

Association for Strengthening Agricultural Research in Eastern and Central Africa

Association pour le Renforcement de la Recherche Agricole en Afrique Orientale et Centrale

ASARECA Research Grants Management System

CALL FOR CONCEPT NOTES: Ref. ASARECA_RC11_Staples-01 STAPLE CROPS PROGRAMME

- 1. It is essential that those persons and organizations competing for funds of the ASARECA grants thoroughly read all parts of the following document.
- 2. Persons and organizations competing for funds under this Research Call, **Ref.** ASARECA_RC11_Staples-01, must strictly adhere to the <u>stipulations</u> given for <u>compliance</u> for competition. Failure to meet these specifications will make the submission non-compliant and will irrevocably eliminate the submission from the competition.
- 3. The guidelines provided for Concept Note (CN) preparations should be carefully followed.
- 4. A CN must be prepared using the <u>standard format</u> that is provided in this Research Call (e-file ASARECA_RCnn_CN format.doc).
- 5. Notification by ASARECA's Manager, Staple Crops Programme of acceptance of a CN <u>are</u> <u>not guarantees</u> that the proposal will subsequently be accepted for funding as a project.
- 6. It is permissible for potential competitors who have queries concerning the compliance stipulations, other requirements and technical details of this Research Call to contact the Manager, staple Crops Programme for clarification. All queries should be submitted by Email addressed to <u>staples@asareca.org</u>. All questions and responses received will be posted on the Frequently Asked questions section on the ASARECA website <u>www.asareca.org</u>. Please <u>consult this site</u> before submitting any query in order to avoid unnecessary duplication of effort.
- 7. The <u>dead line</u> for electronic submission of Concept Notes for competition in this Research Call, Ref. ASARECA_RC11_Staples-01 is 24 March 2011. CNs received after this date will not be included in the competition.
- 8. CN submissions should be made to: The Programme Manager, Staple Crops Programme, ASARECA Secretariat, Plot 5, Mpigi Road, P. O. Box 765, Entebbe Uganda; Email: staples@asareca.org
- 9. The <u>decisions</u> taken as a result of the review process of this **Research Call, Ref. ASARECA_RC11_Staples-01** will be notified to the Principal Investigator of each CN latest by April 4, 2011.

1. THE RESEARCH CALL – REF. ASARECA_RC11_STAPLES-01

1.1 Overview

This Research Call, **Ref. ASARECA_RC11_Staples-01**, invites the submission of Concept Notes (CNs) towards the competitive award of a research grant for undertaking a research project to be funded under the ASARECA Research Grant Fund.

The Research Call addresses certain themes for research and development which are relevant to livelihood advancement and sustainable economic development in the Eastern and Central African sub-region (ECA). These themes have been identified through an iterative consultative process involving the governance bodies of ASARECA and ASARECA's operational units (the ASARECA Secretariat and ASARECA's Programmes).

In structure, Research Call ASARECA-RC11-Staples-01 contains <u>one research call</u> and requires the submission of <u>CNs</u>, prepared according to the requirements of a single standard format for competitive submissions.

Through the competitive process initiated by this Research Call, ASARECA intends to fund one project.

The <u>CN</u> that is required, from those who wish to compete in this Call, is an outline research proposal which aims to fulfil two main purposes in the competitive process, namely:-

- a) *For those wishing to compete*: A CN provides a means, in a relatively short time frame and without high demands on professionals' time, for a group of research scientists (possibly linked with other professionals) to submit a research proposal in a succinct relatively short form for assessment and evaluation, without the need to prepare a detailed proposal (that requires a substantial time input).
- b) *For those evaluating the research proposals*: It enables those persons involved in ASARECA review process to make an evaluation of proposals in circumstances where there is uniformity in presentation. This is one important factor in ensuring fair competition between submitted CNs across diverse organisation and scientific backgrounds.

Structure of the Document

Some background information on ASARECA and its Research Grant System are provided in Section 2. In Section 3, the over-arching requirements for compliance with Research calls are specified and explained. Section 4 describes some guiding principles bearing upon Concept Note/Full Proposal preparation that apply to all the research calls of ASARECA-RC11-staples-01. Finally, progressing from these generic and cross cutting areas of information, Section 5 presents the details of each individual call, including any additional compliance stipulations for an individual research call.

