation of the Eritrean dairy value chain to enhance food and nutrition security, reduce poverty, create job opportunities for young people, and promote resilience to climate change while mitigating greenhouse gas emissions.

The achievement of the project impact depends upon achieving the following **outcomes**:

1. Improved climate smart dairy farming production and productivity leading to enhanced supply of quality dairy products, improving household income and generating employment along an equitable value chain (**Outcome 1**).
2. Enhanced organizational capacity and enterprise skills of dairy value chain actors with capacity to adopt/promote new technologies (**Outcome 2**).
3. Enhanced service delivery and support of institutional actors on climate smart innovation, and knowledge management along the dairy value chain (**Outcome 3**).
4. Increased access to information and knowledge on CSA practices, tools and approaches for the wider public (**Outcome 4**).

Using innovation systems supported by research and value-chain **activities** tested and validated, the project partners will produce a series of specified **outputs** leading to the **outcomes** of organizational and institutional innovations and improved technologies to develop the selected value chains and a co-ordinated programme of capacity building at all stages of the value chain and for the key institutional support services.

One aspect of this innovation and complementarity will focus on providing groups (such as young people and members of the National Union of Eritrean Women) with the opportunity to start new enterprises along the value chain. The project will establish a Job Creation Seed Fund of €100,000 which will be applied in the form of grants and technical support for projects which fulfil grant support criteria. This flexibility is critically important as it will be able to fast track opportunities that emerge to create jobs and strengthen the value chain. This can be at input, production, storage, packaging, and marketing or in terms of value addition. Such innovation support cannot be prescribed at the outset but will be guided by the value chain analysis, institutional contribution and entrepreneurial initiative which will unfold through the project cycle. The fund will build on a long and still prevailing tradition of commercial agriculture and agri-business entrepreneurship. For example, women in agri-business has seen recent success with an association which started with five members ten years ago which has now grown to a membership of almost one hundred. Individual grants will be limited to a maximum of €20,000 per applicant. Criteria that will apply will include level of co-financing from the applicant (the Eritrean Development and Investment Bank can support grantees with concessional lending), the viability of the project as supported by a comprehensive business plan and the number of and profile of jobs being created with an emphasis on youth employment.

The intervention logic outlined in the Log Frame will support the scaling-out of the effective approaches and the interventions within and beyond the Zobas and dairy value chain. These same processes will also support scaling-up, that is, the adoption and incorporation by the partners of the concepts and principles as well as the technological, organizational

and institutional arrangements at the different hierarchical levels. Integral to achieving these **Outcomes** and **Outputs** will be the project's strategy to ensure that its activities are gender-balanced and institutionally and environmentally sustainable and are climate smart.

The key assumption, and the main factor determining success, will be the effectiveness of the project management in facilitating productive partnerships with agencies with proven records of success in value chain development and the associated capacity-building components. Moreover, to be successful in developing a value chain, innovation systems approaches are required that include a wide range of the stakeholders who participate in joint problem identification and analysis. This enables expert and research knowledge to be integrated with local and indigenous knowledge, market intelligence and consumer demands.

The anticipated risks and risk management approaches identified are outlined in the Risk Register (Annex 1). The Risk Register will be reviewed and revised during the preparation of the project implementation plan (PIP).

iv. How actions will improve the situation of target groups

In accordance with the outline Intervention Logic presented above, the proposed actions will improve the situation of the target groups and final beneficiaries as follows:

The smallholder producers will become more aware of new technologies and other interventions available and will develop improved capacity to implement these improved interventions on farm. They will also develop better knowledge and understanding of the requirements for greater market participation and apply this knowledge to enhance participation levels. Their capacity to adapt to the demands of a changing climate will also be greatly strengthened.

In this regard, the proposed Climate-Smart Agriculture (CSA) approach will help farmers to respond effectively to climate change. We will work with the local farmers to identify suitable climate-smart options that can be easily adapted through applied research and then adopted and implemented. Possible interventions will include: improved breeds for enhanced production; feed and fodder resources development; animal health services provision; practices to sustainably manage land and water including soil carbon sequestration and the restoration of degraded lands.

Progress towards realising the GHG mitigation potential of agriculture will be a key requirement of the project. Numerous agricultural mitigation measures for GHG abatement have been reported in the international literature^{16 17}. However, both the relative and absolute abatement potential of each of these measures, as well as their associated costs/benefits, are highly dependent on the bio-physical and socio-economic environments that are specific to individual countries. On this basis, the agricultural mitigation measures (in Eritrea context) to be assessed will for example include; (i) breed of cow and genetic merit of dairy cows; (ii) cropping programme; (iii) Livestock feeding system; (iv) nutrient management on-farm etc. A more detailed plan in relation to GHG mitigation will form part of the Project Implementation Plan (PIP).

Benefits for the market agents and service suppliers will include an increased demand for their services and, therefore, increased potential income, profitability and sustainability of their businesses. An important additional benefit will be a strengthened capacity for sourcing innovations to improve their businesses.

Small scale entrepreneurs will be given the opportunity to innovate and grow their business by giving them access to capital (seed fund) which in turn will allow them to lever additional funds from development banks. The project will establish a Job Creation Seed Fund of €100,000, which will be applied in the form of grants and technical support for projects which fulfil grant support criteria. (See Section 2.1.1.v for full details).

Strengthened knowledge and institutional capacity for supporting the increased market orientation of smallholder agriculture and private sector involvement will be the main benefits gained from the project by the public-sector bodies. Capacity building and knowledge learning processes will not only better equip them to serve their primary clients, but also to support more efficiently, the development and delivery of cost-effective services by private-sector market agents and service providers.

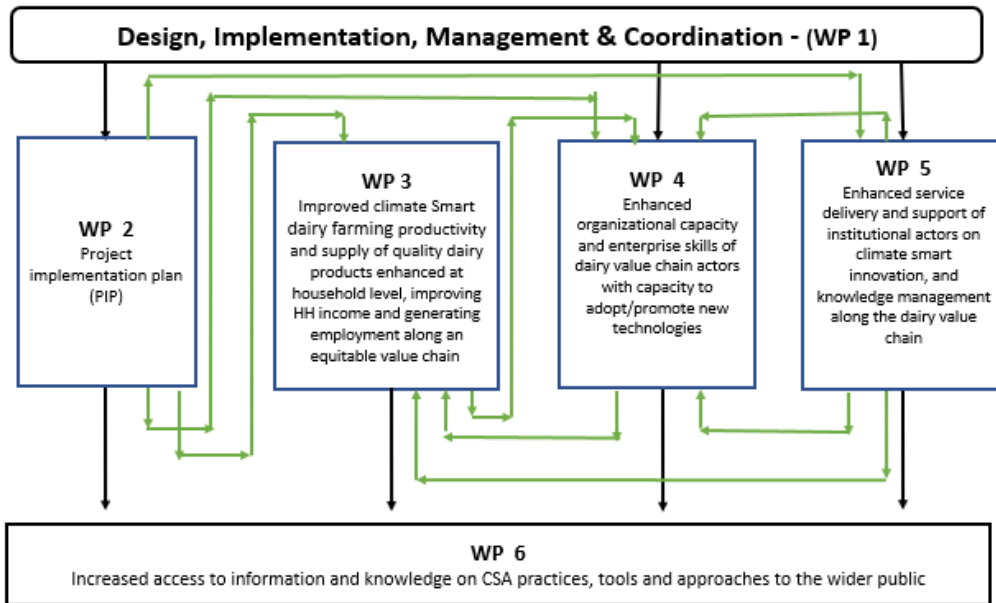
v. Work packages

The project is structured in six inter-related work packages (WPs) as illustrated in Figure 1. These work packages give a summary of the main activities and institutional responsibilities. More detailed work packages will be prepared as part of the PIP.

Figure 1: Work Packages

¹⁶ Martin, C., Morgavi, D.P. and Doreau, M., 2010. Methane mitigation in ruminants: from microbe to the farm scale. *Animal* 4, 351-365.

¹⁷ Eory et al 2016 - Online: <http://bit.ly/22sbKhB> (Accessed: 21.03.2016)



Work package number	1	Lead Stakeholder			Teagasc
Work package title	Design, Implementation, Management and Co-ordination				
Participant number	01	02	03	04	05
Short name	Teagasc	UCC	UCD	LUKE	Vita*
Person months	18.0	0	0.5	0	260**
Participant number	06	07	08	09	10
Short name	SHA	NARI	MoA	HAC	Zoba
Person months	2.0	0	0	0	0
Start month	01	End month		52	
*Eritrea Ireland Office Asmara					
** Local staff assigned to Vita Office in Asmara					
Objectives					
O.1 Coordinate and manage the project and ensure optimal quality output.					
O.2 Ensure that the project impact, outcomes, outputs and activities are delivered.					
O.3 Ensure that all tasks are completed satisfactorily and on time					
O.4 Ensure that all information /knowledge generated is made available for the benefit of the co-Applicants initially, and subsequently to the wider group of stakeholders.					
O.5 Maintain effective communication between all of the project participants.					
O.6 Act as contact point between the project and the European Commission.					
O.7 Maintain the Consortium Agreement.					

O. 8 Ensure effective financial management of the project.

Description of Work

Coordination of the project will involve overall administration, day-to-day management and quality control of the outputs. It will incorporate tasks such as establishment and maintenance of the Consortium Agreement, administrative matters, budget management and scientific management of the project including evaluation of work package deliverables. A National Steering Committee (NSC) including all partners will be put in place as the formal decision-making body within the project. The NSC will evaluate project progress and take all necessary steps to ensure that the project remains on track in terms of quality, time and budget. Regular meetings of the NSC will be held which will allow all participants to be fully informed regarding project progress, any differing views to be discussed and decision-making on any changes in direction of the work plan, with consensus for the betterment of the project being the central platform of those meetings.

T.1 Project coordination and Consortium activities.

T.2 Management and quality control.

T.3 Communication and monitoring.

T.4 Administration and financial co-ordination.

Deliverables

D1.1. Kick-off meeting minutes (Leader: TEAGASC).

D1.2. Annual project plan, including reporting and monitoring plan and communication and visibility plan (Leader: TEAGASC).

D1.3. Data management plan.

D1.4 Risk assessment (Leader: TEAGASC).

D1.5. Sustainability plan (Leader: TEAGASC).

D1.6. Annual progress reports for the duration of the project (Leader: TEAGASC).

D1.7. Final report (Leader: TEAGASC).

WP 2: Project Implementation Plan (PIP)

During the first four months of the project (M01-M04), a Project Implementation Plan (PIP) will be prepared by teams comprised of project staff, consultants (including specialists in value-chain and private-sector development) and Zoba /Sub-Zoba agriculture resources staff. The project Implementation Plan or Inception Report will be drafted according to the EU standard.

Work package description

Work package number	2			Lead Stakeholder	Teagasc
Work package title	Project Implementation Plan (PIP)				
Participant number	01	02	03	04	05
Short name	Teagasc	UCC	UCD	LUKE	Vita*
Person months:	3	0.5	0.5	1.0	50
Participant number	06	07	08	10	11
Short name	SHA	NARI	MoA	Zoba	NUEW
Person months /participant:	0.5	2.0	3.0	3.0	0.5
Start month	01		End month	04	
<i>*Eritrea Ireland Office Asmara</i>					
Objectives					
The objective of WP2 is to plan in more detail the various components of the project so as to ensure effective overall project execution.					
O1. Select the target intervention areas. (Selected project locations shall be identified by geo-coordinates).					
O2. Carry out value-chain mapping and rapid diagnosis which includes stakeholder analysis and identification of broad-brush constraints and opportunities and potential interventions.					
O3. Carry out a baseline survey to measure the indicators mentioned in the log frame at the project start					
O4. Carry out an environmental impact assessment.					
O5. Refine overall plan, log-frame and budget for the main implementation period.					
Description of Work					
The work programme will involve the delivery of a number of tasks including:					
Task 1. Selection of target intervention areas for identified value chains					
Task 2. Value-chain mapping: Beginning in the target areas, gender-disaggregated stakeholder mapping will identify for each of the selected commodity value chain the private and public partners who do or could have a stake in the development of the value chain. As well as smallholders the complex of stakeholders would be expected to include:					
<ul style="list-style-type: none"> • Suppliers of livestock inputs/services (public or private) • Sellers of livestock products • Suppliers of agricultural inputs/services • Education institutions • Research institutions. 					
Deliverables:					
D1.1. Provide details on how the project will be implemented in the M05 to M52 period.					
D1.2. Final selection of sites for value chain work					
D1.3. Detailed report on each value chains selected and guide to project intervention					
D1.4. Environment impact assessment carried out					
D1.5 Baseline study carried out.					

