

Phase 2 invitation and guidelines 2020 – 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.

Within this framework, the MFA invites **Phase 2 applications** for grants related to development research with partners in growth and transition countries (Window 2)¹. Phase 2 is the submission of a full application only by those selected (“prequalified”) in Phase 1 in 2020. The announced research themes, time and budget frames as well as other selection conditions stated in these guidelines also apply to the prequalified extension project applications.

¹ The guidelines for research in Danida priority countries (Window 1) are available at [DFC's homepage](#).

The total allocation available for both development research funding windows in 2020 is approximately 200 million DKK. However, due to the Covid-19 pandemic, adjustments may be necessary, such that the overall allocation for 2020 is subject to further approval by the MFA

The deadline for submission of Phase 2 applications in Window 2 is **21 August 2020 13:00hrs CET**, via the Danida Fellowship Centre (DFC) e-application system (e-fond). The DFC administers the MFA's support to development research. For questions concerning the application procedures and in general relating to this Call for applications, please contact the DFC Research Management Team at research@dfcentre.dk.

2. Research themes

The thematic focus areas of the Call are the following:

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

The country-specific themes are available in Appendix A.

See under "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 projects is from 18 to 36 months with a maximum grant of 5 million DKK for each project.

4. Participating researchers and institutions

The applications must include 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 may be 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. Research applications which have been prepared without the active involvement of partners in growth and transition countries will not be approved. 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 direct input to project activities. 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 researchers (including postdoc) of all participating institutions, both primary and secondary partners, must be named in Step 1A, as well as listed in Appendix B along with their CVs attached. CVs of private sector participants must be attached together with the profile 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 (Appendix A), 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 a 2017 grant 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 in the e-fond 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 in the e-fond 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.

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

Phase 2 – 2020/21	Aug	Deadline for Phase 2 applications: 21 August 2020 13:00hrs CET DFC administrative screening and administrative rejections
	Sept - Oct	Peer reviewing and applicant hearing
	Nov	FFU assessment of Phase 2 applications
	Dec	Innovation Fund Denmark’s approval of the FFU scientific quality assessment MFA selection Reply to applicants Letters of Commitment to approved projects
	Jan - Feb	Budget reallocations, etc. Letters of Grant
	Jan - Feb	Granted projects endorse Letter of Grant and can start up project activities

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 (Appendix C) must contain a budget for each primary research partner. 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 and included in the budget of the institution. The budget items for secondary partners must be clearly explained in the budget notes.

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 signature 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, labor market pension schemes, pension contributions, salary increases triggered by labor 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.

Institution/enterprise type	Overhead
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"> • 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; • Are non-profit institutions which do not seek to generate profit, and where any profit may not be distributed among the owners; • Carry out research as a central purpose. 	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 2020 are as follows:

- Accommodation at the DFC hostel – DKK 325 per night.
- Discount for periods of more than 30 days: DKK 250 per night.
- Allowances – DKK 1,700 per week.
- Air ticket – budget figure of DKK 9,000 per trip, the actual expenses will be invoiced.
- Residence permit (over 90 days stay) – DKK 1,900 for PhD and Masters’ students (for each renewal – also for extensions).
- Danida Fellowship Centre’s administration – In addition to the above budget figures, the DFC charges an administration fee of DKK 6,000 (incl. VAT) per arrival.

Allow for an annual increase of app. 2.5% on all the budget figures above. The expenses incurred by the DFC are not subject to the 44% overhead.

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 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 each primary partner. 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 DFC e-application system which is accessible [here](#). The application form is only accessible by prequalified applicants.

For login, you must choose the option ‘Are you a previous user of Danida Fellowship Centre's electronic application system, click here’, using your email address and password from your Phase 1 application. Select: “W2 Research in growth and transition countries phase 2” select ‘Create application’, and press ‘Continue’ until you reach Step 1 where you start entering data.

If you have forgotten your password from Phase 1 or use a wrong password, an e-mail will be sent to your e-mail address with your password, by entering the email address used in Phase 1 in the box ‘Forgot your password’.

Once you have created an application form, you can save and resume work at any time by accessing the ‘Edit’ box on the login page to the right.

Your partners can access the application by using the e-mail address and password created by the applicant institution for login.

The Phase 2 application must comprise the following:

- The e-application form
- Appendix A: Project Description
- Appendix B: CVs of all researchers and other project participants named in the application form Step 1A
- Appendix C: Budget
- Appendix D: Signatures

All appendices must be in English. Appendices A, B, and D must be submitted in PDF-format, while Appendix C must be submitted in Excel-format. The total size of all appendices must not exceed 25 MB. The appendix files must be named “Appendix [letter]”.

The required format and content of individual appendices are described below. Other appendices/documents will not be considered.

Appendix A - 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.

Appendix B – CVs: The appendix must have a front page with a table of contents listing the CVs in the order in which they appear in Step 1A in the e-application form, and must include the CVs of the project coordinator and all the researchers and project participants named in step 1A. CVs should not exceed 2 pages per person. CVs of researchers must specify the scientific qualifications, managerial skills, and experience from developing countries, and must include a list of key publications and patents. CVs of private sector partners must be accompanied by a profile of the company/private sector institution. The table of contents and all CVs must be compiled in a single PDF file in which each CV starts on a new page. Signature on CVs is not required. Please note that submitted CVs for researchers who are not named in Step 1A will not be part of the assessment.

Appendix C – Budget: The provided [budget format](#) must be used. Remember to include budget notes.

Appendix D – Signatures: This appendix must contain signatures of all participating researchers/partners and institutions in the project which are listed in Step 1A of the e-application. Use the two templates available on the DFC website - [D1 Main Applicant](#) and [D2 Partners](#), respectively. Use one signature page per institution/company, which comprises the signatures of the Head of Institution/Department and named researchers/participants in Step 1A in the e-application form. Compile all signature pages in one PDF file before uploading the appendix.