2 Background

2.1 ASARECA – general overview

ASARECA is a not-for-profit sub-regional organization (SRO) of the National Agricultural Research Systems $(NARS)^1$ in the ten countries of Eastern and Central Africa (ECA) – Burundi, DR Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania, and Uganda.

2.1 Mission, Goal and Results

Mission: Promoting economic growth, fighting poverty, reducing hunger and enhancing resources through regional collective action in agricultural research for development, extension and agricultural training and education.

Goal: Enhanced Competitiveness of the sub- regional agricultural systems.

Purpose: Enhanced utilization of agricultural research and development innovations in Eastern and Central Africa.

Results:

ASARECA aims to deliver five main research results, as follows:-

- 1. Strengthened gender-responsive governance and management systems in ASARECA
- 2. Enhanced generation of demand driven agricultural technologies and innovations
- 3. Enhanced adoption of policy options by decision-makers to improve performance of the agricultural sector in ECA
- 4. Strengthened capacity for implementing agricultural research for development in ECA subregion
- 5. Enhanced availability of information on agricultural technologies and innovations in ECA sub-region

The five results constitute the pillars of the ASARECA Consolidated Conceptual Framework (CCF)/log frame that forms the basis for collective action and delivery against the goal and strategic objective of ASARECA by the Programmes and any other institution(s) with whom ASARECA may commission specific research assignments.

2.2 Research to be Commissioned Under this Research Call

This Research Call seeks CN submissions for research from regional partnerships formed by member NARS of ASARECA's Programmes to be funded under the non-specific Programme funding stream of the ASARECA Research Grants System.

3. **REQUIREMENTS FOR COMPLIANCE**

The following criteria MUST be met in order for a Concept Note to enter into the competitive evaluation process of the ASARECA Research Grants System. Therefore, any CN submitted in

¹Unless otherwise specified, only NARS institutions in the ASARECA member countries are eligible to submit proposals. This includes NARIS, Universities and other Higher Education Institutions, Civil Society Organisations, Extension Agencies, private sector organisations and private consultants.

response to the research call Ref. ASARECA_RC11_Staples-01 must satisfy the following requirements:-

Requirement 1: The research must be undertaken in ASARECA member countries.

Requirement 2: The research must be undertaken by at least <u>four NARS organizations</u>, variously located in the member countries (for compliance with Requirement 1), that agree to work in partnership on the proposed research.

Requirement 3: Letters of intent to participate in the proposed research, as defined in a submitted CN, written on the letter head of each participating organization addressed to the lead organization (that submits the CN), MUST be attached to the hard copy of the submitted CN (also refer to Points 4 - 6 below).

Requirement 4: There must be <u>strict adherence to the word count</u> that is specified for each section of the CN in the CN standard format.

4. OVER-ARCHING GUIDING PRINCIPLES FOR CONCEPT NOTE PREPARATION

4.1 **Proposal Format**

The ASARECA standard proposal preparation format <u>must be used for preparation of CNs or FP</u>. It is provided as a separate e-file, ASARECA_RCnn_format.doc.

4.2 Become Conversant with the Proposal Format

Those persons intending to submit CNs should take time to become familiar with the format before using it. <u>Do not alter the standard format</u> in any way.

4.3 Read and Act on the Proposal Sectional Guideline Text

In each section of the proposal format, information is provided <u>to guide</u> the preparation of the text for that section. Those persons intending to prepare a CN must take time to read and understand the guidance that is provided in order to best ensure that the submitted text has the required focus and considers the necessary areas.

4.4 The Proposed Principal Investigator

The proposal format requires <u>specification of the Principal Investigator</u> (PI) for the proposed research. This person must be a staff member of the organization that is prepared to take lead responsibility for the research, should it compete successfully. Other than in highly unforeseen circumstances, there should be no doubt on the part of the lead organization, that the proposed PI (as named in the proposal) would be the person who would lead and coordinate the research project, should the CN submission be selected for progress to a full proposal and then become a commissioned project.

