

# Phase 2 invitation and guidelines 2021 – Window 2

## Research in growth and transition countries

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## 1. Introduction

The Ministry of Foreign Affairs of Denmark (MFA) provides grants for development research activities as part of Denmark’s international development cooperation. While the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 constitute an overall thematic framework for development cooperation and research, the overall objective of the Danish support to research cooperation is to contribute to new solutions with new knowledge. In accordance with this objective, grants will be awarded to strategic research cooperation which generates new knowledge relevant to the needs and strategies of partner countries, to Denmark’s cooperation with these countries as well as including substantive elements of research capacity strengthening.

The total allocation available for development research funding (Window 1 and Window 2) in 2021 is approximately DKK 180 million.

The deadline for submission of Phase 2 applications in Window 2 is **20 August 2021 13:00hrs CET**, via the Danida Fellowship Centre (DFC) e-application system [SurveyMonkey Apply \(SMA\)](#).

The DFC administers the MFA’s support to development research. For questions concerning the application procedures and in general relating to these guidelines, please contact the DFC Research Management Team at [research@dfcentre.dk](mailto:research@dfcentre.dk).

## **2. Research themes**

The thematic focus areas of the Call are:

1. Renewable energy
2. Environment, including manufacturing, urban development and waste
3. Water resources, including urban water
4. Food quality, including food safety
5. Health systems, including occupational health and safety (OHS)
6. Maritime development.

The country-specific themes are available in Appendix A.

*Please refer to the "Useful links" for information concerning the Danish Strategic Sector Cooperation and the role of sector counsellors.*

## **3. Project duration and grant**

The expected duration of a Window 2 research project is from 18 to 36 months with a maximum grant of DKK 5 million for each project.

## **4. Participating researchers and institutions**

The application must be submitted by the researcher who will, if the project is granted, become the project coordinator (project lead) on behalf of the responsible institution. The application must include nationally registered research partners in growth and transition countries (primary partners) and possibly international, public authorities, and private sector partners (secondary partners).

Experience shows that the project coordinator plays a key role in ensuring that a research collaboration project is successful. An effective engagement/involvement of the project coordinator will entail a substantial workload, noticeably at the beginning of the project.

It is important that the project coordinator and the research team document relevant scientific merits/qualifications and research background within the research topic applied for. A project coordinator may apply for more than one project, but only one project per project coordinator maybe approved for this funding window.

Research collaboration is considered an important means to strengthen research capacity. In order for research partners to benefit from the collaboration, partnerships should be equal, and partners should be able to contribute actively in preparing the Phase 2 application. Other important aspects of equal partnerships include joint fieldwork, joint publishing, knowledge sharing, access to databases and libraries, etc.

Approximately the same level of researcher work time (in man months) on the project is expected between Danish researchers and researchers in the partner country.

In addition to primary research partners, it is strongly encouraged that projects involve partners from the private sector and public authorities in the partner country or in Denmark in the research project, and grant funding can be used for their direct input to project activities, i.e. salaries and travel expenses. Administration fee/overhead cannot be charged. Such secondary partners are encouraged to contribute with additional resources (funding or in-kind) for the projects. International research institutions and research institutions in countries outside Denmark and outside the Danida priority countries can equally be supported by the grant for their direct input to the project activities but no overhead can be charged. A large number of partners may increase the complexity of management structure of projects and it is advised to consider this in the project set-up. Kindly refer to “Guide to making a good application by FFU” under useful links, Section 12.

It is furthermore expected that a project advisory committee is established from the outset of the project, including key stakeholders such as the sector counsellor at the relevant Danish Embassy, and key persons involved in Strategic Sector Cooperation within the theme, and that meetings are held with the committee at least 1-2 times yearly.

**All project participants (including the identified postdoc) of all participating institutions, both primary and secondary partners, must be named in the e-application form in the task: “Project participants”, with their CV uploaded. CVs of private sector participants must include the profile or link to the website of the partner company/private sector institution.**

As the project duration is only up to three years, it is not envisaged that PhD studies can be included. Direct input of ongoing PhD studies may be included if a justification of how this contributes to the project is provided.

Education of Masters Students in the growth and transition countries, but not in Denmark, may be supported if convincing arguments are presented.

Travel grants for Masters Students enrolled at Danish higher education institutions doing field studies as part of their Masters’ thesis can be included in the project budget. Such travel grants must be used for the student to visit the project partner and carry out field studies within the scope of the project.

## **5. Project description**

The application must contain a project description (template provided in the online application system), which must be structured according to the headings indicated below and in the stated order. All headings must be used and none added. It is important to ensure that the application is clear and focused and although there are no requirements regarding the length of each section in the project description, the project description as a whole must not exceed 10 pages, exclusive of references which are in addition to the 10 pages.

The applications for a continuation of an ongoing Window 2 project must include reflections on how the project will build on the previous project and how the continuation adds value and new knowledge.

### **Heading 1: Title and project coordinator**

Project title and name of project coordinator as stated in the electronic application.

## **Heading 2: State of the art and rationale**

As an introduction to the objectives of the research, this section should include a state-of-the-art literature review and an outline of how new knowledge will be generated on the topic concerned. This will highlight how the proposed research relates to prior and on-going investigations on the chosen theme.