Work package number	3			Lead Stakeholder	Teagasc
Work package title	Improved climate smart dairy farming production and productivity leading to enhanced supply of quality dairy products, improving household income and generating employment along an equitable value chain				
Participant number	01	02	03	04	05
Short name	Teagasc	UCC	UCD	LUKE	Vita*
Person months	18.0	0.5	1.0	1.5	150
Participant number	06	07	08	09	10/11
Short name	SHA	NARI	MoA	HAC	Zoba/NUEW
Person months /participant:	2.5	5.0	8.0	2.00	10.0
Start month	05		End month	52	
<i>*Eritrea Ireland Office Asmara</i>					
Objectives					
1. To identify a menu of intervention options (e.g. breed of cow, feeding systems, credit options, processing and marketing) which will be implemented along the value chains.					
2. To facilitate the identification, targeting and promotion of specific improved technologies and organizational and institutional innovations to develop the dairy value chains of selected regions.					

Description of the work

In each of the three host Zobas, work will address the development of the dairy value chains (and complement related development investments by Government), drawing upon the expertise of the main project facilitators and their partners. A particular focus of the work will be on getting a very good understanding of the requirements of each of the value chains and then selecting from the menu of intervention options which can be applied to address the constraints identified. It is likely that the technical solutions will be different depending on the value chain selected as a result of differences in social and geophysical characteristics. The focus of this work package will be on the actual implementation of research, extension, training and other activities designed to have real impact on the ground.

As experience from other countries has shown, to be successful in developing a value chain, innovation systems approaches are required that include, from the start of the diagnostic process, a wide range of the stakeholders who participate in joint problem identification and analysis. This enables expert and research knowledge to be integrated with local and indigenous knowledge, market intelligence (including prevailing regulatory and policy environments) and consumer demands. The constraints and opportunities that are identified are often complex and off-the-shelf technologies and complementary institutional and organization options require careful selection and adaptation to suit local circumstances. Within each Zoba, the selection of these target commodity value chains and the programming of activities will take into account related investments by GoSE and its development partners with special attention given to private-sector development at Zoba and National levels. During the preparation of the PIP, stakeholder and institutional landscaping will explore the opportunities for strategic partnerships and ensure complementarities of the DeSIRA project activities. In this way, and through its multi-level management structure, the project will ensure that the investment in the project leverages resources from these other programmes and projects, strengthens their collective and individual returns and ensure real impact in terms of increased output, added value, better farmer incomes and additional employment opportunities.

Tasks

Task 1 Develop a menu of intervention options which can be applied along the value chain.

These interventions will be developed during the PIP phase of the project. Existing knowledge in Eritrea, coupled with international information of relevance, will be used to develop suite of options for implementation along the value chain.

Task 1.1 Selection of improved breeds for enhancing climate smart production

Task 1.2 Feed and fodder resource development including irrigation.

Task 1.3 Animal health source provision

Task 1.4 Credit support options

Task 1.5 Processing and marketing options

Task 1.6 Support options in support of entrepreneurs (support for small scale businesses).

Task 2. Dairy Value chains, stakeholders and target areas identified and constraints to, and opportunities for, improving performance analysed and solutions implemented.

Task 2.1 Participatory assessment of the selected value chain and candidate sites to decide on target sites (clusters of villages) and the final selection of sites to be included in study.

Task 2.2 Participatory mapping of the selected value chain and the linkages amongst the gender disaggregated stakeholders so as to apply an intervention strategy.

Task 2.3 Identify facilitators to champion the development of the value chain and its components.

Task 2.4 Participatory identification of the constraints to, and opportunities for, improving participation in and the benefits from the dairy value chain and final implementation of strategies to address constraints.

Task 3 Strategies to address constraints and exploit opportunities and their impact pathways agreed for final implementation

Task 3.1 Participatory development of the strategies to address the constraints and exploit the opportunities.

Task 3.2 Develop participatory impact pathways for the interventions proposed to improve value-chain performance.

Task 4 Organizational and institutional innovations and technologies for improving value-chain performance tested, adapted and validated.

Task 4.1 Participatory testing, adaptation and validation of the proposed organizational and institutional innovations and the improved technologies.

Task 5 Needs for targeted training and action-oriented research identified.

Task 5.1 Identify targeted training and action-oriented research required to generate and implement alternative solutions.

Task 6 Specific needs of small scale rural based entrepreneurs identified, and solutions implemented

<p>Task 7 Climate smart actions identified to mitigate negative environmental impacts embedded in project activities.</p> <p>Task 7.1 Assess environmental impacts (EIA) of the project and develop and implement a strategy to embed CSA & EIA in project activities.</p> <p>Deliverables</p> <p>D 1. Four menus of intervention options developed for application depending on need along value chains.</p> <p>D 2. Three dairy value chains identified, mapped and constraints and opportunities identified, and relevant solutions implemented.</p> <p>D 3. Business plans¹⁸ developed for selected entrepreneurs (who will benefit from Job Creation Seed Fund) along the value chain.</p> <p>D 4. Three facilitators identified to champion the development of value chains including small scale entrepreneurs.</p> <p>D 5. One training needs plan as well as a knowledge requirement list prepared for follow up from initiatives under Output 2.</p> <p>D 6. Three reports/strategies prepared which embed environmental requirements into all project activities with a particular focus on CSA.</p>

Work package number	4		Lead Stakeholder	Teagasc	
Work package title	Enhanced organizational capacity and enterprise skills of dairy value chain actors with capacity to adopt/promote new technologies				
Participant number	01	02	03	04	05
Short name	Teagasc	UCC	UCD	LUKE	Vita*
Person months /participant:	15.0	1.0	2.0	3.0	140
Participant number	06	07	08	09	10
Short name	SHA	NARI	MoA	HAC	Zoba
Person months	2.0	4.0	8.0	3.0	3.0
Start month	05		End month	52	

**Eritrea Ireland Office Asmara*

Objective:

Overall: To improve the capacity of the actors along the value chains and of the support services at village to national levels so as to develop the selected dairy value chains and to respond to changes in market and natural resources conditions within and beyond the target areas.

Description of the work

During the preparation of the Project Implementation Plan (PIP), the capacity development needs, activities and the partnerships required to develop the selected value chains, will be identified. The activities will be described in detail during the PIP, based on the systematic analysis of the gender-disaggregated and age-specific capacity gaps of stakeholders and partners and the requirements for value chain development.

Training topics for public sector development staff will include participatory extension approaches/tools, communication, developing extension messages in various formats, gender mainstreaming, marketing, extension, knowledge management, irrigation, livestock technologies, and CMA. Training will focus on appropriate technologies for different levels of commercialization, based on the needs of different farmers. Training of producers will focus on irrigation, and livestock technologies, including the production of forages.

Technical training of development workers and farmers will also aim to improve skills and knowledge on post-harvest aspects and address the environmental management issues arising from the intensification of livestock production through irrigation. Specialist training will be required on the handling, processing, storage, packaging and the quality management of milk and milk products, as well as feed resources development, waste management and soil and water conservation. Capacity required for providing needs-based training -both continuous and refresher- in topics such as: book-keeping, report writing, pesticide application and safety, basic irrigation technologies, pump operation, food safety and hygiene will also be covered.

It is expected that training topics for agribusiness actors at district and higher level will be custom-made, depending on needs. For service providers, instructors will be trained to address topics such as para-veterinary skills, agro-chemical supply and use, and the repair of irrigation equipment. For producer associations, topics likely to be required include leadership and management, business planning, book-keeping and soft skills in ICT, topics that will also be relevant for processors and market associations. Course content will include addressing gender-

¹⁸ Business Plans typically include some or all of the following: mission statement, business description, business environment analysis, SWOT analysis, industry background, competitor analysis, market analysis, marketing plan, operations plan, financial plan etc.

and age-specific issues, as well as climate smart innovations.

A key component of capacity building is the strengthening of skills in adaptive research through MSc training. The number of students receiving the training will be driven by the problem solving required to address specific constraints (including gender-related and youth issues) within the value chains identified in **WP1**: we estimate approximately 20 students annually of which 50% will require full fellowships and 50% thesis research support. Integrated with the training of MSc students will be, as necessary, short courses on market analysis, quality control, market identification, irrigation planning and management, climate smart agriculture etc.

Trainees will engage in problem-oriented research and support farmers' and institutional innovations through skill transfer during their field research. Hamelmalo College and NARI will benefit through linking the academic and research program to problem-solving research. It is envisaged that a significant number of the graduate trainees will come from NARI, HAC, Hagaz College and from the extension services. On completion of their studies, the students will contribute to building capacities of livestock and related value chains at various levels within the public and private sectors or become entrepreneurs on their own.

Different modalities will be used to build capacity for development workers, farmers, agribusinesses staff and research staff, but in all cases, effort will be made to employ BDS approaches so that capacity for training is sustainable and continues beyond the life of the project.

Tasks

Task 1 Gender-specific needs and partnerships for developing capacity along the value chains identified and training solutions implemented.

Task 2 Key public- and private-sector actors trained as trainers (ToT) to strengthen private sector and institutional capacity for supporting the selected value chains by providing training as required along the value chains.

Task 3 Capacity (NARI and HAC) for carrying out problem-oriented research to support organizational, institutional and technical innovations improved.

Task 4 Gender- and actor-specific information needs assessed, gaps identified and strategies to address the deficiencies identified, their impact pathways agreed, and solutions implemented.

Task 5 Organizational, institutional and technical innovations identified, tested and adapted to strengthen the agric. knowledge system and improve linkages amongst its public and private sector actors.

Deliverables

D 1. Training plan¹⁹ prepared which meets the specific needs of identified dairy value chains with a focus on gender requirements and CSA.

D 2. Ten key personnel from public and private sector trained as (ToT) so that they can deliver training programmes for the selected dairy value chains

D3. Training (~1.5 years) in problem-oriented research to support technical, institutional and organizational innovations given to ~20 MSc students. Focus will also be on innovation, job creation and CSA.

D 4. Information gaps identified along the dairy value chain and strategies to meet requirements implemented.

D5. Pilot knowledge management system developed so that knowledge can be accessed readily by institutions and value chain members.

Work package number	5		Lead Stakeholder	Teagasc	
Work package title	Enhanced service delivery and support of institutional actors on climate smart innovation, and knowledge management along the dairy value chain				
Participant number	01	02	03	04	05
Short name	Teagasc	UCC	UCD	LUKE	Vita*
Person months	13.0	3.0	8.0	3.5	70
Participant number	06	07	08	09	10
Short name	SHA	NARI	MoA	HAC	Zoba
Person months /participant:	1.0	8.0	8.0	10.0	0
Start month	05		End month	52	
<i>*Eritrea Ireland Office Asmara</i>					
Objective:					
Overall: To improve the research and development capacity of key national institutions so they can have the capacity to provide information in the short term in support of project dairy value chains and in the longer term to provide information to guide national policy.					

¹⁹ Kind of training and length of training will depend on requirements. It will be specified in more detail in PIP

Description of the work

Research and development institutions within the MoA and higher education have a key role to play in support of the agri-food industry. These include NARI, Cattle Breeding Centre and the Animal and Plant Health Diagnostic Centre. The focus of this work will be on strengthening the livestock services provided by MoA. In addition, HAC (under the MoE) will be strengthened in terms of curriculum, laboratories and farm facilities so that the institution is equipped to educate graduates to support a changing agri-food industry. A particular focus will be on a reorientation towards a market led extension system and CSA.