4.5 CN Submission – Electronic

The deadline date for electronic submission of CNs is specified in point 7 in the text box on page 1 of this Call. The submission should be a single file with the <u>file name</u> of the CN standard format <u>revised</u> from ASARECA-CGS_RCnn_CN format.doc to ASARECA-CGS_RCnn_CN

from nnnnnnn at ZZZZZZ.doc, where nnnnnnn refers to the last name of the PI as stated in the CN and ZZZZZZ refers to the acronym of the lead organization named on the CN.

4.6 CN submission – hard copy:

An identical hard copy of the CN submitted as an e-file must reach the ASARECA Secretariat within 10 days after the deadline date for e-file CN submission. This copy must have attached the letters of firm intent to participate in the proposed research of each the four or more participating organisations (refer Section 3, requirement 3). In addition, it must contain the original covering letter indicating willingness to lead the implementation and management of the proposed research signed on headed notepaper by a senior authority in the organisation of the named PI.

4.7 Seeking Advice

Persons planning to compete on this Call may contact the ASARECA Programme Manager, Staple Crops Programme to advice and assistance if required (refer to page 1, text box point 6). This includes requesting some assistance with identifying potential collaborators.

4.8 Evaluation of CN

The key criteria that will be used to assess the CN will include – research problem interpretation; innovativeness in the design; approach and methodology proposed for addressing the problem; the multi-disciplinarity of the partnerships; the complimentarity of role/functions of the different partners; knowledge management approaches; value added and up-scalability of approaches used as well as the results.

4.9. Key principles:

In designing the project, ASARECA and the Framework for African Agricultural Productivity (FAAP) principles should be taken into consideration. The principles include:

- 1. **Delivery:** Agricultural research projects will be designed to dramatically improve the delivery of ASARECA's results/outputs and outcomes so as to increase ASARECA's sub-regional impact. ASARECA wants to ensure relevance and quality of science. Relevant in the context that the work should produce solutions that will have measurable, significant impact in terms of the goal and mission of ASARECA. Quality of science dealing with efficient use of the state of the art knowledge, research methods and protocols.
- 2. *Pluralism/partnership:* Pluralism in the delivery of agriculture research, extension and training so that diverse skills and strengths can be of a broad range of service providers can contribute to publicly supported agricultural productivity operations. While recognising the comparative advantage of partners, the commissioning process will help forge partnerships of various types to make full use of available specialised experience, expertise and competence
- 3. *Empowerment of end-users:* Ensure the stakeholder involvement/empowerment through their meaningful participation in setting priorities and work programmes for research, extension and training.
- 4. *Integration of Gender:* Considerations at all levels, including farmers and farmer organizations, private sector, public institutions, researchers and extension staff, research and uptake processes.

- 5. *Planned subsidiarity:* Wherever and whenever possible authority, responsibility and accountability will be delegated to the lowest level at which it is effective while maintaining spill over effects.
- 6. *Evidence based approach:* Emphasis on data analysis, including economic factors and market orientation in policy development, priority setting and strategic planning for agricultural research, extension and training and systematic utilisation of improved management information systems in particular planning, research data management, financial management, reporting and M&E.
- 7. *Cost sharing*: This relates to cost-sharing with end users and partners, according to their capacity to pay, to increase their stake in the efficiency of service provision and to improve financial sustainability.
- 8. *Explicit incorporation of sustainability criteria*: In evaluation of public investments in agricultural productivity and innovation programme (fiscal, economic, social and environmental to ensure sustainability.
- 9. *Institutional learning:* All commissioned research will take into account past experiences to identify and capture processes and mechanisms which work effectively and will seek to foster team-based decision-making and learning processes in a multi-stakeholder environment with objectivity, transparency and participation
- 10. *Transparency:* Stakeholder involvement in the commissioning process will be participatory and consultative. Information/communication systems will be established which will keep all informed.
- The CN should clearly show how these principles will be addressed in this project.

Other aspects, which must be clearly articulated is the collaboration, strength of partnerships in the project development and implementation as well as equitable sharing of the budget. Similarly, the ownership of the innovative system approach and stakeholder participatory research process and results need to be articulated. The project M&E framework and methodology, a strategy for communicating and disseminating the results must be described. The implementation plan must include a well thought out schedule of the necessary activities and delivering of the results and a clear outcome and impact pathways. Key deliverables and milestones should be stated as well.