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 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.

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 submitted. All personal data will be processed, stored and deleted in accordance with the [DFC Privacy Policy](#). We also refer to the [privacy policy of Innovation Fund Denmark](#) (in Danish) being the institution approving the scientific quality assessment of the FFU in this 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.

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

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, project summary, 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](#)

[The Consultative Research Committee \(FFU\) and National Screening Committees](#)

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

[LogFrame terminology](#)

Appendix A: Country-specific themes

The global 2030 agenda and the seventeen United Nations Sustainable Development Goals (SDGs) constitute an important framework for development cooperation and for funding research.

Therefore, 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, the thematic focus areas of the Call are country specific and have been determined on the basis of the focused 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 in Egypt 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. Strategic sector cooperation (SSC) will focus 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 complement the SSC. The regional dimensions concerning energy integration in North Africa and/or Middle East as well as district heating/cooling and smart grids would also be potential research areas.

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 the 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 generation. The Ethiopian 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 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. 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.

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 many 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 support and strengthen opportunities for Kenya to pursue the green and circular economy. The focus and starting point is resource efficient industrial production and industrial development with a perspective of structural changes in the wider ecosystem, e.g. urban development, water and waste utilities management as well as material flows. The SSC is based on a multi stakeholder cooperation between Danish and Kenyan environmental authorities, research institutions, organizations and the business sector.

The existing and proposed future SSC interventions are: provision and advocacy for policy development and systemic change in the environment sector and its affiliated and dependent sectors. Focus areas 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 in the increase of resource productivity and economic growth, in particular within food waste systems and organic residuals/bio-economy, water and wastewater, housing and construction, 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 key practical basis for the SSC. However, the approach is nationwide and it is intended to expand areas of collaboration. 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 fragmented South African cities. The City of Tshwane (Pretoria) is experiencing rapid population growth, urban sprawl and inner city dilapidation. This puts an immense pressure on the administration to transform the social and urban landscape and deliver

services, housing, infrastructure, safety and employment opportunities. Strategic sector cooperation (SSC) address some of these challenges through a city-city collaboration that seeks to strengthen the City of Tshwane's integrated planning methodologies. The collaboration draws on 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 of the SSC is on: a) green and non-motorised transport; b) water; c) public spaces; d) mixed-use developments; and e) housing. Research into the dynamics of sustainable cities would be a valuable complement to these efforts.

3. Water resources, including urban water

Ghana

In Ghana there is a movement from rural to urban areas and the population of the big cities is growing fast. People are seeking improved services, infrastructure and livelihoods. The largest urban area and main growth center is the Greater Accra area, that includes the City of Tema hosting the industrial hub of the country and the biggest port of West Africa. On one hand, a growing urban population is an asset for growth but on the other hand it is also putting a significant pressure on livability and sustainability of the city, e.g. in the area of water and waste water management. Water for all is at the core. In addition, changing climate conditions are a challenge for the resilience of the city, its growth and population. A gradual change requires long-term integrated planning and adaptation.

A new Strategic sector cooperation (SSC) aims to address these challenges and focuses on water and cities, involving the City of Aarhus and Aarhus Vand (water) together with the City of Tema and the Ghana Water Company. Final agreements on specific activities are being prepared and the startup of the first 3 year project is expected in January 2020. 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) Financial feasibility of the provision of water and wastewater management 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 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 back log 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 developed that identifies research and innovation needs and gaps. The roadmap indicates the following focus areas: i) 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; ii) 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); and, iii) 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 with industries, agriculture and households. Additionally there is

need for research into applicable water governance and water costing approaches that can unlock the urgently needed water infrastructure investments, thereby making water a bankable business while ensuring the constitutional right to water and sanitation.

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

The governments of Indonesia and Denmark have agreed to explore the potential and benefits of Strategic sector cooperation (SSC) within the dairy sector, since the Government perceives dairy sector development as means to increase economic wealth, welfare, the standard of living, nutritional status, independence and self-sufficiency. The Government's ambition is to promote sustainable development of the dairy sector in order to contribute to the improvement of food safety and secure supplies. National dairy production only covers 24% of the national demand, making the country highly dependent on imports. In addition rapid population growth, especially children of school age, puts the country under enormous pressure to satisfy the domestic demand of milk. Production is based on small-holder farms with very low capacity, low production, limited resources and often limited framework conditions.

The Government is developing an integrated action plan to tackle undernourishment amongst children through the introduction of fish, eggs, milk and green beans in diets, as well as improving parental care and sanitation. Research could focus on the regulations in milk production, hygiene, food safety and animal welfare. Regarding child nutrition, research into the effectiveness of the public health regulation could be a starting point.

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 large scale 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.

Myanmar

In 2011 the government of Myanmar initiated a comprehensive reform process aimed at achieving a more democratic, market-based and socially equal society with prosperity for all. Since 2014, labour market reform has been given priority with the explicit aim of promoting sustainable growth and development. At this point in the reform process, however, there is a need to better understand how the strengthening of labour market institutions can contribute to promoting sustained and inclusive economic growth, full and productive employment and decent work for all, including what are currently the barriers and potential drivers for realizing this potential. A particular focus in occupational health and safety research should be given to small and medium-sized enterprises.

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 and the commercial and economic impact of piracy. Other themes could be the socio-economic impact of port expansion and other maritime infrastructure investments, and political-economy of modernising and streamlining container handling. Finally, as fisheries issues may be included in future SSC activities, and the Fishery Act of 2002 is expected to be revised, the sustainable use of the maritime domain such as fisheries and the coastal environment could be relevant topics.

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.