## **Heading 3: Relevance**

A brief summary of the importance of the project with respect to the national sector policies, Danish Strategic Sector Cooperation, and the Sustainable Development Goals (SDGs).

## **Heading 4: Objectives**

Objectives are defined as what the project aims to achieve in the long term. Achieving the objectives is the impact of the research. Objectives and possible associated research hypotheses must address the following:

- Drive the “state of the art” forward;
- Address clearly defined research issues;
- Provide new knowledge and be innovative;
- Include substantive elements of research capacity strengthening.

(The objectives must correspond to the objectives in the LogFrame uploaded with the e-application form).

## **Heading 5: Expected outcomes and outputs**

The main scientific results and research capacity building initiatives must be listed. Outcomes are what the project aims to achieve in the short and medium term and are the result of project outputs as well factors beyond direct control (such as policy changes and/or practices of stakeholders/users of project outputs). Outputs are produced as a direct result of activities, e.g. seminars and publications.

(The outcomes and outputs must correspond to the outcomes and outputs in the LogFrame uploaded with the e-application form).

## **Heading 6: Methodology**

In describing the methodology, design, and research capacity strengthening, this section should include the following:

- Methods and project design to address the selected objectives;
- Approaches to research capacity development;
- Ethical considerations (where relevant);
- How the research adheres to Danish and partner country requirements concerning research permits and provision of information to relevant authorities.

## **Heading 7: Overview of the research plan**

This section will include the proposed timetable, milestones and resource allocation by the participating parties. Joint fieldwork should be described both in terms of time allocation for researchers and in proposed work packages.

## **Heading 8: Organisation and management**

Based on a summary of the scientific and managerial competences of the research partners, this section will include outlines of the following:

- Research and institutional capacities;

- Management, coordination and collaborative arrangements proposed for the research project including with the Strategic Sector Cooperation Partners (and advisers, as appropriate);
- Coordination with other related research capacity strengthening initiatives.

### **Heading 9: Capacity strengthening**

This section will include a description of how the strengthening of research capacity will increase the quality and competitiveness of participating institutions (research environments), notably through the following:

- Facilitation of access to and use of scientific literature;
- Training of senior researchers and teams to design and manage research and to produce, document, and disseminate results;
- Support for equipping and running laboratories and other facilities;
- Access to databases and libraries.

### **Heading 10: Partnerships**

In terms of collaborative partnerships, this section should outline how the research will draw on and cooperate with related international projects, including participation in research networks, conferences, etc. Perspectives for collaboration with public and private sector must also be highlighted.

### **Heading 11: Publication and dissemination strategy**

A dissemination plan will be outlined, indicating the expected results and how these will influence policies and actions, as well as joint publication and knowledge sharing. The planned dissemination outputs should be clear, including how the project will engage with the stakeholders and how the main outputs will be communicated.

### **List of references**

Attach a list of principal publications, etc. used in the research project description.

## **6. Assessment criteria**

The Consultative Research Committee for Development Research (FFU) is tasked with assisting the MFA by providing professional and scientific advice in relation to the Phase 2 applications. See under “Useful links” for more information.

The FFU assesses the Phase 2 applications on the basis of four criteria: scientific quality, relevance, the potential effect, and feasibility.

The scientific quality is assessed on the basis of the following sub-criteria:

- *The research experience and qualifications of the project coordinator and the team;*
- *The originality and innovative nature of the project, in terms of generating new knowledge.*

The relevance is assessed on the basis of the following sub-criteria:

- *The focus of the project is well-defined with respect to the announced research theme in the chosen partner country;*
- *The project contributes to the overall objectives of the Danish strategic sector cooperation in the country;*
- *Preferably, the project includes public and private sector partners.*

The potential effect is assessed on the basis of the following sub-criteria:

- *The potential direct effects with respect to the selected sustainable development goal (s);*
- *The effects of the project in terms of the partnerships with public and private sector which could take the research to the next level;*
- *Strengthened research capacity, which should add value for both the Danish and the partner institution.*

The feasibility is assessed on the basis of the following sub-criteria:

- *The management structure for the research project;*
- *The project coordinator's managerial skills and previous experience with research in developing countries;*
- *The proposed design and activities;*
- *The project design for research in fragile countries, where applicable.*

It must be clear that the proposal constitutes a genuine research project rather than being only registration of data, commissioned research, a product development, demonstration project, technology transfer, consultancy, or development project.

A justification for the gender composition of the team should be included in the project description, and/or reflections on how gender bias has been addressed or considered in the final composition of the team.

In the assessment of applications for a continuation of a previous grant, the value-added of an extension project will be considered, including how the extension project builds upon the outputs and outcomes of the previous grant. The latest reporting of these projects will be part of the assessment.

Phase 2 applications will be forwarded to international scientific peer reviewers (two per application) for review of the scientific quality of the proposed project. To facilitate the peer reviewing process, applicants are requested to suggest suitable peer reviewers within their scientific field in the e-application form. After the peer reviewing process, an applicant hearing process will take place. The purpose of this hearing is to give the applicant and the co-applicants the opportunity to correct possible misunderstandings in the peer reviews received to an application.