5 Standard Proposal Format

The standard format forms Section 6 of this Research Call, ref ASARECA-RC11-Staples-01. It is provided as a separate e-file, ref ASARECA_RCnn_format.doc. Please refer to the various points in Section 4 above before proceeding to make detailed use of this file

6. THE RESEARCH CALL REF. ASARECA_RC11_STAPLES-01

<u>Title</u>: INNOVATIONS FOR SUSTAINABLE PRODUCTION AND UTILIZATION OF PEARL MILLET IN DROUGHT PRONE AREAS OF ECA

6.1 Background and Introduction

Pearl millet (*Pennisetum glaucum*) is the most important crop in the drier parts of semi-arid tropics and accounts for almost half of the global production of the millet species from amongst different species of millets cultivated. As general estimate, global millet production is broken down into pearl millet (50%), finger millet (10%) and other millets 40%. Over thirty percent of the population (over 100 million people) of Eastern and Central Africa live in these semi-arid areas and rely on agriculture and livestock as their main livelihood (Omamo et al., 2006²). The communities in these areas depend on millets and sorghum as the main staple crop providing source of food, feed for livestock and source of income. As the conditions become drier, pearl millet is the only crop that is grown where normal rainfall does not permit the reliable production of sorghum.

Pearl millet (together with finger millet) and sorghum rank third in importance among staple crops in ECA (Mgonja et al., 2006³; Omamo et al., 2006). Overall they are fourth in importance (after milk, oil seeds and cassava) in contribution to gross domestic product (GDP) in Eastern and Central Africa (Omamo et al, 2006). In ECA, the area sown to pearl millet is increasing due to its ability to survive under very stressed environments. This has become more apparent in recent times with the effects of climate change where the dry areas are becoming drier. The pearl millet produces grain and fodder under very hot and dry conditions, and on soils too poor for sorghum and maize. Its combination of rapid growth rate when conditions are favorable combined with high temperature tolerance, and ability to extract mineral nutrients and water from even the poorest soils makes it adaptable and impossible to beat in the world's harshest agricultural production environments. Pearl millet is also a very important fall back option in striga infested areas in ECA.

Intense and recurrent droughts associated with climate change in ECA region have increased the urgency with which national policy makers are considering drought tolerant crops. Pearl millet can grow in these environments that are prone to drought and most vulnerable to climate change. The area where pearl millet is important in ECA falls within LLL (low agricultural potential, low market access, and low population density) production domain according to Omamo et al (2006). These areas include some lowland areas of Eritrea, Ethiopia, Western and Northern Sudan, South Eastern Kenya and the central plateau of Tanzania.

In Eritrea, where pearl millet is the second most important crop (after sorghum), it is grown in regions (zobas) of Gash Barka, Anseba and Northern Red Sea. It covers 13% of the farming area and contributes 8% of crop production of the country. Its yield is very low ranging from 0.5 to 0.6 kg/ha for local varieties and 1 ton/ha for improved varieties.

The total area millets in Kenya is about 93,310 ha with and productivity of 0.5 tons/ha. Figures available do not differentiate finger from pearl millets. Pearl millet is, however, important in south eastern Kenya comprising mainly Tharaka, Mbeere, Mwingi, Kitui, Makueni and Baringo.

² Omamo, S.W., Diao Xinshen, Stanley Wood, Jordan Chamberlin, Liangzhi You, Sam Benin, Ulrike Wood-Sichira and Alex Tatwangire (2006). Strategic Priorities for Agricultural Development in Eastern and Central Africa

³ Mgonja, M.A., Shiferwaw B.K. and Mitaru B (2006) An assessment of sorghum and millet sub sector in ECA: Towards better integration and exploitation of productivity enhancement and market opportunities; In Proceedings of ECARSAM stakeholders workshop, Daresalaam, Tanzania, November 20-22, 2006

In Sudan the crop is the second most important cereal after sorghum. It is grown in over 1.5 million hectares of land mainly in western Sudan and areas bordering Eritrea and Ethiopia. Its productivity is very low and is estimated at 0.15 - 0.30 tons/ha.