Tasks**Tasks 1: Develop research capacity of NARI**

Task 1.1 New research agenda developed for NARI with a focus on innovative adaptive research with immediate application for the dairy sector and embracing CSA.

Task 1.2 Enhanced forage research agenda with a focus on improving the nutritive value of forages, forage conservation and nutrient use for efficient forage production recognising CSA challenges.

Task 1.3 New knowledge to better inform the development of a Marginal Abatement Curve for Eritrea (Annex 3).

Task 1.4 New animal facilities and research services developed.

Task 2: Development of the capacity of MoA Extension Department to support the Dairy Value Chain

Task 2.1 Enhanced capacity (MoA Extension) to deliver an innovation support service (including education, to the livestock sector which reflects the special requirements of markets, value chains and sustainability issues including CMA issues.

Task 2.2 Improve the capacity of the National Cattle Improvement Service to deliver (i) improved AI service; (ii) improved gene conservation service.

Task 2.3 Improve the capacity of the National Analytical Laboratory so as to embrace food safety standards as well as providing routine analysis for the industry.

Task 3 Develop the capacity of Hamelmalo Agricultural College (HAC) to deliver high quality education to graduates with a focus on practical solutions for farmers, meeting needs of market value chains and in integrating CSA principles into agricultural programmes.

Task 3.1 New curriculum for ag graduate students at HAC with a focus on meeting needs of market value chains, innovation support and CSA

Task 3.2 Improving the capacity of HAC teaching staff

Task 3.3 Improving teaching materials including laboratory infrastructure, farm enterprises etc.

Deliverables

D 1. Extension service refocused to meet requirements of markets and value chains as well as CSA.

D 2. AI facilities upgraded and service enhanced by incorporating private sector. Bull stud established at site of Animal & Plant Diagnostic Centre. Semen processing laboratory commissioned at above site and operatives trained. Pilot animal data base will be established.

D 3. Up to 500 local animals of various breeds sourced initially to start breed conservation study on state farm attached to NARI. Local breeds tested for breed purity using gene mapping.

D 4. Breed improvement programme for local breeds developed and implemented.

D 5. Enhanced diagnostic services available from National Diagnostic Laboratory

D 6. New curriculum in place at HAC by Y4 and up to 200 graduates available with understanding of market- led CSA value chains

D 7. Teaching staff (6) upgraded from BSc to MSc level.

D 8. Teaching materials including laboratory and farm upgraded and operational by Year 4.

Work package number	6		Lead Stakeholder	Teagasc	
Work package title	Increased access to information and knowledge on CSA practices, tools and approaches for the wider public				
Participant number	01	02	03	04	05
Short name	Teagasc	UCC	UCD	LUKE	Vita*
Person months	14.0	0	0	0	30.0
Participant number	06	07	08	09	10
Short name	SHA	NARI	MoA	HAC	Zoba
Person months /participant:	0	6.0	8.0	8.0	4.0
Start month	05		End month	52	

*Eritrea Ireland Office Asmara

<p>Objectives</p> <p>Overall: To facilitate the promotion of principles and good practices for the development of dairy value chains</p>
<p>Description of the work</p> <p>To disseminate the approaches, methods, tools and lessons learned beyond the project's immediate public and private beneficiaries, activities will be undertaken that collate, compile, promote and disseminate these outputs. These will be integral to the project's communications and exit strategies, which will contribute to building the critical links required to sustain the institutional developments supported by the project.</p> <p>Four principal target audiences are envisaged:</p> <p>a) Learning Zobas/Sub-Zobas with similar commodity potentials to the cluster of Zobas in which the interventions are taking place;</p> <p>b) Regional and national policy- and decision-makers; and,</p> <p>c) National and international research and development agencies.</p> <p>To reach these audiences, dissemination activities will include:</p> <ul style="list-style-type: none"> • Project visits (~8); • Participation in learning platforms, policy taskforces and professional association events (8); • Conferences and workshops (~6); • Use of mass media (periodically ~2 times per year); • Publications (~20); • Internet-based tools (~3); • Promotional materials (various).
<p>Tasks</p> <p>Task 1. Process M&E to identify and synthesize lessons (principles and good practices) from the value-chain analysis and development carried out in the project.</p> <p>Task 2. Compilation and synthesis of lessons from the action-research.</p> <p>Task 3. Promotion and dissemination of the principles and good practices through participation in learning platforms, taskforces and professional association events; conferences and workshops; use of mass media; publications; etc.</p>
<p>Deliverables</p> <p>D. 1 Principles and good practices for dairy value-chain development compiled and synthesized.</p> <p>D. 2 The principles and good practices promoted and disseminated within and beyond the project's target areas.</p>

v. ***Financial support to third parties***

It is recognised that a major constraint to job creation along the value chain is the availability of seed capital. This will be addressed by way of a "Job Creation Seed Fund" which will be applied in the form of grants and technical support for projects.

Overall objectives, specific objectives and outputs (results)

To contribute to the overall objective of transforming the Eritrean value chain to support improved livelihoods, enhance food and nutrition security and reduce poverty. The specific objective is to help create new job opportunities. The fund will result in the creation of new small enterprises in rural areas and 300 new jobs by the end of Year 4.

Activities eligible for financial support

Activities leading to the creation of small new dairy related enterprises at input, production, storage, packaging, and marketing and also those leading to the processing, packaging, and distribution of value added dairy products.

Persons or categories eligible for financial support

The focus will be on providing groups (such as young people and members of the National Union of Eritrean Women) with support. For example, women in agri-business has seen recent success with an association which started with five members ten years ago which has now grown to a membership of almost 100.

Criteria for selection and financial support

Criteria that will apply will include level of co-financing from the applicant (the Eritrean Development and Investment Bank can support grantees with concessional lending), the viability of the project as supported by a comprehensive business plan and the number of and profile of jobs being created with an emphasis on youth employment.

Criteria determining exact amount of financial support

Same as for previous response.

Maximum amount that may be given

Grants will be limited to a maximum of €20,000 per applicant.

vi. Studies conducted in defining scope of the action.

The project applicants are drawing on outcomes of previous reports, baseline studies and evaluations undertaken in Eritrea. The project applicants are also drawing on their knowledge and experience of working on the dairy value chain in Eritrea; their experience of implementing similar projects in other countries; their familiarity with agricultural development generally; and the research and knowledge transfer expertise of the European partners. A workshop was also organised in Asmara in 2018 for the specific purpose of enhancing the knowledge base in preparing this proposal.

vii. Changes made to original Concept Note

Two original concept notes (20 and 52) were merged into one action.

2.1.2. Methodology (max 5 pages)

i. Methods of implementation

A consortium of international and national organizations will be responsible for implementing the project. The project lead is Teagasc, which with co-applicants LUKE, UCD, UCC, Vita and SHA will provide international-level inputs. MoA departments, along with regional/Zoba administrations, will be associates at the national level. (The roles of each applicant, co-applicant and associate are described in Sections 2.1.1.v, 2.1.2. v and 2.1.3). In addition, organisations such as the National Union of Eritrean Women (NUEW) and local organisations will play a key role in various participatory activities at local level, including the identification of target sites and engagement of local stakeholders.

Teagasc LUKE, UCD, UCC and Vita will deliver the specialised facilitation and technical services within their mandated roles to support project management and to ensure the incorporation of appropriate CSA practices during implementation. As lead applicant, Teagasc is responsible for signing and managing all contracts. These key international actors have the expertise and experience on the key components of the project and are key ‘players’ in facilitating learning and experience sharing on CSA, institutional capacity building and dairy value chain management. These actors will be responsible to the EU Delegation to Eritrea.

At the national level, the Eritrea-Ireland Development Partnership Office (EIDP)²⁰ will provide all necessary support for managing project activities and interlocking between international and national actors. The EIDP has the experience, expertise, local knowledge, relationships and resources to ensure an effective implementation partnership with the local stakeholders. Grassroots associations and village development committees will participate as stakeholders in beneficiary selection and community mobilisation.

The project will appoint a Project Manager to oversee and lead all aspects of the implementation of the project. The appointment, which will precede the preparation of the PIP, will be made in consultation with project partners and the project steering committee.

Implementation will involve a two-phase schedule: the first phase – lasting four- to- six months in Year 1 – will involve the preparation of the PIP; the second phase, over a period of four years, will involve the implementation of the specified interventions that will result in each of the Outputs and Outcomes presented in the Intervention Logic model.

ii Lessons learned and action building on previous/ongoing action

A collaborative Climate Resilient Agriculture Partnership Programme (2017-2021) was agreed in 2016 between the MoA, on the one hand, and Teagasc, Vita and SHA, on the other. The Programme focuses on enhancement of food security and climate resilience for smallholders and development of agri-business and value chains.

The lessons learned from these partnerships and previous GoSE experiences can be summarized as follows:

²⁰ EIDP is a partnership structured under an MoU between MoA, Teagasc, Vita, and SHA, with an office in Asmara.

- Limited access to relevant and affordable inputs, technology, training and finance has been identified as a constraint on the dairy industry in Eritrea. This challenge is exacerbated by inappropriate markets and supply chain inefficiencies. At the farmer level, high transaction costs, coupled with blockages in information and weak market orientation, mean that farmers have little leverage in the sector.
- Production efficiency and quality constraints relating to animal feed and breeds are hampering production. Poor access to other relevant and affordable business development services, appropriate technology and quality inputs limit quality of production at farm level.
- The business sustainability of dairy associations and hubs that supply inputs, provide services and process and market dairy products will depend on their continued ability to provide value-added services and good returns to their farmer members.
- The dairy value chain in Eritrea is defined by weak or lack of information, skills and business know-how at all levels. Transport capacity is limited, and in some cases, lack of infrastructure for milk channelling also compromises milk quality. Seasonality of supply compounds these issues.
- The installation and proper utilization of milk cooling facilities require a preliminary deep assessment of the physical conditions of existing or identified facilities, for example in terms of power supply and safety, and of the capacity of the dairy cooperatives to manage the facilities (currently under review by Ministry of Agriculture).
- Access to a range of relevant and timely services is essential for the success of dairy associations. There is need for the development of horizontal and vertical linkages to ensure the desired skills and momentum for change are maintained.
- There is need to support dairy sector development efforts that increase the productivity of dairy breeds and the production and sale of quality raw milk, support operational business-oriented associations, and sustainably increase revenues from milk sales, inputs and other services.
- From the perspective of DeSIRA, the key lesson learned is that agri-food research and innovation systems are failing to impact significantly the lives and livelihoods of resource-poor smallholder dairy farmers in Eritrea and that innovation must become the driving force for an inclusive, sustainable and climate smart transformation of the dairy value chain.

iii Coherence with larger programmes in Eritrea

The action builds on the lessons learned from past and ongoing experiences to improve and enhance the national livestock sector (especially dairying). In particular, the action will seek to build synergies with the following programmes:

- The Government of Eritrea's National Strategic Development Plan (2017-2021)
- Ministry of Agriculture's Sector Development Plan (2018-2021)
- The Least Developed Countries' Fund (LDCF)-supported project on adaptation in the livestock sector (NAPA).
- UNDP- Climate Adaptation Fund, focusing on freshwater and agriculture in the Anseba Region.
- Regional project funded by the Climate Change Adaptation in Africa Programme: focused on adaptive capacity in the small-scale agriculture sector.
- Eritrean Environmental, Protection, Management and Rehabilitation Framework (179/2017).
- IFAD- Financed Programme on 'National Agriculture Project'.
- FAO 'Country Programming Framework for the State of Eritrea for the period 2017-2021.
- Strategic Partnership Cooperation Framework (SPCFII) between GoSE and UNDP 2017-2021.
- Eritrea-Ireland Development Programme on Dairy Development in the Debub region.
- EU/EDF10-financed programme "Support to the agricultural sector/food security in Eritrea" (2009-2019).
- In addition the programme will seek synergies and coordination with the programme funded by the EU and implemented through UNDP currently under formulation "Sustainable Job Creation and Growth for Increased Food Security and Resilience in Eritrea" (2020-2023).

iv The Organisational structure and team proposed for implementation of the action

Teagasc will manage the overall project, and in partnership with the co-applicants, will appoint a project manager to oversee and lead all aspects of the implementation. The **Project Manager** will lead a team of technical and administrative

staff (local staff) based in Asmara (EIDP office). The exact composition and roles will be refined during the project preparation phase. It is expected that up to 10 technical staff (some part-time) and up to eight administrative staff (some part-time) will be required.