The scientific quality of the Phase 2 applications will be assessed by the FFU and approved by the Innovation Fund Denmark, cf. section 5, subsection 1 of the Act on Innovation Fund Denmark no. 306 of March 29, 2014, amended in Act no. 384 of April 26, 2017.

The MFA will select the projects for funding based on the FFU assessment of the applications according to the above criteria. If the total number of qualified applications exceeds the available funding allocation, the MFA will select the best projects based on the FFU assessments of the above criteria.

## 7. Application process in Phase 2

<b>Phase 2 – 2021/22</b>	<b>Aug</b>	Deadline for Phase 2 applications: <b>20 August 2021 13:00hrs CET</b> DFC administrative screening and administrative rejections
	<b>Sept - Oct</b>	Peer reviewing and applicant hearing
	<b>Nov</b>	FFU assessment of Phase 2 applications
	<b>Dec</b>	Innovation Fund Denmark's approval of the FFU scientific quality assessment MFA selection Reply to applicants Letters of Commitment to approved projects
	<b>Jan - Feb</b>	Agreement on budget, etc. <b>Letters of Grant</b>
	<b>Jan - Feb</b>	<b>Granted projects endorse Letter of Grant and can start up project activities</b>

## 8. Project costs

The maximum grant is DKK 5 million for a project of 18-36 months' duration. The budget must ensure that all costs are covered and that sufficient resources are allocated to the implementation of the project. Budget margins are not accepted. It is not possible to apply for supplementary funds within the project period, and funding cannot be granted to cover costs already incurred.

The budget must be uploaded with the e-application and must contain a budget for each primary and secondary research partner, as detailed below. The budget forms must be filled in with the amounts applied for (not including co-funding). International research institutions, partners in countries outside the Danida priority country, national authorities, and private sector partners can only be supported for direct input to project activities, i.e. salaries and travel expenses, and no overhead (administration fees) can be covered.

Cost for salaries and travel of secondary partners must be included in the budget administered by the responsible institution or a primary partner institution in the growth and transition country. It is not possible to charge overhead for the administration of secondary partners and the budget (salaries, travel and fieldwork expenses) must be added to the budget of the institution responsible for the administration of the secondary partner(s) under budget line 10. The calculation of the total budget should therefore not include the individual budget of secondary partners, as these will have to be included in the budget of the primary partner(s) responsible for the administration.

It is expected that research institutions in partner countries will provide a monetary or in-kind contribution to the project, but no fixed percentage has been set. Co-funding may be provided in the form of monetary contributions or as payment 'in kind', i.e. by making equipment, staff, etc. available, in which case this should be detailed in the budget notes. Co-funding from the Main Applicant is encouraged.

When planning the project and setting up the budget, you may consult the current [General Conditions](#) for on-going FFU projects. The approved budgets and projects must be in accordance with and follow these conditions.

## **9. Eligible budget items**

### **Salaries and emoluments**

Salaries for staff must follow the appropriate tariffs applying to the local institution in question. It is not accepted that staff is paid allowances on top of the salaries already received from the institution. Salaries are either compensation/replacement salary paid to the institution for the time the staff allocates to the project, or compensation payment for over-time, either hourly or performance based. In the case of over-time payment, a written agreement must be entered between the institution and the researcher. Double salaries and payment of consultancy fees will not be accepted.

With the endorsement by the Head of Institution/Department, the responsible institution verifies that the budgeted project salaries and fees comply with applicable collective labour agreements. The responsible institution must also ensure that current tariffs for remuneration at all partner institutions are applied and that salaries in the budget are based on gross salaries.

It is the responsibility of the applicant institution to ensure that the budget for salaries includes any additional allowances, holiday allowances, labour market pension schemes, pension contributions, salary increases triggered by labour market agreements and seniority, etc. No additional funding can be provided in connection with illness and parental leave, but time extensions are possible according to the rules in force.

The participating institutions are responsible for insurance of project personnel.

### **Tuition fees/ educational grants**

Tuition fees and educational grants can be covered for Masters Students from growth and transition countries. The educational grants must follow the rules and regulations of the institution in question. The educational grant is placed at the disposal of the institution and is intended to cover expenses such as supervision and courses. Such expenses can thus not be covered under other budget lines.

### **Expenses for trips and fieldwork**

Project staff can only receive per diem and other reimbursable costs according to their institution's rules, regulations, and cost-norms. However, should local per diem rules exceed the applicable rates according to Danish rules then the Danish rules must be applied. The cheapest fare should equally be applied. Budgeted travel must be justified and directly related to project activities. The table for planned travel, being part of the budget form, must correspond with the travel expenses.

If a researcher is not covered by personal insurance or similar, an amount for health insurance per month for travel outside the home country may be included.

Travel grants (direct travel costs and accommodation expenses) for Masters Students from Denmark can be included in this budget line.

### **Research equipment and material**

All purchases must be in accordance with international and national procurement regulations. The budget items for project and research equipment cover the expenditure of acquiring necessary equipment, apparatus, literature, IT equipment, insurance, etc. A project vehicle can only be purchased for local transport in exceptional cases where there is a need for frequent field trips, and where it is obviously the least expensive form of transport. If purchase of a project vehicle is included, the budget notes must include a comparison of the cost of purchasing and using the car compared with other forms of transport.