In Tanzania pearl millet is a major crop particularly in the central plateau comprising of Dodoma, Singinda and Shinyanga regions. Pearl millet covers half of the land under cereal cultivation in these areas and farmers depend on the crop for food security. Millets occupies 250,000 ha to 480,000 ha in Tanzania. This information has not been disaggregated into pearl and finger millet.

The yields for pearl millet are very low (< 200 - 600 kg/ha) and vary from season to season. However, there is potential to increase the yield (to over 800 kg/ha) if improved varieties can be combined with soil and water conservation and management technologies which are easy and affordable.

The semi-arid areas of ECA, (where pearl millet is grown) are also characterized by very low seasonal rainfall (250 – 700mm or less) with extreme variability in occurrence and distribution within and between seasons. Moreover this limited water is not efficiently harnessed and utilized. They also have depleted soils that have become infertile as a result of nutrient mining and erosion, low organic matter which results in poor infiltration rates and low water holding capacity and hence run-off. This situation has over the years resulted in increasing number of people faced with food insecurity and loss of livestock due to lack of feed and water. This call for concept notes, by ASARECA seeks to support a regional innovative research that focuses on pearl millet for sustainable availability of food and feed for improved nutrition and better livelihoods of the people living in these semi-arid areas.

The concept note (CN) should demonstrate a clear understanding of problems and challenges for semi arid areas; and expected results (both outputs and outcomes) for these areas. It should show how this project relates to other ongoing related initiatives in the region. The project should show how integrating pearl millet and livestock resources and harnessing the scarce water and poor soils would result in the sustainable improved productivity of the crop-livestock in drought prone areas. Value addition, processing and marketing issues should be well articulated in the concept note. Other aspects that must be articulated will be about the collaboration and strength and degree of partnerships in the project development and implementation and equitable sharing of the budget. The ownership of the innovation systems approach and stakeholder participatory research processes and results need to be articulated. In addition the up-scaling and out-scaling of the results to other communities and stakeholders, sharing of lessons learnt including best practices on promoting uptake is expected to be an integral component of the project.

6.2 The Problem

Eastern and Central Africa recognize the pivotal role that agriculture has in stimulating economic growth. It has been reported that in ECA the largest GDP gains would be derived from staple crops sub-sectors followed by livestock products (Omamo et al, 2006). Amongst the staple crops, millets and sorghum provide the second largest GDP. Pearl millet is one of the most important crops in very dry areas. It is second only to sorghum. It survives in more harsh environments with and high temperature with very poor soils where sorghum cannot survive. In ECA, pearl millet is primarily grown on soils that are sandy light textured, too dry and too infertile for other cereals. The yields are very low ranging from <200 to 600 kg/hectare. Commercial pearl millet

production is risky because of the absence of effective marketing opportunities meaning that fluctuation in output causes significant price fluctuations, particularly in areas where it is the main food. Furthermore pearl millet has received the least research attention in Eastern and Central Africa and yet it is a very important crop given the current climate changes that have resulted in some areas becoming drier and hotter. The few research findings available indicate enormous potential for expanded pearl millet production and productivity. Agboola (1986)⁴ demonstrated that pearl millet yields can reach 870 kg/ha by improving soil moisture situation without extra fertilizer. He also demonstrated that using N, P and K, increases pearl millet yields up to 1665 - 2250 kg/ha under rain fed crop production environment. Watiki et al $(1998)^5$ evaluated various water harvesting and soil fertility techniques for pearl millet yield performance. He found that there were significant gains in plots where soil fertility improvement technologies were applied in combination with effective water conservation techniques. Tie-ridges which reduce water and soil erosion losses by surface run-off also increased yield. Tie-ridges can be improved by placing mulching in catchment basins. While the natural millet production environment experiences varying limitations, modern crop production technologies when applied in well integrated combinations can greatly improve on farmers' income.