This national team will support three **Regional Teams**, one in each host Zoba, comprising a Regional Coordinator, livestock experts and support staff. In turn, each Zoba team will facilitate and promote interventions to support value chain development (VCD) through the Sub-Zoba and Village structures partnered by relevant public and private sector organizations and NGOs (Vita and SHA). These are all illustrated in Figure 2 below.

The governance and functional structure of the project is shown in Figure 3. A **National Steering Committee (NSC)**, chaired by the Minister for Agriculture or his representative, will assist the project management teams to address strategic issues and provide overall guidance for the strategic implementation of the project and the preparation of the annual programme of work and budget. The NSC will meet at least twice annually and membership bodies are listed in Table 1.

Table 1: National Steering Committee (NSC) Membership

- Minister (Chairman)	- Vita &SHA
- Teagasc (Lead Applicant)	- EU Delegation to Eritrea
- UCD	- MoA
- UCC	- NARI
- LUKE	- HAC

Implementation will be further supported by a **National Project Implementation Committee (NPIC)**, comprising members of project partners, national project staff and a representative from each of the three selected study regions. The NPIC, which will report to the NSC, will oversee the operations of the project and ensure that it meets all milestones. It will meet quarterly to review plans and discuss progress. These management structures will support project implementation. They will also be responsible for planning and coordinating national, Zoba- and Sub-Zoba- level learning events such as seminars, conferences and field/exchange visits.

At the regional level, the project will be guided by a **Regional Project Implementation Committees (RPIC)**, comprised of regional staff and representatives of project partners, with a membership of no more than ten. The RPIC will meet quarterly to review plans, discuss progress and to report to the NPIC. The role of the sub-zoba/village teams will be defined in detail during inception period, but they will play a key role in contributing the local knowledge and ensuring active participation of value chain actors which will be vital at all stages of the project.

An overview of this structure is given in Figure 3.

Figure 2: Project Organisation Chart

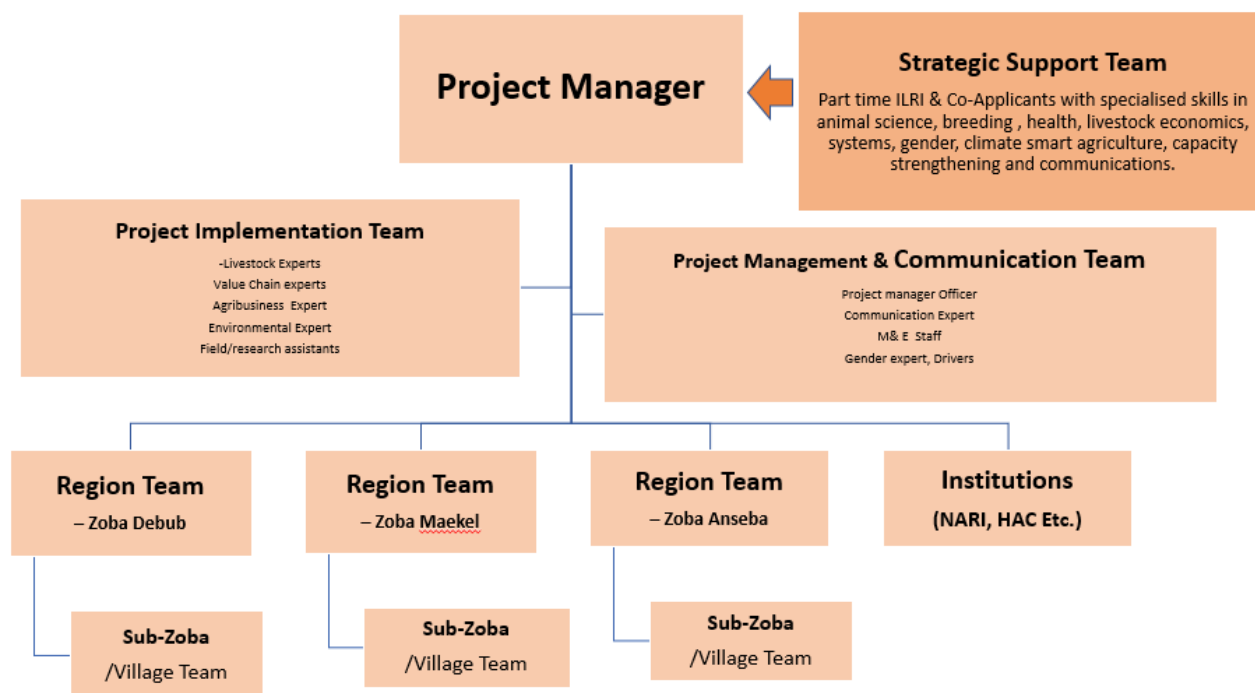


Figure 3: DeSIRA Project Governance and Functional Structure



v. Actors' role and participation

Participant Number	Participant Name	Short Title	Role	Reason why role assigned to them
01	Teagasc	Teagasc	Lead applicant.	As the main EU-based partner, it led the development of the concept note and the full application, based on its long and varied experience of leading large EU and other contracts and its technical leadership of the current Irish involvement in Eritrea.
02	University College Cork	UCC	Co-applicant	UCD and UCC bring a long history of excellence in 3 rd level education (undergraduate and post graduate education) in Ireland, as well as having extensive experience with implementing projects in Africa. Main role will be on capacity building, especially for HAC.
03	University College Dublin	UCD	Co-applicant	
04	Natural Resources Institute of Finland	LUKE	Co-applicant	Luke has extensive experience in a range of research-for-development activities in Africa supporting the sustainable development goals, including food and nutrition security, food systems, climate smart agriculture, soil micronutrient management, aquaculture, dairy genetics and forage, agribusiness and value-addition.
05	Vita	Vita	Co-applicant	Experience of project management in Eritrea and relationship with key local partners. Is currently delivering a number of projects in Eritrea under MoU with MoA.
06	Self Help Africa	SHA	Co-applicant	An NGO with a large portfolio of development projects delivered in developing countries in Africa and beyond. Has considerable experience in value chain development and the involvement of private sector in development. These skills will be essential for this project.
07	National Agricultural Research	NARI	Associate	NARI will participate in applied research projects in support of innovation support all along the value chain. NARI currently is one of the main stakeholders of the current dairy

	Institute			development project in Eritrea.
08	Ministry of Agriculture	MoA	Associate	MoA will have overall responsibility for the successful integration of the project within the Ministry of Agriculture mandate area. NSC will be chaired by Minister or his nominee.
09	Hamelmallo Agricultural College	HAC	Associate	Principal organisation for the delivery of graduate training in agriculture in Eritrea. HAC will be a key focus for capacity building and support in designing new degree programmes appropriate for a more innovative agri-food sector in Eritrea.
10	Ministry of Local Government	MoLG	Associate	Will be involved in the delivery of extension services to farmers and to the value chains established as part of this project.
11	National Union of Eritrean Women	NUEW	Associate	Will play a lead role, in particular, in integrating gender mainstreaming into the activities of the project and identifying opportunities for supporting gender equality at all stages.

vi. The planned monitoring arrangements and subsequent follow up

The applicants will develop a participatory monitoring and evaluation system that utilizes the results-based management system²¹ that has been effective in supporting other projects involving some of the current applicants.

M&E staff: Specialist M&E staff will be recruited to the “National” team and they will work hand-in-hand with the senior project management and their regional counterparts and partners.

Performance Framework: The result-based management system utilizes a performance framework (PF) which depicts the concept of the project and identifies resources, reach (beneficiaries), goal and purpose of the intervention and the cause and effect relationships among activities, outputs and a chain of results. Associated with the PF is the Performance Measurement Framework (PMF), which provides a structure for the basic information that is needed to measure performance. Built within the PMF are the expected results, performance indicators, data sources, methods and techniques of data collection, frequency of data collection and responsibilities.

The process includes a systematically designed baseline study, the data for which will be collected from secondary and primary sources during the first year of implementation. The indicators and all the data collected will be disaggregated by gender and age to capture key gender issues and impacts of the project interventions on men, women, youth and other stakeholder groups.

Output and outcome M&E: The basis for the results-based M&E is the results chain (RC) or intervention logic which illustrates the causal or logical relationships between the inputs, activities, outputs, and outcomes of the project. As per previous experience working in Eritrea, including on EU projects, results will be measured at three levels; outputs, outcomes and impact. Following the theory of change, a results framework will be elaborated which demonstrates the logical links between the results at their different levels and thereby enables the meaningful analysis of whether the project is on-track towards its planned results even in the first few years of implementation when higher-level results are not then expected. The project log frame will be extracted from the results framework and linked to the economic and financial analysis as per EU’s guidelines on log frame preparation.

vii. The planned evaluation processes

An external evaluation at mid-term and project end is intended to critically examine the findings of the internal/regular reports and provide the EU with independent verification of project achievements and impact based on specified performance indicators. A recognised consultant will undertake the evaluation and allow for the engagement and input of all stakeholders. Starting in Year 1, regional staff will conduct input and activity monitoring of the project on an ongoing basis. Output and outcome monitoring and evaluation will be conducted starting from Years 2 and 3 of the project life, respectively. Year 4 M&E activity will focus on measuring changes related to outcome and end-of-project performance.

viii. Donor visibility

Teagasc and the EIDP have developed visibility guidelines which incorporate all EU guidelines concerning labelling, packaging and donor profiling. The project will also develop a Communication and Visibility Plan of the Action in

²¹ Berhanu Gebremedhin, Abraham Getachew and Rebeka Amha. 2010. Results-based monitoring and evaluation for organizations working in agricultural development: A guide for practitioners. ILRI (International Livestock Research Institute), Nairobi, Kenya. 75 pp

accordance with the EU guidelines. Teagasc will also endeavour to provide appropriate profiling, acknowledgement and visibility to the EU.

2.1.3. Indicative action plan for implementing the action (max 4 pages)

The action will be implemented within 54 months as indicated in the following action plan:

Year 1													
	Half-year 1					Half-year 2							
Activity	1	2	3	4	5	6	7	8	9	10	11	12	Implementing body
PHASE 1: PREPARATION OF THE PIP													
1. Pre-activities- preparation stage: project planning													
1.1 Recruit key staff positions and gear up EIDP													Teagasc, co-applicants and MoA.
1.2 Conduct project launch meeting with stakeholders													Teagasc, co-applicants and associates.
1.3 Establish the NSC and NPIC													Teagasc, co-applicants and associates.
1.4 Develop effective strategic, administrative, financial and technical reporting systems													Teagasc
1.5 Conduct socio-economic baseline survey													Teagasc, associates & EIDP Office
2. Project Implementation Plan													
2.1 Participatory assessment of the selected value chain and candidate sites to decide on target sites (clusters of villages)													Teagasc, co-applicants and associates.
2.2 Participatory mapping of the selected value chain and the linkages amongst its gender disaggregated stakeholders in each target site													Teagasc, co-applicants and associates.
2.3 Identify facilitators to champion the development of the value chain and its components in the target sites													Teagasc, co-applicants and associates.
2.4 Identify constraints and opportunities for improved participation and benefits from improved value chains													Teagasc, co-applicants and associates
2.5 Participatory development of Climate Smart strategies to address the constraints and exploit the opportunities for the value chain in each site													Teagasc, co-applicants and associates.
2.6 Develop participatory impact pathways for the interventions proposed to improve value-chain													Teagasc, co-applicants and associates.