Project expenses must not include VAT, in case it is possible for the South/Danish institution to receive VAT refund.

Projects administered by a government institution should apply the rules of state self-insurance and, outside Denmark, otherwise secure the insurance of equipment.

### **Publication, dissemination and outreach**

Under this budget item, expenditure for ongoing, current or subsequent dissemination and publication of research findings may be included, for instance:

- Publishing of reports, etc.;
- Minor publications for local dissemination;
- Production of materials for dissemination through a website and other electronic media;
- Participation in conferences if the applicant delivers a poster or paper presentation;
- Holding of workshops and seminars (local expenses);
- Alternative forms of dissemination.

Publication of research results in open access journals is strongly encouraged and the costs should be included in the budget.

Travel expenses and salaries in connection with workshops and conferences must be included under their respective budget lines.

### **Overhead/administration fees**

For project grants administered by a government institution or a self-governing institution registered as having an account on the Appropriations Act, the Ministry of Finance's rules governing grant-financed research activity included in the Ministry of Finance's budget guidelines are to be followed. This implies that project support granted through a process of competition, the overhead as a maximum follow the rates below.

<b>Institution/enterprise type</b>	<b>Overhead</b>
Danish institutions (including universities and government research institutes) which are subject to the rules regarding grant-funded research activities in the Danish Ministry of Finance's budget guidelines, and which are authorized to carry out grant-funded research activities	44 %
Danish Authorized Technological Service Institutes (GTS-institutter)	20 %
Danish institutions meeting all the following criteria: <ul style="list-style-type: none"> <li>• Receive and are expected to continue receiving a fixed state subsidy of minimum 25 % (measured in relation to total annual turnover) to cover operating costs;</li> <li>• Are non-profit institutions which do not seek to generate profit, and where any profit may not be distributed among the owners;</li> <li>• Carry out research as a central purpose.</li> </ul>	20 %
Public Danish hospitals	3.1 %
Danish state-recognised museums (cf. The Danish Museum Act)	3.1 %
All other Danish institutions and companies	0 %
South-based research institutions (non-profit institutions depending on local conditions)	Max. 20 %

Overheads are calculated as a fixed percentage of direct costs. Direct costs are costs incurred as a direct result of research activities. No overhead can be charged by the Danish institution for funds transferred to their partners.

The following general administration costs are considered to be covered by the overhead:

- Management involvement in the co-operation and coordination of the project;
- Recurrent office and office set-up expenses (office furniture, rent, cleaning, stationery, transport, electricity and water, support staff, and other general operating expenses);
- Expenses related to staff carrying out general administrative tasks, such as budget and accounting tasks.

Additional funds cannot be allocated to these types of expenses over and above the overhead.

Overhead cannot be included for secondary partners, i.e. international partner institutions, institutions outside the Danida priority/partner countries, private sector partners and national authorities; as such institutions can only be supported for their direct input to project activities. For institutions not eligible to charge overhead of direct input, a gross salary rate must be used and follow the appropriate rate of the institution.

### **Research stays in Denmark of up to six months' duration for researchers from partner institutions**

[DFC's administrative services](#) for stays in Denmark for senior researchers are optional. The budget figures for 2021 can be found [here](#).

### **Secondary partner(s)**

Secondary partners can only be included for their direct input (i.e. salaries and travel expenses), and their budget share must be included under the budget for the responsible institution, or a relevant

primary partner institution. No overhead can be charged for managing a secondary partners' budget. Expenses for secondary partners must be included in the audit of the institution managing their budget share.

### **Audit**

The annual accounts (Danish and partners') must be audited by an external auditor. If the Danish institution is subject to audit by the National Audit Office of Denmark, a management endorsement to this effect can substitute an annual audit. A statement certifying that the partners' accounts are audited without any qualifications must be included in the annual accounts.

The final accounts must be externally audited, and the audit is to include the entire set of project accounts, including all project partners' accounts. The maximum amount to be used for annual audits is DKK 15,000 per year per primary partner for whom audit is required, and DKK 20,000 for the final audit for the responsible institution and DKK 20,000 per primary partner for whom audit is required. The funds for audit are earmarked. Additional expenses will not be accepted, but must be borne by the institution's overhead. The audit expenses are not subject to overhead.

## **10. E-application information and content**

Submission of a Phase 2 application must be done via the e-application system SurveyMonkey Apply (SMA). The e-application system is accessible [here](#). A video tutorial for the phase 2 application can be found [here](#).

After submitting the application, the applicant will receive an e-mail acknowledging receipt. It is also possible to see whether an application has been submitted or not under "My applications". If any doubt occurs as to whether an application has been submitted or not, the applicant should send an e-mail to [research@dfcentre.dk](mailto:research@dfcentre.dk) to enquire whether the application has been submitted. This must be done before the deadline, since applications will not be accepted after deadline.

The Phase 2 application must comprise the completed **e-application form, including project description, Logframe, budget, CVs and endorsements.**

**Project Description:** Must contain the headings as described in Section 5. The text format must be Verdana, 10-pt font size, with at least 2 cm left and right margins and at least 13-pt line spacing. The project description must be maximum 10 pages, exclusive of references which are in addition to the 10 pages.