The main constraints to pearl millet production and productivity in these semi-arid areas include limited exploitation of genetic resources, low seasonal rainfall with extreme variability and occurrence; poor soil fertility caused by nutrient mining and erosion, limited availability of improved varieties, diseases and pests, post harvest handling, storage, processing, utilization and marketing; and limited human and infrastructural support work. There very few researchers (breeders, agronomists, pathologists, agro processors) that have focused on pearl millet. Hence there is need to train human resources to support the research and development in pearl millet. There is potential for improvement in pearl millet production and productivity if improved varieties, agronomic methods including water and soil conservation could be harnessed and utilized. These have not been available to the small scale farmers who are the sole producers of the pearl millet in the semi-arid areas. These small scale farmers also need to be trained on application and utilization of these improved technologies. Opportunities along the pearl millet value chain from production to consumption need to be harnessed as key to increased productivity and utilization.

Most of the varieties of pearl millet grown are local or land races which are very low yielding. A number of varieties have been released through collaboration with ICRISAT. For example, in Eritrea, 2 varieties – Kone and Hagaz were released in 2000 and 2004 respectively and a number are in the pipeline; in Kenya three varieties – KAT/PM-1, KAT/PM-2 were released in 1986; while KAT-PM-3 (ICM 221) was released in 1996 (Kanyenji and Ochieng 2004)⁶. A number of varieties have been released in Sudan and several others identified for further testing. Examples of released varieties are Serere composite Z, Iniadi, Okashama 2, GB8735, Sosat C88 and ICMV 221. In Tanzania, DRD in collaboration with ICRISAT released two varieties – Shibe and Okoa

⁴ Agboola A.A (1986). Solving the problem of soil fertility in the Africa Semi-Arid Zones. In proceedings of food grain production in the Semi Arid Workshop, 19-13 May 1986, Nairobi, Kenya

⁵ Watiki J.M., E.M. Gichangi, J.K. Habari, A.M. Karuku and S.N. Ongulu. (1998). The effect of rate and placement of boma manure on maize yield in semi-arid Eastern Kenya. In: Proceedings of 6th Biennial Scientific Conference, KARI, 9th-13th Nov 1998

⁶ Kanyenji B.M and Ochieng W.A (2004). Sorghum and millet industry technical status: In Review of Sorghum and Millet research thrust and production environment in Kenya. KARI Sorghum and Millet report 3, 2004

(Monyo, 2003)⁷. In addition, ICRISAT is conserving 503 pearl millet accessions collected from Tanzania for integration into the breeding programme.

These released varieties have not been adopted by the small scale farmers. It is worthy noting that where they have been disseminated their adoption is largely unknown. There is need to identify alternative seed delivery systems that can stimulate adoption of these varieties. Using farmer groups linked to seed companies and primary schools as seed network have been experimented in Tanzania and promising results obtained. These and other channels need to be evaluated further to identify the best bets. A number of alternative seed delivery models also need to be pursued as a perspective step in establishment of a sustainable seed system.

Pearl millet is mainly grown as a mono crop but occasionally it is intercropped with cowpeas and groundnuts. The dry land on which the crop is grown more often have soils that are depleted of nutrients. The legumes are a possible intervention to provide missing nutrients and replenish the soil nutrients. Hence there is need to integrate the pearl millet with legumes and also livestock. The livestock would provide the manure that would also be used to improve the soils; while the pearl millet straw is in turn used as livestock feed.

The constraints affecting production and productivity of pearl millet based system in semi-arid areas and its contribution to ECA economy and livelihoods can be addressed using research with a focus on the agricultural innovation system (AIS). It is also vital to harness science and technology (S & T) and strengthen linkages among various stakeholders along the production to consumption chain while using AIS approach. The project aims to exploit the opportunities along the pearl millet value chain from production to consumption including marketing processing and product diversification as key to increased productivity and utilization.

The project will focus on the agricultural innovation system, value chain and participatory approaches using selected sites in a minimum of three (3) countries and it is expected that the lessons learnt from these research focal areas will spill over to other member countries with similar agro-ecologies.

6.3 Goal and Objective

The **goal** is sustainable productivity, value added and competitiveness of the Pearl millet in ECA. The **purpose** is enhanced utilization of technologies and innovations for sustainable productivity of pearl millet in ECA.