performance in each site													
2.7 Participatory testing, adaptation and validation of the proposed innovations													Teagasc, co-applicants and associates
2.8 Identify targeted training and action-oriented research to generate and implement alternative solutions													Teagasc, co-applicants and associate
2.9 Assessment of gender-and value-chain specific needs for capacity development													Teagasc, co-applicants and associates.
2.10 ToT implemented													Teagasc and co-applicants
2.11 Assess information needs and gaps along the value chain													MoA, NARI, Zoba, Teagasc, VITA and SHA
2.12 Assess environmental impact (EIA) of the project													MoA, NARI, Zoba, Teagasc, VITA, SHA,
3. Project Implementation													
3.1 Implementation of the proposed organizational and institutional innovations and the improved Climate Smart technologies.													MoA, NARI, Zoba, Teagasc, LUKE, UCC, UCD and VITA
3.2 Implement targeted action research to identify and/or adapt the required technical and/or non-technical solutions.													MoA, NARI, Zoba, Teagasc, LUKE, UCC, UCD and VITA
3.3 New Climate Smart research agenda developed with NARI along with investment in livestock and research support facilities with a focus on innovative adaptive research.													Teagasc, NARI, LUKE
3.4 Develop the capacity of MoA Extension Department to (i) strengthen extension service and (ii) improve national services including AI etc.													MoA, NARI, Zoba, Teagasc, LUKE, UCC, UCD and VITA
3.5 Develop the capacity of HAC to deliver high quality education to graduates.													UCD, UCC, Teagasc consultants

For the following years:	Half-year								
Activity	3	4	5	6	7	8	9*	Implementing body	

Deliver menu of organisational, institutional and technological innovations to improve value chain.								Teagasc, Vita, NARI, MoA
Continue to support capacity development of value chain actors.								Teagasc, co-applicants and MoA.
Continue capacity building and investment support for NARI, Extension Service and HAC.								Teagasc, Vita, NARI, MoA
Embed climate smart actions and results of action research in project activities.								Teagasc, Vita, NARI, MoA
Undertake ME&L activities.								Teagasc, Vita, NARI, MoA
Synthesize and disseminate lessons learned on strategies, policies, methods, tools and innovations.								Teagasc, co-applicants and MoA.
Dissemination and Knowledge Transfer.								Teagasc, Vita, NARI, MoA
End project evaluation and phase-out.								Teagasc, co-applicants and MoA.
*4-Months								

2.1.4. Sustainability of the action (max 3 pages)

i Expected impact of the action

Technical/Institutional

Critical to successful development outcomes and sustainable impacts are the processes through which innovation is developed, triggered and enhanced, and how the capacities of the institutions supporting the changes are strengthened.

In this regard, the involvement of a wide range of local stakeholders from the outset, including in joint problem analysis and identification of possible solutions, along with the integration of gender as a key principle in the design, implementation, monitoring and evaluation of interventions are critical, as are focused and demand-led capacity building, and development and implementation of knowledge management and dissemination plans to promote good practices and principles widely.

The emphasis on human and institutional capacity building in the three Zobas will enhance the availability of, access to, and utilization of knowledge systems to support innovation by producers and market agents and by the public-sector bodies responsible for the provision of an enabling operating environment. The development through this process of self-reliant farmers and cost-effective institutions, particularly in the private sector, is the key strategy for promoting both sustainability and impact. Therefore, facilitating private-sector partners to complement public-sector ones is an important sustainability strategy. Within the wider Eritrean rural community, households will benefit from a more effective and responsive knowledge system that supports innovation relevant to improving rural livelihoods through market-oriented agriculture.

Economic/Social

The economic impact that would ensure the long-term sustainability of the project was analysed by looking at the benefits expected at: farm level, association/milk collection agents' level, processing level, and marketing level. These are the factors normally considered in EFAs undertaken for other similar projects. These benefits arise from the overall improvement of productivity and production of milk, as well as improvements in the organizational and managerial skills of farmers and their cooperatives in collecting, processing and marketing milk and dairy products. The project is expected to yield additional benefits to smallholders and other dairy value chain stakeholders, including:

- Increased cash income;
- Enhanced nutrition and food security through increased milk quantity and quality;

- Increased employment and business opportunities along the dairy value chain;
- Increased tax revenue and net foreign revenue stemming from reduced imports of dairy products and increased exports.

It is estimated that a total of **800 producer households** (approximately 4,000 people) will benefit directly from increased income from sales of the various commodities that have been identified as the priorities for development by the Regional partners. It is further estimated that in the target clusters of Zobas in the three Regions, the project will contribute to improving the livelihoods of **more than 300 market agents and service suppliers**, of which approximately three-quarters of businesses are expected to be from the private sector. It will also support youth employment through the creation of up to **200 jobs** for young people.

Strengthened **knowledge and institutional capacity** for supporting the increased market orientation of smallholder agriculture and private sector involvement will be the main benefits gained from the project by the public-sector support bodies. An **estimated 50 academic/scientific staff** at research and educational institutes, **some 1500 DAs and 320 SMSs**, of which **20% will be women**, will benefit from the project. Capacity building and knowledge learning processes will not only better equip them to serve their primary clients, the resource-poor producer households, but also to support more efficiently the development and delivery of cost-effective services by private-sector market agents and service providers.

A specific social impact will accrue from the emphasis which will be placed on gender mainstreaming. While the impact will be transformative for the entire target group, it will be especially so for the women beneficiaries who will be in a position to gain social confidence and standing, and to lessen their social deprivation. It is expected that **female headed households will account for as much as 40% of beneficiaries in some areas**. They will be able to more fully utilise their fields, bringing not only more production and income but greater status within communities and greater access to food, future means of production and social services.

ii Risk analysis

The anticipated risks and risk management approaches identified by Teagasc and partners are outlined in the Risk Register presented in the Annex. The Risk Register will be reviewed and revised during the preparation of the PIP.

iii Sustainability after completion of the project

Financial

The action was designed in accordance with a value chain approach, the sustainability of which rests chiefly on financial incentives and private sector participation. The project will support dairy farmers, associations and other dairy value chain stakeholders to build financially self-sustaining commercial linkages based on commercial incentives rather than reliance on subsidies. Economic benefit forecasts, based on analyses conducted in (2004)²², show that the project has a good and resilient economic profitability that should remain satisfactory even in case of strong adverse developments in project costs, benefits and implementation delay. Continued government support will be required for research, training and extension institutions, but their capacity will have been much improved as a result of project input.

Institutional

By considering institutional building as a fully-fledged component, the action emphasizes the need for a conducive and inclusive institutional framework, in which smallholders are involved from the formulation to the implementation of activities. During its lifetime and beyond, the project will support the development of institutional sustainability through:

- More effective and efficient public and private institutions that will provide leadership, policy initiatives and other support to enhance the market participation and competitiveness of Eritrean farmers, traders and other clients;

²² Commission on Demobilization and Reintegration Programme. Support to Livestock Development Programme in Anseba and Gashbarka regions (2004)

- Improved capacity of public and private services to lead, foster and support scaling-up and -out to achieve widespread impacts on the sustainable production of rain-fed and irrigated smallholder agriculture and its access to, and utilization of, markets for high-value commodities (dairying);
- Demonstration of competitive and equitable dairy value chains in the target regions/clusters of districts that will enhance the livelihoods of resource-poor households and of the market agents who serve them and that can be applied elsewhere in Eritrea and beyond.

Moreover, the action will ensure institutional sustainability through the strengthening of community structures and capacity building measures to promote public private partnerships.

Policy

In support of institutional sustainability, the project will benefit the following stakeholder groups through these broad outcomes:

- Policy makers who will have increased knowledge on how best to support market orientation in rain-fed and irrigated smallholder agriculture and the requirements of the market for high-value (and often perishable) commodities. More challenging will be embedding these activities in ongoing and planned programmes;
- The MoA and other Ministries and institutions contributing to rural development which will be better placed to develop and deliver their services to support agricultural development through market orientation, the key principle for achieving Eritrea's poverty-reduction strategy. Budgetary support will be essential for success.

Environmental

Sustainable agricultural development incorporating CSA initiatives ensures that the natural resource base (soils and water) is not depleted. Elements related to afforestation, the grazing management of communal pastures, improved soil and water conservation, development of water resources, and integrated watershed management will be key components of project activities at local and Zoba levels and will be consistent with sustainable land management (SLM) project strategies. These elements of natural resource management will be carefully integrated to support the intensification of smallholder agriculture in ways that increase land and labour productivity and that are both sustainable and profitable.

iv Dissemination and replication plan

We will develop early on a coherent communication and exit strategy to guide knowledge management, dissemination, advocacy and scaling up. To disseminate the approaches, methods, tools and lessons learned beyond the project's immediate public and private beneficiaries, we will implement activities that will collate, compile, promote and disseminate these outputs. These will be integral to the communications and exit strategies, which will contribute to building the critical links required to sustain the institutional developments supported by the DeSIRA project.

Three principal target audiences are envisaged:

- a) Learning Zones/Zobas with similar commodity potentials to the cluster of Districts/Zobas in which the interventions will take place;
- b) Regional and national policy- and decision-makers; and,
- c) National and international research and development agencies.

These will however be contingent on the communications strategy that the project will develop at the beginning of its implementation phase. That will employ an outcome mapping (OM) approach to identify the key targets for improved practices, and the intermediate actors and partners that can play a role in bringing that about. Based on those, outcome strategies will be developed and implemented, a central part of which will be communication and advocacy activities.

Through a combination of a) development of capacity among appropriate organizations to sustain training activities, and b) a successful communication strategy that leads to changed practices, the exit strategy of the project will be achieved.

2.1.5. Logical Framework

Please fill in Annex C to the guidelines for applicants.

2.1.6. Budget

Please fill in Annex B to the guidelines for applicants

2.2. Lead applicant's Experience

The below information will be used to assess whether you have sufficient and stable experience of managing actions in the same sector and of a comparable scale to the one for which a grant is being requested.

(i) Experience in similar actions in the past 3 years (Maximum 1 page per action)

Name of the organisation: Teagasc Lead applicant <input checked="" type="checkbox"/> -applicant Affiliated entity <input type="checkbox"/>					
Project title: Pilot Dairy and Potato Production in Eritrea			Sector (ref. list of sectors in Sectorial experience in PADOR): 311 Agriculture		
Location of the action	Cost of the action (EUR)	Role: coordinator, co-beneficiary, affiliated entity	Donors to the action (name)²³	Amount contributed (by donor)	Dates (from.to) dd/mm/yyyy
Eritrea	1,000,000	Partner with Irish NGOs (Vita and Self Help Africa) and Eritrean Ministry of Agriculture.	Irish Aid and Vita	500,000	May 2012-present
Objectives and results of the action		This project aims to improve food security in Eritrea by implementing a cooperative dairy model that can be replicated across the country and providing access to a reliable source of potato tubers (seed), which in turn improves household incomes of beneficiary farmers. The dairy actions involve two interlinked components: (i) a pilot model dairy farm within the research station of the National Agricultural Research Institute at Halhale; (ii) provision of support to selected dairy farmers around the Halhale research station with the aim of transferring the technology from the research station to the wider community. The focus of the potato work is on developing a scale model of a seed potato system, seed multiplication, tissue culture development and up-skilling of research and extension staff. These project leverages the expertise of Teagasc using the very best of Irish expertise in dairy herd production and management and potato seed production together with Ireland's experience of cooperative development, as well as its expertise in research, extension and farmer capacity building to help Eritrean farmers establish successful, modern farms. The project supports local food security through access to a reliable source of milk and seed potatoes and improved household incomes of beneficiary farmers in a cooperative. It has introduced better performing dairy cattle breeds that are adaptable to the climatic conditions of the area and improved the available forage resources.			