**Logframe:** The provided format must be used. A video tutorial of the logframe format will be made available [here](#).

**Budget:** The provided budget format must be used. The template is found in the online application system under the relevant task. Remember to include budget notes.

**CVs:** The CVs must specify the scientific qualifications, managerial skills, and experience from developing countries, and must include a list of key publications and patents relevant for the application. The length of the CVs must be no more than 2 pages per person. Signature on CVs is not required. CVs of private sector partners must include a profile or link to the webpage of the company/private sector institution.

**Endorsements:** The endorsements are mandatory by the Head of the responsible institution/ department, project coordinator, other project participants and head of respective partner institutions as per the e-application form. Please note that the completed endorsements by the Head of institution/department and project participants must match the names filled out in the Tasks: Basic information and Project participants, respectively. Please note that you need all endorsements completed, not just requested, before you can submit your application.

All tasks in the e-application form must be completed, and the application including appendices must be written in English. Only the required appendices will be considered. The appendices must be named "CV - Name of the researcher/project participant"

Please ensure that you are able to preview and download the attachments prior to submission, as any missing or incorrect attachments will be viewed as not submitted.

Once you have created an application form, you can save and resume work at any time by using the "continue" button in your "My applications" overview.

Your partners can access the application by inviting them as collaborators (see the video tutorial for the Phase 2 application for further details).

It is advised not to wait until the last minute before deadline to submit the application, to account for any unforeseen issues on the applicant's side. Please pay special attention to the requirement of endorsements through the e-application system from all project participants as well as from heads of institution of all involved institutions.

## **11. Obligations**

Applicants should familiarize themselves with the following before using the e-application system and submitting an application.

### **The responsibility of the applying institution**

The applying institution is responsible for ensuring that all information in the e-application is correct, that the required appendices are successfully uploaded with the e-application, that the contents of the appendices are correct, and that the e-application has been submitted before the set deadline.

It is not possible to make corrections to an e-application after it has been submitted, except for corrections related to basic applicant information such as change of e-mail address.

In the event of any subsequent substantive changes affecting the information submitted, the applying institution must immediately notify the DFC Research Management Team at [research@dfcentre.dk](mailto:research@dfcentre.dk).

The application must reflect possible legal, regulatory or ethical issues and considerations, including required standards or authorization requirements (such as production standards, quality systems, scientific ethics, data handling and protection, use of animals), as well as research permits, provision of information to relevant authorities, etc., and a plan for obtaining these.

### **Storage of information and data protection**

When the e-application system is used, the system will automatically register the applicant's identity, IP address, and the time at which the application was created or last edited. All personal

data will be processed, stored and deleted in accordance with the EU General Data Protection Regulation (GDPR) and [DFC Privacy Policy](#). We also refer to the [privacy policy of Innovation Fund Denmark](#) being the institution approving the scientific quality assessment made by the FFU in the Phase 2 of the application process.

### **Technical disclaimer**

The DFC is obliged to inform prospective applicants of any system errors that make the e-application system unavailable, affecting the applicant's possibility of submitting e-applications within any deadlines. Information regarding such unavailability, and other unforeseen events, will be posted on the [DFC website](#).

The DFC accepts no liability for incorrect information due to software errors, calculation errors, transmission errors and similar errors, or for any claims for damages due to incorrect use of the e-application system.

### **Rejection of applications without substantive consideration**

An application will be rejected by DFC without substantive consideration by the FFU and the MFA if the requirements concerning the eligibility of applicants and countries, the application format and attachments, and the deadlines as set out in these guidelines are not met.

Requirements for the application to be considered by the FFU and the MFA:

- The application must be submitted via the electronic application system (SurveyMonkey Apply);
- The application must be submitted within the set deadline;
- The application must include the correct attachments: CVs, budget and project description, as set out in these guidelines. All attachments must be complete and successfully uploaded;
- The application must be endorsed by the project coordinator, all project participants and heads of institution from the responsible institution and from partner institutions. Names of endorsers must match the names of project participants and heads of institution;
- If an endorsement is provided by another person on behalf of, and by mandate from, a head of institution, this must be noted in the comment for the endorsement.
- The application must include at least one nationally registered research partner in growth and transition countries.

### **Other data which may be obtained by official bodies**

The MFA and the FFU reserve the right to obtain information about any previous and current applications which an applicant may have submitted to the FFU, and this information may be included in processing of the e-application.

In the event that project funding has been or will be applied for from elsewhere, the MFA and the FFU reserve the right to obtain information as to whether such amount has been granted.

### **Use of funding for other purposes**

The MFA may, at its discretion, decide that a proportion of the funding available is to be used for other research cooperation.

### **Announcement and public information about grants**

Information about granted projects will be published by the DFC: applicant name, title, workplace, title of application and granted amount. In addition, information on participating institutions, the popular science description for the project, and summary of project progress/results will be published in the [Danida Research Portal](#). Therefore, applicants should only include information in these parts of their application (and reporting) which does not reveal information that they wish to keep out of the public domain.