The **objective** of this project is to unlock the potential of the sub-regional pearl millet system as a strategy for addressing food and nutrition security, incomes and long term environmental management through up scaling of improved varieties, processing and value addition, crop-livestock integration and making efficient and effective use of the limited water resource for millet production. The project will have the following outputs:-

- (a) Increased participatory development and evaluation of pearl millet varieties adapted to ECA for food, improved nutrition and feed for livestock.
- (b) Improved product diversification and strengthening output markets for pearl millet.

⁷ Monyo E.S (2002). Pearl millet cultivars released in the SADC region. Bulawayo, Zimbabwe

- (c) Sustainable gender sensitive technologies and innovations for integrated pearl millet management (including pearl millet/livestock integration)
- (d) Promotion and up scaling of integrated pearl millet production technologies.
- (e) Enhanced capacity of the stakeholders in the utilization of integrated pearl millet technologies.
- (f) Enhanced seed delivery systems for pearl millet in the ECA.

6.4 Method and Approach

The proposed project will build on the work previously initiated by former millet and sorghum network. It also builds on the on-going project on pearl millet previously funded by European Union under the CGS that has been revived and currently is being funded under MDTF. This project only focuses on mapping the pearl millet production environments in Kenya, Tanzania, Sudan and Eritrea, collecting the available germ-plasm and reviewing and documenting existing pearl millet production recommendation in ECA. The focus of the work proposed will be to combine improved technologies (crop varieties and management) with institutional agricultural innovations that increase market access and demand. ASARECA implements all its work within the approach of Agricultural Innovation System (AIS) as a framework for research and development. This approach supports moving away from the linear approach of doing agricultural research for development and promotes the production to consumption, value chain, and policy research institutional arrangements. Therefore, the methodology should be based on AIS and value chain approach right from generation of the technologies to marketing and consumption.

This means great attention should be given to ensuring the necessary multi-institution and multidisciplinary in the partners and project teams and their functions/roles. For each objective or sets of objectives the methodology should define the conceptual and theoretical framework and the frame of reference that will guide the research.

The implementation plan must outline a well thought out schedule of the necessary activities for delivering the results and a clear impact pathway. These activities should include monitoring and evaluation and the process to collate and synthesize lessons. A strategy for communicating the results and lessons learned to stakeholders should be an integral part of the project design and implementation plan. Milestones for measuring progress on project activities and for reflecting on specific outcomes should be stated.

6.6 Budget and Project Duration

The proposed research is expected to take twenty eight (28) months. This period includes 3 months of final report writing. A detailed budget is not required at this stage. A summary budget will suffice. The following should be noted:-

- (a) The amount of funds that will be allocated shall not exceed 1.2 million for a period of 28 months with reasonable allocation of funds across budget categories.
- (b) The grant is not intended to provide funding for core or permanent staff, salary costs or for large capital items e.g. vehicles. Allowable items include but are not necessarily limited to research supplies, non-expendable equipment, costs of dissemination of results, sub-contracts for selected analysis' or services, travel expenses, monitoring and evaluation, and institutional overhead costs.

6.7 Other Points Relating to this Call

- a. The principal investigator must show evidence of having published in an internationally recognized peer reviewed journal or contributed a chapter in a scholarly book published by an internationally reputable publisher within the last two years. Alternatively, the principal investigator must have published in the proceedings of an international scientific conference within the last two years.
- b. The CN should:
 - i. Show innovativess and clearly articulate the added value in the design and implementation of the project.
 - ii. Should have clear and pragmatic strategies to address social equity with emphasis to gender and youth.
 - iii. Include clear descriptions of partnerships and organisational approaches and how attributes of effective partnerships and grassroots client groups will be demonstrated or tested.
 - iv. Demonstrable up-scalability, replicability and sustainability of the results and an exit strategy for the initiative.
 - v. Justification for the budget (items and levels).
 - vi. Indication of the risks that might hinder achievement of objectives of the project in the time frame and the risk mitigation factors.

6.8 Logical Framework

The concept note (CN) should include a logical framework for the project.

6.9 Concept Note Format

See the standard format provided as a separate e-file **ASARECA_RCnn_format.doc** which is part of this call.