²³ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: LUKE Lead applicant <input type="checkbox"/> Co-applicant <input type="checkbox"/> Associated entity <input checked="" type="checkbox"/> <input type="checkbox"/>					
Project title: Improving Food Security in West and East Africa through Capacity building in Research and Information Dissemination (FoodAfrica I and II)			Sector (ref. list of sectors in Sectorial experience in PADOR): Food Security		
Location of the action	Cost of the action (EUR)	Role: coordinator, co-beneficiary, affiliated entity	Donors to the action (name)²⁴	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
Kenya, Uganda, Benin, Ghana, Senegal, Cameroon	12 791 190	Coordinator, Team member in five of six WPs	Ministry for Foreign Affairs of Finland	80%	12.4.2012 to 31/1/2018
Objectives and results of the action		FoodAfrica was a research for development Programme, with the aim to enhance food security in West and East Africa. The objective of the project was to produce new scientific evidence for improving nutrition and food security in Africa, to enhance capacity and cooperation between different stakeholders engaged in research, education and dissemination, to increase knowledge exchange and collaboration between African and European researchers, and to produce concrete guidelines for policy recommendation on food security for use by local intuitions and authorities.			

²⁴ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: UCD Lead applicant <input type="checkbox"/> -applicant <input type="checkbox"/> Affiliated entity <input checked="" type="checkbox"/> <input type="checkbox"/>					
Project title: Agriculture Contributing to Better Nutrition: Developing the evidence base in Ethiopia and Tanzania (Agridiet)				Sector (ref. list of sectors in Sectorial experience in PADOR): Agriculture and Nutrition	
Location of the action	Cost of the action (EUR)	Role: coordinator, co-beneficiary, affiliated entity	Donors to the action (name)²⁵	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
Tanzania and Ethiopia	1,123,000	UCD Research Team Lead (UCD was a partner institution)	Irish Aid	934,400	May 2012-Dec 2015
Objectives and results of the action		<p>The aim of the project was to understand how agriculture impacts on the nutritional status of the members of rural households in areas of high nutritional vulnerability and to identify policies and interventions that can make a positive impact on nutritional status.</p> <p>Successfully completed research studies on farming systems and their links to household nutrition for smallholder farmers in Ethiopia and Tanzania. 6 completed PhDs (3 Tanzanian researchers through UCD and 3 Ethiopian researchers through UCC)</p>			

²⁵ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: University College Cork (UCC) Lead applicant <input type="checkbox"/> Co-applicant <input type="checkbox"/> Associated entity <input checked="" type="checkbox"/> <input type="checkbox"/>					
Project title: Agriculture Contributing to Better Nutrition: Developing the evidence base in Ethiopia and Tanzania (Agridiet)			Sector (ref. list of sectors in Sectorial experience in PADOR): Agriculture and Nutrition		
Location of the action	Cost of the action (EUR)	Role: coordinator, co-beneficiary, affiliated entity	Donors to the action (name) ²⁶	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
Tanzania and Ethiopia	1,123,000	UCC Research Team Lead (UCC was the Coordinating institution)	Irish Aid	934,400	May 2012-Dec 2015
Objectives and results of the action		<p>The aim of the project was to understand how agriculture impacts on the nutritional status of the members of rural households in areas of high nutritional vulnerability and to identify policies and interventions that can make a positive impact on nutritional status.</p> <p>Successfully completed research studies on farming systems and their links to household nutrition for smallholder farmers in Ethiopia and Tanzania.</p> <p>6 completed PhDs (3 Tanzanian researchers through UCD and 3 Ethiopian researchers through UCC).</p>			

²⁶ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: VITA					
Lead applicant <input type="checkbox"/> Co-applicant <input checked="" type="checkbox"/> Affiliated entity <input type="checkbox"/>					
Project title: Dbarwa Pilot Community Dairy Project			Sector (ref. list of sectors in Sectorial experience in PADOR): 31:Agriculture, forestry and fishing		
Location	Cost of the action (EUR)	Role: Coordinator, co-beneficiary, affiliated entity	Donors to the action (name)²⁷	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
Zoba Dehub, sub zoba Dbarwa	500,000	Coordinator	Irish Aid	500,000 Euro	30/05/2014 to 31/12/2021
Objectives and results of the action		<p>Overall objective: It is to improve the food security and income levels of the beneficiaries, as well as those living in surrounding areas, through improved livestock productivity and improved availability of dairy products at household level by implementing a cooperative dairy model that can be replicated across Eritrea</p> <p>Specific Objectives: i) Specific objectives of the project include: i)Increase the supply of milk in the project area in order to satisfy family and local market demands; ii)Improve the feed resources available for dairy cows; iii)Upgrade the knowledge and capacity of rural farmers on dairy productivity and husbandry; iv) Improve dairy cow productivity by introducing appropriate breeds and improving the veterinary services in the area; v)Provision of expertise in dairy management from Teagasc, as well as an overview and presentation of potential solutions for bottlenecks in Eritrean dairy farming.</p> <p>Results: i)A pilot dairy programme set up in the Dbarwa sub-zoba area; ii)Novel forage production protocols developed for use by dairy farmers; iii)Dairy demonstration and training unit for farmers set up in NARI; iv)Forage dairy production system tested on dairy farm facilitated by allocating dairy cows to farmers; v)A new extension initiative using new methodologies applied on dairy farms; vi)New dairy model developed which can be extended to other areas.</p>			

²⁷ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: Self Help Africa Lead applicant <input type="checkbox"/> Co-applicant <input type="checkbox"/> Affiliated entity <input checked="" type="checkbox"/>					
Project title: Market Orientated Rural Enterprise for Milk (MORE-MILK)			Sector (ref. list of sectors in Sectorial experience in PADOR): 311 Agriculture: 31120; 31161; 31181; 31163		
Location	Cost of the action (EUR)	Role: Coordinator, co-beneficiary, affiliated entity	Donors to the action (name)	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
Ethiopia	EUR 504,000 (GBP 449,238)	Coordinator	Jersey Overseas Aid	EUR 504,000 (GBP 449,238)	01/03/2018 – 31/03/2021
Objectives and results of the action		<p>MORE-MILK aims to boost rural livelihoods and nutrition through enhanced dairy production techniques, strengthened dairy value chains and improved dairy cow genetics. Working with 600 smallholder dairy farmers in Oromia region, is training beneficiaries on improved breeding management, improved feeding, forage production and herd health management. SHA is also building the organisational and operational capacity of three dairy cooperatives. The project is targeting: 1) increased productivity of smallholder milk production, and 2) improved nutrition status of women, children and the wider community through consumption of dairy products. By the end of the project SHA expects to achieve increased food security and disposable income of smallholder households from dairy production in Ethiopia. Dairy production will increase by 50% and income will increase by 70% for the targeted producers due to increased production and the higher value of processed/chilled milk. There will also be multiplier effects beyond the 600 households targeted due to the strengthened government livestock extension services, AI provision and access to improved forage and fodder from the government nursery. Furthermore, 90% beneficiaries will increase their dietary diversity score increases by 25% and at least 50% of targeted women will increase their decision-making power by a minimum of 25%.</p>			

Name of the organisation: Teagasc Lead applicant <input checked="" type="checkbox"/> Co-applicant <input type="checkbox"/> Affiliated entity <input type="checkbox"/>					
Project title: Microbiome Applications for Sustainable Food Systems through Technologies and Enterprise (MASTER)			Sector (ref. list of sectors in Sectorial experience in PADOR): 311 Agriculture		
Location of the action	Cost of the action (EUR)	Role: coordinator, co-beneficiary, affiliated entity	Donors to the action (name)²⁸	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
EU		Co-ordinator	MASTER is an Innovation Action funded by the European Commission under the Horizon 2020 Programme under grant number 818368	11,000,000	January 2019-Dec 2022
Objectives and results of the action		The MASTER project is a Horizon 2020 Innovation Action involves 31 leading European and international academic and industry teams. The aim of the MASTER project is the development of concrete microbiome products, foods/feeds, services, or processes with high commercial potential which will benefit society through improving the quantity, quality and safety of food. We will harness exciting new microbiome knowledge and apply DNA sequencing technologies to significantly enhance the health and resilience of fish, plants, soil, animals and humans. This will be achieved by adding, or encouraging the growth of, health-promoting microbes and detecting and eliminating spoilage- and disease-causing species. Through applying our cross-sectorial and trans disciplinary expertise, this research will bring these applications closer to market, thereby facilitating capacity building and supporting the creation of new jobs in the food sector and the bio economy.			

²⁸ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: LUKE					
Lead applicant <input type="checkbox"/>		Co-applicant <input type="checkbox"/>		Affiliated entity <input type="checkbox"/>	
Project title: From soil to milk/meat - silage microbial community diversity and its correlation with animal feed production efficiency (SILAGE metagenomics)				Sector (ref. list of sectors in Sectorial experience in PADOR): Food & Agriculture	
Location of the action	Cost of the action (EUR)	Role: coordinator, co-beneficiary, affiliated entity	Donors to the action (name)²⁹	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
Finland	212 764	Coordinator			12/2/2018 to 31/12/2019
Objectives and results of the action		<p>The project aims to evaluate how different types of silage additives are able to manipulate the ensiling process under varying management conditions represented by levels of compaction and soil contamination. The management factors, such as compaction and hygienic quality, during ensiling process in farm scale have a great impact in feed quality.</p> <p>The project is still ongoing, however many results are already available and being shared in conferences. Practical results are:</p> <ul style="list-style-type: none"> - Additives improved fermentation quality of grass ensiled under different management conditions - Tight compaction resulted in well preserved silages and should be aimed in farm scale <p>Soil contamination (poor hygienic quality) stimulated wild-type fermentation that somehow improved some parameter of silage, but is not recommended as an ideal pathway to preserve silage under farm conditions, because it could cause losses in nutritive value, detrimental effect for animals and hygienic risks in the food chain.</p>			

²⁹ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: UCD					
Lead applicant <input type="checkbox"/>		Co-applicant <input type="checkbox"/>		Affiliated entity <input type="checkbox"/>	
Project title: Assessment of the Impact of Drivers of Change on Europe's Food and Nutrition (TRANSMANGO) Security				Sector (ref. list of sectors in Sectorial experience in PADOR): Food Security and Food Systems	
Location of the action	Cost of the action (EUR)	Role: coordinator, co-beneficiary, affiliated entity	Donors to the action (name)³⁰	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
European Union	4,952,680	Team member, UCD (Partner with WP lead and task lead responsibilities)	European Union FP7	3,905,234	1/2/2014 to 31/1/2018
Objectives and results of the action		<p>The project aimed to obtain a comprehensive picture of the effects of the global drivers of change (climate, economic concentration and market structure, financial power, resource competition, marginalization, property rules, geo-political shifts, consumer preferences, consumption patterns and nutritional transition) on European and global food demand and on raw material production (and, consequently, on food flows).</p> <p>The project resulted in a wide range of research outputs including:</p> <ul style="list-style-type: none"> - publications (peer-reviewed articles, working reports and policy briefs) - contributions to conferences - conference events organised on the subject of food security. 			