### **12. Useful links**

[Sustainable Development Goals](#)

[Strategic Sector Cooperation](#)

[Guide to sector counsellors Window 2](#)

[The Consultative Research Committee \(FFU\)](#)

[Guide to making a good application by the FFU](#)

## **Appendix A – Research themes for Window 2**

The global 2030 agenda and the seventeen United Nations Sustainable Development Goals (SDGs) constitute an important framework for development cooperation and for funding research. It is envisaged that research projects and collaboration with respect to the selected research themes will be undertaken within the context of the relevant SDGs and that these will be reflected in the justification for the research proposed. As indicated in the following, the thematic focus areas of the Call are country specific and have been determined on the basis of the Strategic Sector Cooperation (SSC) agreements in each of the countries.

### **1. Renewable energy**

#### **Egypt**

Egypt possesses an abundance of land as well as high wind potential making it a prime location for renewable energy production. There are currently both opportunities as well as the political will to transform the energy sector from being based mainly on fossil fuels to renewable energy, as noted in both the sustainable development strategy for 2030 and the renewable energy plan for 2035. The Government intends to supply 20 percent of generated electricity from renewable sources by 2022 and 42 percent by 2030. Simultaneously there is a strong focus on energy efficiency, especially in the many new cities that are being constructed in order to ease the pressure on the population growth in Cairo.

As Strategic Sector Cooperation (SSC) focuses on wind energy, research into topics such as power sector planning and modelling, the integration of renewables in the power sector and project development would be useful. Other topics such as energy efficiency, district cooling and smart grids would also support the SSC. A regional research focus towards North Africa and/or the Middle East for all the mentioned topics would be highly relevant.

#### **Ethiopia**

Ethiopia has immense renewable energy generation potential based upon its natural resources (hydro, wind, solar and geothermal). It is a high priority for the Government to expand electricity generation capacity to cover national demand, as well as to export electricity to neighboring countries. Current electricity generation is dominated by hydro-power, but the planned capacity expansion will be more diversified and geographically distributed, with a significant share of wind, solar and geothermal power.

The Ethiopian electric power system is characterized by excess demand and lack of stability reducing the security of supply as well as frequent outages. It is a target to enable access to electricity for all by 2025. In this respect further research would be useful, covering topics such as additional energy planning and modelling tools, the role of water as both a source for irrigation and for balancing electricity systems, the integration of renewables into mini-grids and data availability concerning renewable resources like wind.

#### **Indonesia**

There are plans to increase power generation capacity in Indonesia by over 50-60 percent in the next five years, with a significant share from coal-fired facilities. An increased focus on renewables

and on energy savings can contribute to the overall objective of reducing greenhouse gas emissions by 29 percent by 2030 and reaching the target of 23 percent renewable energy in 2025. Intensifying the use of expertise pertaining to renewable energy and energy efficiency is a key component of Strategic sector cooperation (SSC). Within this framework, activities have been developed around energy modelling, planning and integration. Another topic is interconnection and developing smart grids to increase flexibility, robustness and energy security. Further research on energy modelling, the integration of renewable energy and energy markets could complement these efforts, while research in models for increased energy efficiency will contribute to the objectives of the SSC.

## **2. Environment, including manufacturing, urban development and waste**

### **Indonesia**

Indonesia is facing serious waste challenges especially in large and rapidly growing cities. City governments have to deal with increasing amounts of solid waste with inadequate management systems. Challenges include the lack of capacity among the different responsible authorities to enforce the waste regulations, lack of awareness on waste reduction, recycling and the benefits of the circular economy amongst the government, the private sector and the general public. There is also a lack of separate financing mechanisms for waste management.

Strategic sector cooperation (SSC) aims to improve municipal solid waste management and resource efficiency through the concept of the circular economy thereby addressing environmental, economic and health issues. Research is needed to: i) model the concept of the circular economy with various Indonesian stakeholders in order to foster public-private partnerships within the area of solid waste management as well as other sectors; and ii) address barriers and challenges affecting the development and implementation of regulations and policies to improve framework conditions within the sector of solid waste management.

### **Kenya**

Strategic sector cooperation (SSC) aims to make the circular economy the guiding framework for Kenya's manufacturing sector. The focus and starting point is resource efficient industrial production and development with a view to supporting structural changes in the wider eco-system, e.g. urban development, water and waste utilities management as well as material flows. The SSC is based on multi-stakeholder cooperation between the Danish and Kenyan environmental authorities, research institutions, organizations and the business sector. In phase 1 (2015-2020) Denmark assisted in the formulation of the new waste bill. The upcoming phase 2 will shift the focus towards supporting implementation of this bill. This will include environmental data provision and management, waste management, water management, cleaner production, enhanced regulatory and circular business models, sustainable industrial clustering and design and innovative circular models for urban planning and development. Key areas of strategic interest are interventions that can help to increase resource productivity and economic growth, in particular within food waste systems and organic residuals/bio-economy, water and wastewater, housing and construction as well as models for recycling and refurbishing, packaging, systems optimization and capacity utilization, financial and market acceleration models and production optimization.

An established public private partnership comprising research institutions, public authorities and 35 diverse manufacturing companies located in a mixed industrial area with human settlements is the

basis for the SSC. However, the approach is nationwide. Within the framework as outlined there are numerous possible research topics associated with developing the circular economy.