³⁰ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: University College Cork (UCC) Lead applicant <input type="checkbox"/> Co-applicant <input type="checkbox"/> Affiliated entity <input type="checkbox"/>							
Project title: “Sustainable Production and Consumption: The Influence of Social Norms”				Sector (ref. list of sectors in Sectorial experience in PADOR): Education - Institutional capacity building			
Location of the action		Cost of the action (EUR)		Role: coordinator, co-beneficiary, affiliated entity	Donors to the action (name)³¹	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
Ireland		€149,892.96		Principal Investigator	EPA	NA	February 2019 to 2020
Objectives and results of the action			<p>To develop (1) a harmonised metric based on review exercise and survey findings that will facilitate improvements in the sustainability of food systems based on behavioural attitude to sustainable production and consumption: The Influence of Social Norms</p> <p>(2) A supporting agent-based model to (i) evaluate consumption and production policy sensitivity with respect to efforts geared towards attaining the SDGs; and (ii) to develop a replicable and extendable model for comparability and future application.</p>				

³¹ If the donor is the European Union or an EU Member State, please specify the EU budget line, EDF or EU Member State

Name of the organisation: Vita Lead applicant <input type="checkbox"/> Co-applicant <input checked="" type="checkbox"/> Affiliated entity <input type="checkbox"/>					
Project title: Community based potato seed production, multiplication and dissemination in three regions of Eritrea			Sector (ref. list of sectors in Sectorial experience in PADOR): 311 Agriculture, forestry and fisheries		
Location	Cost of the action (EUR)	Role: Coordinator, co-beneficiary, affiliated entity	Donors to the action (name)	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
Eritrea: Zoba Dehub Zoba Maekel Zoba Anseba	500,000	Coordinator	Irish Aid and Gorta (SHA)	500,000 Euro	01/01/2015 to 31/12/2018
Objectives and results of the action		<p>The overall aim of the project is to improve the food security and income levels of the beneficiaries, as well as those living in surrounding areas, through improved potato productivity and improved availability of the potato at household level by implementing a cooperative model that can be replicated across Eritrea.</p> <p>Specific objectives of the project include: i) To ensure sustainable multiplication and dissemination of improved potato seed variety by supporting local seed growers by providing recommended variety of improved potato seeds, some agriculture inputs and relevant training on potato seed production and potato storage; ii) Establish a cooperative model of potato growers and improve productivity of potato in the projected area; iii) Increase productivity, production and availability of the crop to consumers at a reasonable price; iv) Develop and transfer production technologies for improvement of potato production in the target region.</p> <p>Results: i) Improve the capacity of research and extension staffs; ii) Improve or strengthen the capacity of NARI; iii) Improve the productivity of potato tubers; iv) Reduce the storage losses of potatoes by rehabilitating the existing centralized stores; v) Ensure the wider dissemination of improved potato tubers to the wider areas of the project; vi) Contribute to the long term employment.</p>			

Name of the organisation: Self Help Africa Lead applicant <input type="checkbox"/> Co-applicant <input checked="" type="checkbox"/> Affiliated entity <input type="checkbox"/>					
Project title: Agricultural Growth Programme: Livestock Market Development			Sector (ref. list of sectors in Sectorial experience in PADOR): 311 Agriculture: 31120; 31161; 31181; 31163		
Location	Cost of the action (EUR)	Role: Coordinator, co-beneficiary, affiliated entity	Donors to the action (name)	Amount contributed (by donor)	Dates (from..to) dd/mm/yyyy
SNNPR region, Ethiopia	EUR 975,776	Co-beneficiary (CNFA were Coordinator)	USAID (sub-contracted through CNFA)	EUR 975,776	01/01/2013 – 31/05/2017
Objectives and results of the action		SHA was responsible for field-level delivery of this livestock development program to 5,000 rural households throughout the Southern Nations, Nationalities, and Peoples' Region in Ethiopia. The program aimed to improve the productivity and competitiveness of meat/live animals, hides/skins/leather and dairy value chains. SHA carried out the following activities : Establishing and strengthening input suppliers and service providers; Improving livestock management; Linking value chain actors to input and service providers; Increasing domestic consumption of dairy products; Stimulating investments and access to finance throughout the value chain; Improving the enabling environment for livestock value chains; Developing women entrepreneurs and leader. Key results included: (i) Seven commercial dairy farms and cross-breed livestock operations entered into relationships for the supply of livestock feed with three suppliers, leading to production increases of 2 – 4 litres/cow/day. (ii) 150 Community Animal Health Workers trained and providing a range of health services at kebele (neighborhood) level to improve the quality and coverage of animal health services. (iii) Training in livestock management provided has resulted in increases in the use of feed supplements, vitamins and minerals. Dairy processors have been supported to adopt dairy and animal feed quality standards to improve livestock product quality. (iv) An assessment of aflatoxin contamination of livestock feed and milk in SNNPR was undertaken across eight woredas. (v) Improvement of dairy cow breeds through promoting synchronization and sexed semen along with the Artificial Insemination services.			

3 The lead applicant, the co-applicant(s) and affiliated entities

[Delete this section if you are applying via PROSPECT]

Name of the lead applicant	TEAGASC
EuropeAid ID	IE-2018-BBX-1807262769
Nationality ³² / Country and date of registration ³³	Irish/Ireland/1988
Legal entity file number ³⁴	999466952
Legal status ³⁵	Profit-Making <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NGO <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Co-applicant(s) ³⁶	
Co-applicant(s) ³⁷	
Name of the co-applicant	University College Cork (UCC)
EuropeAid ID	IE-2009-ETF-1812579342
Nationality/ Country and date of registration	Ireland /Ireland 2009
Legal entity file number (if available)	

Legal status	Profit-Making <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NGO <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Public Body <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Co-applicant(s) ³⁸	
Name of the co-applicant	University College Dublin (UCD)
EuropeAid ID	IE-2008-BOO-0207461027
Nationality/ Country and date of registration	Ireland
Legal entity file number (if available)	6000075375
Legal status	Profit-Making <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NGO <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Public Body <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Co-applicant(s) ³⁹	
Name of the co-applicant	Vita
EuropeAid ID	IE-2009-GQA-1201855890
Nationality/ Country and date of registration	Ireland
Legal entity file number (if available)	
Legal status	Profit-Making <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NGO <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

³² For individuals.

³³ For organisations.

³⁴ If the applicant has already signed a contract with the European Commission.

³⁵ E.g. non-profit, governmental body, or international organisation.

³⁶ Add as many rows as co-applicant(s)

³⁷ Add as many rows as co-applicant(s)

³⁸ Add as many rows as co-applicant(s)

³⁹ Add as many rows as co-applicant(s)

	Public Body <input type="checkbox"/> Yes X N0
Co-applicant(s) ⁴⁰	
Name of the co-applicant	Gorta Self Help Africa (operating as Self Help Africa)
EuropeAid ID	IE-2016-BUB-1209960022
Nationality/ Country and date of registration	Irish/Ireland 24/02/1969
Legal entity file number (if available)	6000360677
Legal status	Profit-Making <input type="checkbox"/> Yes X No NGO <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Public Body <input type="checkbox"/> Yes X N0
Co-applicant(s) ⁴¹	
Name of the co-applicant	LUKE
EuropeAid ID	934887262
Nationality/ Country and date of registration	Finland
Legal entity file number (if available)	
Legal status	Profit-Making <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NGO <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Public Body <input checked="" type="checkbox"/> Yes <input type="checkbox"/> N0

Affiliated Entity(ies) ⁴²	
Name of the Affiliated-Entity	
EuropeAid ID	
Nationality / Country and date of registration	
Legal status	Profit-Making <input type="checkbox"/> Yes <input type="checkbox"/> No NGO <input type="checkbox"/> Yes <input type="checkbox"/> No Public Body <input checked="" type="checkbox"/> Yes <input type="checkbox"/> N0
Specify to which entity you are affiliated (lead applicant and/or the co-applicant). Specify the kind of affiliation you have with that entity.	

4 Associates participation in the action

	Associate <...>
Full legal name	Ministry of Agriculture, National Agricultural Research Institute
EuropeAid ID number ⁴³	129-194/L/ACP/ER DCI-Food /210/249-670

⁴⁰ Add as many rows as co-applicant(s)

⁴¹ Add as many rows as co-applicant(s)

⁴² Add as many rows as affiliated entities

⁴³ This number is available to an organisation which registers its data in PADOR. For more information and to

Country of registration	Eritrea
Legal status⁴⁴	Government Body
Official address	Ministry of Agriculture National Agricultural Research Institute P.O Box 4627, Asmara, Eritrea
Contact person	Dr Tseggai Tesfai
Tel: country code + city code + number	00291-1-08600044
Fax: country code + city code + number	00291-1-08600004
E-mail address	yonan938@gmail.com
Number of employees	86
Experience of similar actions , in relation to role in implementing the proposed action	NARI is the focal agricultural research institute in the country. NARI has been engaged in research programs such as crop improvement, natural resources management and so on. It has also been involved in research lead community-based development projects such as seed multiplication and potato projects.

	Associate <...>
Full legal name	Ministry of Agriculture, Agricultural Extension Department
EuropeAid ID number⁴⁵	129-194/L/ACP/ER DCI-Food /210/249-670
Country of registration	Eritrea
Legal status⁴⁶	Government Body
Official address	Ministry of Agriculture P.O Box 4627 Asmara, Eritrea
Contact person	Heruy Asghedom
Tel: country code + city code + number	00291-181480
Fax: country code + city code + number	00291-181274
E-mail address	Asgedomheruy@gmail.com
Number of employees	170
Experience of similar actions , in relation to role in implementing the proposed action	AED has been implementing various projects related to crop production and natural resources. We have been working closely with Vita in implementing the potato and seed projects.
History of cooperation with the applicants	We have worked with Vita since 2000 in implementing various projects such as distribution of fuel-efficient stoves, multiplication of seeds, drip irrigation, distribution of dairy cattle and provision of AI.
Role and involvement in preparing the proposed action	Participated in the development of Log frame Provide technical information related to the project
Role and involvement in implementing the proposed action	AED will supply agricultural inputs like fertilizer, chemicals, farming tools, provide technical assistance and

register, please visit http://ec.europa.eu/europeaid/pador_en

⁴⁴ E.g. non-profit, governmental body or international organisation.

⁴⁵ This number is available to an organisation which registers its data in PADOR. For more information and to register, please visit http://ec.europa.eu/europeaid/pador_en

⁴⁶ E.g. non-profit, governmental body or international organisation.

	provide training.
	Associate <...>
Full legal name	Hamelmallo Agricultural College
EuropeAid ID number ⁴⁷	
Country of registration	Eritrea
Legal status ⁴⁸	Government Body
Official address	Hamelmallo Agricultural College P.O Box 397 Keren, Eritrea
Contact person	Professor Woldeamlac Araia
Tel: country code + city code + number	00291-1-401229
Fax: country code + city code + number	00291-1-401589
E-mail address	woldearaiahac@gmail.com
Number of employees	105
Experience of similar actions , in relation to role in implementing the proposed action	Hamelmallo college has been involved in conducting research of different variety of seeds such as seed, potato, pearl millet, oil seeds.
History of cooperation with the applicants	We have prepared training materials and provided training for the extension staff and lead farmers in the Seed project. Moreover, we have been involved in giving technical assistance.
Role and involvement in preparing the proposed action	Provided the requested information
Role and involvement in implementing the proposed action	We will be providing training, technical assistance and conducting research

	Associate <...>
Full legal name	Ministry of Local Government Department of Agriculture and Land of Debub region
EuropeAid ID number ⁴⁹	-
Country of Registration	Eritrea
Legal status ⁵⁰	Government body
Official address	Department of Agriculture and Land of Debub region P.O. Box 30 Mendefera, Eritrea
Contact person	Yemane Abbay
Tel: country code + city code + number	00291-1-611363
Fax: country code + city code + number	00291-1-611458
E-mail address	-
Number of employees	150

⁴⁷ This number is available to an organisation which registers its data in PADOR. For more information and to register, please visit http://ec.europa.eu/europeaid/pador_en

⁴⁸ E.g. non-profit, governmental body or international organisation.

⁴⁹ This number is available to an organisation which registers its data in PADOR. For more information and to register, please visit http://ec.europa.eu/europeaid/pador_en

⁵⁰ E.g. non-profit, governmental body or international organisation.

Experience of similar actions , in relation to role in implementing the proposed action	The Zoba has implemented seed multiplication, potato multiplication and other horticulture activities.
History of cooperation with the applicants	Since 2000, we have been working with Vita to implement various projects like drip irrigation, distribution of tools, repairing of broken hand pumps, stove construction and multiplication of potato and seed.
Role and involvement in preparing the proposed action	We have provided the required information.
Role and involvement in implementing the proposed action	The Zoba will participate in implementing various activities such as identifying farmers and selection of specific project sites, organizing meetings and inception workshop, providing training of farmers and front line staff, participate in the monitoring and evaluation.