## **South Africa**

Skewed and segregated socio-spatial planning during the apartheid era has resulted in “disintegrated” and unequal South African cities. The City of Tshwane (Pretoria) is experiencing rapid population growth, urban sprawl and inner city dilapidation. This puts immense pressure on the administration to transform the social and urban landscape and deliver sustainable water and sanitation, green transport infrastructure, safety and employment opportunities.

Strategic sector cooperation (SSC) addresses some of these challenges through a city-city collaboration that aims to strengthen the City of Tshwane’s project organization, as well as planning documents and integrated planning methodologies. The collaboration draws on the City of Aarhus’s best practice planning tools, experiences with innovative project organization as well as technical solutions. Private sector developers and knowledge institutions in both countries are an integrated part of the collaboration with regard to technical solutions, knowledge transfer and capacity building. The focus is on: a) green and non-motorised transport; b) non-revenue-water and conduit hydro power; c) the design of public spaces; d) mixed-use developments. Research into the dynamics of sustainable cities would be a valuable complement to these efforts.

### **3. Water resources, including urban water**

#### **Ghana**

Ghana’s urban population is growing fast and there is strong demand for improved services, infrastructure and livelihoods. The largest urban area and main growth center is the Greater Accra area, including the City of Tema. A growing urban population is an asset for growth but also a challenge in terms of the livability and sustainability of the city. The pressure on infrastructure is huge e.g. urban water, water management and climate resilience.

Strategic sector cooperation (SSC) aims to address these challenges and focuses on water and cities. The partners directly involved are the City of Aarhus and Aarhus Vand (water), and the City of Tema and the Ghana Water Company. Phase 1 of the SSC was launched February 2020 and despite the global pandemic there has been good progress and a large network with other development partners in Ghana has been developed. In this context the following overall research needs and topics have crystalized: i) Socio-economic impact in the city of Tema of climate change and its related water infrastructure challenges; ii) Urban planning requirements in a city characterized by informal development; iii) the financial viability of water and wastewater services in an urban context (including resource efficiency, financial, legal and societal incentives, tariff structures, subsidies and willingness to pay); and iv) Innovative approaches and models for the reduction of non-revenue water and improvement of wastewater management.

#### **South Africa**

South Africa is a water scarce country and is currently facing a looming crisis due to a massive backlog in water infrastructure maintenance and investment, as well as recurrent droughts driven by climatic variation and further deteriorating water quality. A water research development and innovation roadmap has been drawn up that identifies research and innovation needs and gaps.

The roadmap indicates the following focus areas:

- Unlocking alternative sources of water with reuse, improved groundwater utilization, desalination and harnessing of storm water, where research needs include assessment, monitoring and social dimensions;
- Exploring ecological (natural water bodies) and built water infrastructure, including landscape level assessment of ecological infrastructure as an alternative to building, the management of ecological infrastructure and “green” water balances (ecological flow assessments; river basin scale hydro-economics; reservoir, river and lake restoration);
- Ensuring greater water efficiency and reduced losses, with associated technical, institutional, operational and social behavioural challenges as well as next generation technology for water efficiency in industries, agriculture and households.
- Applicable water governance, institutional structuring, costing and revenue models that can restore the revenue stream and ensure funding for the urgently needed water infrastructure investments that are needed to ensure sustainable and secure water supply and sanitation in the future.

#### **4. Food quality, including food safety**

##### **Kenya**

The objective of Strategic sector cooperation (SSC) is to improve the food safety, food quality and ability to further process healthy food originating from the horticulture and dairy sectors with emphasis on the control of residues and certain contaminants for the benefit of the Kenyan population and for increased export. This entails introducing a more risk-based and preventive approach to food safety aligned with a value chain focus. Food safety issues are addressed in three ways: i) regulatory and operational capacity building in food and feed safety authorities; ii) the development of the food and feed safety control system with an emphasis on value added in the dairy sector; and, iii) development of the food safety control system with an emphasis on value added in the fresh fruit and vegetable produce sectors. Further research on these topics would be beneficial.

##### **Indonesia**

Development of the agricultural sector is part of the Indonesian government’s strategy to increase wealth, welfare, the standard of living, independence and food self-sufficiency. Danish expertise can support innovative and sustainable food production, as well as knowledge and technical solutions within the food sector. National dairy production only covers around 22 percent of demand, making the country very dependent on imports. In addition, rapid population growth puts the country under enormous pressure to meet domestic demand for milk. Production is based on smallholder farms with very low capacity, low output, limited resources and often-limited framework conditions, such as limited or no access to land and feed, limited access to collection and lack of cold chain infrastructure, poor hygiene, etc. Thus, the Government’s ambition is to promote sustainable development of the dairy sector in order to contribute to the improvement of food safety, as well as to improve the nutritional status of the population.

With a growing population, there is increasing demand for safe and high quality food. The promotion of organic dairy production is considered as a means to improve milk quality to support a

sustainable development of the industry. Organic dairying will work as an incentive for increasing the motivation and welfare of farmers and at the same time produce safe and high quality food products for the benefit of the Indonesian population. The focus of the SSC is on ensuring that the current legislation is sufficient to improve the framework conditions for the value chain of organic dairy production and organic control mechanisms. In this context there are opportunities for research into legislation and public health regulations, etc.