Associates at the Sub-Zoba/Community Level

	Associate <...>
Full legal name	National Union of Eritrean Women in sub zoba Elabered
EuropeAid ID number ⁵¹	-
Country of Registration	Eritrea
Legal status ⁵²	Community Grass Root Women's Association
Official address	National Union of Eritrean Women in sub zoba Elabered P.O.Box 55 Keren, Eritrea
Contact person	Akberet Solomon
Tel: country code + city code + number	00291-1-440021
Fax: country code + city code + number	00291-1-402201
E-mail address	-
Number of employees	4
Experience of similar actions , in relation to role in implementing the proposed action	In the Subzoba, we participate in all the projects including in seed and potato multiplication.
History of cooperation with the applicants	The organization has participated in stove construction, repair of hand pumps, seed and potato distribution.
Role and involvement in preparing the proposed action	Provided the required information
Role and involvement in implementing the proposed action	The organization will participate in mobilization of farmers especially women farmers, setting the criteria, selection of farmers, participate in workshop, farmer's day, and training, participate in follow up and monitoring the projects

	Associate <...>
Full legal name	National Union of Eritrean Women
EuropeAid ID number ⁵³	-

⁵¹ This number is available to an organisation which registers its data in PADOR. For more information and to register, please visit http://ec.europa.eu/europeaid/pador_en

⁵² E.g. non-profit, governmental body or international organisation.

⁵³ This number is available to an organisation which registers its data in PADOR. For more information and to

Country of registration	Eritrea
Legal status⁵⁴	Local grass roots association
Official address	National Union of Eritrean Women P.O Box 239, Asmara, Eritrea
Contact person	Senait Mehari
Tel: country code + city code + number	00291-1-118753
Fax: country code + city code + number	00291-1-111140
E-mail address	s.mehari@nuew.org
Number of employees	300
Experience of similar actions, in relation to role in implementing the proposed action	NUEW has been working with the MoA in implementing various projects such as construction of stoves, and in seed and potato multiplication. The organization is mainly engaged in mobilizing women to participate in various activities.

5 Declarations

5.1. Declaration by the lead applicant (full application)

The lead applicant, represented by the undersigned, being the authorised signatory of the applicant, in the context of the present call for proposals, representing any co-applicant(s), affiliated entity(ies) in the proposed action, hereby declares that

- i. the lead applicant has the sources of financing specified in Section 2 of the guidelines for applicants;
- ii. the lead applicant has sufficient financial capacity to carry out the proposed action or work programme;
- iii. the lead applicant certifies the legal statutes of the lead applicant, of the co-applicant(s) and of the affiliated entity(ies) as reported in part 3, 4, and 5 of this application;
- iv. the lead applicant, the co-applicant(s) and the affiliated entity(ies) have the professional competences and qualifications specified in Section 2 of the guidelines for applicants;
- v. the lead applicant undertakes to comply with the obligations foreseen in the affiliated entity(ies)'s statement of the grant application form and with the principles of good partnership practice;
- vi. the lead applicant is directly responsible for the preparation, management and implementation of the action with the co-applicant(s) and affiliated entity(ies), if any, and is not acting as an intermediary;
- vii. if the requested amount is above EUR 60.000 the lead applicant, the co-applicant(s) and the affiliated entity(ies) are not in any of the situations excluding them from participating in contracts which are listed in Section 2.6.10.1. of the practical guide (available from the following internet address:

register, please visit http://ec.europa.eu/europeaid/pador_en

⁵⁴ E.g. non-profit, governmental body or international organisation.

<http://ec.europa.eu/europeaid/frag/document.do>. Furthermore, it is recognised and accepted that if the lead applicant, co-applicant(s) and affiliated entity(ies) (if any) participate in spite of being in any of these situations, they may be excluded from other procedures in accordance with the Financial Regulation in force;

- viii. the lead applicant and each co-applicant and affiliated entity (if any) is in a position to deliver immediately, upon request, the supporting documents stipulated under Section 2.4 of the guidelines for applicants.
- ix. the lead applicant and each co-applicant and affiliated entity (if any) are eligible in accordance with the criteria set out under Sections 2.1.1 and 2.1.2 of the guidelines for applicants;
- x. if recommended to be awarded a grant, the lead applicant, the co-applicant(s) and the affiliated entity(ies) accept the contractual conditions as laid down in the standard grant contract annexed to the guidelines for applicants (Annex G) (or the Contribution Agreement, where applicable);


These are the sources and amounts of Union funding received or applied for the action or part of the action or for its functioning during the same financial year as well as any other funding received or applied for the same action <list source and amount and indicate status (i.e. applied for or awarded)>

The lead applicant is fully aware of the obligation to inform without delay the contracting authority to which this application is submitted if the same application for funding made to other European Commission departments or European Union institutions has been approved by them after the submission of this grant application.

We acknowledge that if we participate in spite of being in any of the situations listed in Section 2.6.10.1 of the practical guide or if the declarations or information provided prove to be false we may be subject to rejection from this procedure and to administrative sanctions in the form of exclusion and financial penalties up to 10 % of the total estimated value of the grant being awarded and that this information may be published on the Commission website in accordance with the Financial Regulation in force. We are aware that, for the purposes of safeguarding the EU's financial interests, our personal data may be transferred to internal audit services, to the early detection and exclusion system, to the European Court of Auditors, to the Financial Irregularities Panel or to the European Anti-Fraud Office.

Signed on behalf of the lead applicant

Name: Lance O'Brien
Organisation: Teagasc
Position: Head of Strategy & International Relations
Signature:



Date and place: 27th May 2019/Carlow, Ireland


5.2. Mandate (for co-applicant(s))

Important: This application form must be accompanied by a signed and dated mandate from each co-applicant, in accordance with the template provided below.

The co-applicant authorises the lead applicant <indicate the name of the organisation> to submit on its behalf the present application form and to sign on its behalf the standard grant contract (Annex G of the guidelines for applicants) (or a Contribution Agreement, where applicable) with the European Commission (contracting authority), as well as, to be represented by the lead applicant in all matters concerning this grant contract.

I have read and approved the contents of the proposal submitted to the contracting authority. I undertake to comply with the principles of good partnership practice.


University College Cork (UCC)

Name:	Dr Stephen Onakuse
Organisation:	University College Cork (UCC) – Centre for Sustainable livelihoods
Position:	Deputy Director,
Signature:	
Date and place:	24/05/2019 Cork, Ireland

Self Help Africa

Name: Sarah Terrazas
Organisation: Self Help Africa
Position: Head of Programme Funding
Signature: 
Date and place: 18 December 2018, London

Vita

Name: John Weakliam
Organisation: Vita
Position: CEO
Signature: 
Date and place: Dublin/27th May 2019

UCD

Name: Professor Jim Kinsella
Organisation: School of Agriculture & Food Science, University College Dublin
Position: Professor of Agricultural Extension and Rural Development
Signature: 
Date and place: 28th May 2019, Dublin IRELAND

Luke (Finland)

Name: Sari Forsman-Hugg
Organisation: Natural Resources Institute Finland
Position: Vice President, Bioeconomy and Environment unit
Signature: 
Date and place: 29 May 2019, Jokioinen

3.2 Affiliated entity(ies)

Important: This application form must be accompanied by a **signed and dated** affiliated entities' statement from **each affiliated entity**, in accordance with the template provided below.

Affiliated entity(ies)'s statement

To ensure that the action runs smoothly, the European Commission (contracting authority) requires all affiliated entity(ies) to acknowledge the principles of set out below:

1. All affiliated entity(ies) must have read the guidelines for applicants and grant application form and understood their role in the action before the application is submitted to the contracting authority.
2. All affiliated entity(ies) must have read the standard grant contract (or Contribution Agreement, where applicable) and understood what their respective obligations under the contract will be if the grant is awarded. They authorise the organisation to which they are affiliated to sign the contract on their behalf with the contracting authority and represent them in all dealings with the contracting authority in the context of the action's implementation.
3. The affiliated entity(ies) must consult regularly with the organisation to which they are affiliated whom, in turn, should keep them fully informed of the progress of the action.
4. All affiliated entity(ies) must receive copies of the reports — narrative and financial — made to the contracting authority.
5. Proposals for substantial changes to the action (e.g. changes in activities that could affect the basic purpose of the action, affiliated entity(ies), etc.) should be agreed by the affiliated entity(ies) before being submitted to the contracting authority.

I have read and approved the contents of the proposal submitted to the contracting authority. I undertake to comply with the principles of good partnership practice.

Name:
Organisation:
Position:
Signature:
Date and place:

6 Annex 1: Risk Register

Risk Definition	Initial Rating	Mitigation Needed
Political Risks:		
Inadequate government coordination and support constrains public sector delivery of essential input services and supplies	Medium	Project's inclusive organizational structure with key responsibilities of senior national-to-regional staff addresses resourcing and management issues supported by strategic capacity building and knowledge management inputs
Lack of support from government for external assistance	Medium	Strong support from MoA and regional offices; good engagement with the stakeholders.
Operational Risks		
Staff turn-over (e.g. amongst trainees for ToT) weakens HR capacity of project's public sector partners to sustain the delivery of key outputs	Medium	SWOT analysis of actual and potential partners (public, private, NGO) for delivery of capacity-building components to identify alternative suppliers with proven performance for imparting VCD skills and knowledge generation and management
Poor enterprise management skills of target producers and potential market agents limit scope for VCD	High	Needs assessments for training and information identify effective agencies and innovative methods to develop requisite skills for VCD and enterprise management
Portfolio of interventions does not meet needs for VCD in all the diverse communities and target areas	Low	Participatory action research to select, test and adapt innovations backed by effective support to the adaptation process.
Failure to develop effective linkages with other VCD including finance services and related projects, programs reduces scale of deliverables	Low	Project's organizational structure and inclusive, systematic approach includes a strategic emphasis on inter-project/program collaboration and resource-sharing from district to national levels

Risk aversion and inexperience of some target producer groups restricts participation in VCD	High	Project's innovation systems approach facilitates confidence-building, awareness and incentives through dialogue, exchange visits and targeted training.
Financial Risks		
Funds transferred to implementing partners in untimely manner and/or are mismanaged	Low	Project's business plan includes agreements with implementing partners for accounting standards and reporting to minimize financial risks.
Physical/Environmental Risks		
Political instability and natural disasters such as epidemics and droughts may threaten development results	Medium	Project's cooperates with health agencies to mitigate risks from epidemics and ensure that drought-mitigation and other good environmental practices and insurance schemes are integral to VCD.
Poor physical infrastructure (e.g. roads, IT, elect.) serving rural communities limits input and output market services	Medium	Project facilitates the development of innovative organizational approaches to reduce transaction costs and improve margins for service providers
Reputational Risks		
GoSE (and MoA specifically) perceives EU and external experts negatively because project invests more in NGOs and private sector (including producer associations) than in public sector	Low	Dialogue between EU, project management and GoSE to develop shared appreciation of the importance of strengthening private sector participation, its linkages with public sector and positive role of NGOs. EU to emphasize the strategic roles and essential involvement of key GoSE actors.

7 Annex 2: Acronyms and Abbreviations

AI	Artificial Insemination
AKIS	Agricultural Knowledge Innovation System
BDS	Business Development Service
CSA	Climate Smart Agriculture
EDF	European Development Fund
EFA	Economic and Financial Assessment
EIA	Environmental Impact Assessment
EIDP	Eritrea-Ireland Development Partnership Office, Asmara
FAO	Food and Agriculture Organization
GoSE	Government of the State of Eritrea
HAC	Hamelmalo Agricultural College, Eritrea
IFAD	International Fund for Agricultural Development
LUKE	Natural Resources Institute Finland
M&E	Monitoring and Evaluation
MIHAP	Minimum Integrated Household Agricultural Package
MoA	Ministry of Agriculture, Eritrea
MoLWE	Ministry of Land, Water and Environment, Eritrea
MoU	Memorandum of Understanding
NARI	National Agriculture Research Institute, Eritrea
NGO	Non-governmental Organization
NPIC	National Project Implementation Committee
NSC	Project National Steering Committee
NUEW	National Union of Eritrean Women
OM	Outcome Mapping
PF	Performance Framework
PMF	Performance Measurement Framework
PIP	Project Implementation Plan
RC	Results Chain
RPIC	Regional Project Implementation Committees
SDGs	Sustainable Development Goals
SHA	Self Help Africa
SLM	Sustainable Land Management
ToT	Training of Trainers
UCC	University College Cork, Ireland
UCD	University College Dublin, Ireland
UNDP	United Nations Development Programme
VCD	Value Chain Development

WPs

Work Packages