## **Vietnam**

Strategic Sector Cooperation (SSC) between Denmark and Vietnam focuses on food safety in the pork value chain. A key concern in Vietnam is the routine use of antibiotics and other compounds to prevent and manage diseases in order to sustain productivity and as part of biosecurity measures. There is an urgent need to reduce the use of antibiotics through, e.g., the implementation of prudent use practices related to antibiotics, improved hygiene and biosecurity measures, disease surveillance and disease prevention through vaccination.

Research is needed to guide the adoption of prudent antibiotic use practices with a starting point in the legislative framework in Vietnam and consistent with a "one health" approach. This may include determining the actual disease risk and status, as well as drivers of current antibiotics use practices and antimicrobial resistance. It is expected that the research will be inter-disciplinary and include intervention and solution-oriented activities with a view to determine the role of relevant stakeholders in achieving behavioral change in antibiotic use practices. Finally, the research should recommend innovative solutions to reduce antibiotic use and resistance that will work in the Vietnamese context.

## **5. Health systems including occupational health and safety (OHS)**

### **Bangladesh**

The economy of Bangladesh is growing fast and the readymade garment sector is the backbone of the economy as a source of employment and export earnings. After largescale deadly accidents in 2012 and 2013, the international community, including international textile companies, reacted strongly to ensure control and improvement of textile factory safety with a focus on building construction and fire hazards. However, other aspects of occupational health and safety and other sectors have not received similar attention. A number of occupational and environmental risks are present in Bangladesh across all sectors.

The objective of Strategic sector cooperation (SSC) is to improve worker's occupational health and safety in Bangladesh through strengthening the Ministry of Labour and Employment (MoLE) and the Department for Inspection of Factories and Establishments (DIFE) by use of Danish authority (DWEA) systems and knowledge. While the first phase focused mainly on the education of master trainers and development of national guidelines with a focus on the textile sector, the second phase focuses on: i) Master trainers; and, ii) Management and planning within DIFE and MoLE. An increased focus on other sectors with significant risks (e.g. construction, shipbreaking) is foreseen. Thus, further research to address the improvement of occupational health and safety in broad terms, including environmental concerns, would be appropriate.

## **Vietnam**

The prevention and treatment of non-communicable diseases (NCDs) in primary healthcare is in focus through Strategic sector cooperation (SSC). In Vietnam, as in many low and middle-income countries, the existing healthcare system is oriented towards infectious diseases. As a result, the system is poorly equipped to handle the growing prevalence of NCDs. There are direct consequences for especially for the poor, who are affected by the diseases and by lack of access to prevention and long-term care. A reorientation of the healthcare system with investment in the prevention and treatment of NCDs at the primary level and with new attention to patient self-care and involvement is underway. An essential prerequisite for success in this field is knowledge on how NCDs are experienced and handled by patients, relatives and healthcare professionals. Therefore, further research into these topics would be highly beneficial.

## **6. Maritime development**

### **Ghana**

The Gulf of Guinea is the key trade route and an important livelihood resource for both Ghana and West Africa. More than 90 percent of traded goods are transported by sea. As of July 2019, Ghana possesses one of the most advanced and deepest container terminals on the African continent. Within five years, Ghana expects to enhance container-handling capacity from 800,000 to 3,500,000 containers per year. A growing middle class and focus on infrastructure projects makes this prospect seem within reach.

Major challenges are to ensure that the economic potential of the Gulf is realised in a sustainable and safe manner and to combat piracy, presently on the rise. The overall objective of Strategic sector cooperation (SSC) is to build capacity and strengthen the framework conditions for the maritime sector in Ghana through government-to-government cooperation. The specific purposes are to enhance the capabilities in key maritime institutions and to promote a maritime regulatory and enforcement environment compliant with international standards.

As Ghana and Nigeria are collaborating on a maritime security programme, research themes could include maritime security as well as the commercial and economic impact of piracy. Other themes could be the socio-economic impact of port expansion and other maritime infrastructure investments, and the political economy of modernising and streamlining container handling. Finally, the following topics might be included in future SSC activities:

- the sustainable use of the maritime domain including *fisheries* – the fisheries Act is expected to be revised - and the coastal environment;
- *Green and sustainable harbours* including waste and water management in commercial ports;
- *Global Sulphur Cap 2020* on reducing sulphur oxide emissions from ships, improving air quality and protecting the environment.

### **Kenya**

The overall objective of Strategic sector cooperation (SSC) between Denmark and Kenya will be to promote economic growth and capacity development through improved framework conditions for the Kenyan maritime sector, which contributes to establishing favourable prerequisites for a free

competition and a maritime level playing field that benefits both countries. The specific purposes are to enhance the capabilities in key maritime institutions in Kenya through government-to-government cooperation.

The government of Kenya has signed a deal to expand the port of Mombasa, seeking to boost efficiency at the key transport hub of East Africa. Further research into, inter alia transport efficiency, the integration of hinterland terminals, liner shipping connectivity and port infrastructure on trade flows, job creation, etc. could complement these efforts.