

# **Call for Danida Mobility Grants for Research, 2018**

## **Application and Reporting Guidelines**

Danida Fellowship Centre  
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**Table of Contents**

**Introduction ..... 2**

**1. Objective ..... 2**

**2. Themes and conditions ..... 2**

**3. Assessment criteria ..... 3**

**4. Application and appendices ..... 3**

**5. Eligible Costs ..... 5**

**6. Grant management, accounting, and reporting ..... 6**

**7. Information and contact ..... 7**

**APPENDIX 1 ..... 8**

## **Introduction**

The Ministry of Foreign Affairs of Denmark (MFA) provides grants for development research activities as part of Denmark's international development cooperation. Within this framework, the MFA invites applications for individual Danida Mobility Grants to facilitate the creation and development of international networks and research collaboration through research stays in Denmark by researchers from the growth and transition countries included in the "Partnering with Denmark" programme: Bangladesh, Brazil, China, Colombia, Ghana, India, Indonesia, Iran, Kenya, Mexico, Myanmar, South Africa, Turkey, and Vietnam.

Applications can be submitted continuously, i.e. no deadline has been set for this Call. The Call will be open in 2018 as long as funds remain.

Danida Fellowship Centre (DFC) manages the application process and the implementation of the mobility grant scheme on behalf of the MFA. The total budget frame for the scheme is DKK 5 million in 2018.

## **1. Objective**

The objective of the mobility grants is to support and strengthen the creation and development of networks and longer-term research collaboration between universities, research institutions, and private companies in Denmark, and in the growth and transition countries included in the Strategic Sector Cooperation Facility (Partnering with Denmark). The collaboration with the Danish researchers is thus central for the grants, and the research stays must aim at facilitating the collaboration between the institutions in the growth and transition countries and in Denmark within the areas of the strategic sector cooperation in each country.

## **2. Themes and conditions**

The mobility grant research must fall within the country-specific research themes defined in Appendix 1, which correspond to the themes of the call for research collaboration projects in growth and transition countries ("Window 2"), 2018.<sup>1</sup>

The mobility grants cover research stays in Denmark by researchers employed by a university or by a research-based institution (public or private) based in one of the countries included in the Strategic Sector Cooperation Facility.

The visiting researcher must hold a PhD or equivalent qualifications, documented clearly in the CV<sup>2</sup> and the researcher must be engaged in research within the country-specific theme selected for the research stay.

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<sup>1</sup> See <http://dfcentre.com/research/calls-for-applications/>

<sup>2</sup> It is regarded as equivalent to a PhD when it is documented in the CV that the applicant is at Professor, Assistant Professor, or Associate Professor Level.

The application must be submitted by the Danish host institution, i.e. a university or a research-based institution (public and private) in Denmark, or a Danish private company with a strong research profile. The Danish host institution must appoint a person (below termed “the project coordinator”) within the institution to be responsible for organising the research stay in Denmark and to submit the application on behalf of the host institution and the visiting researcher.

A Danida mobility grant can only be awarded to a Danish host institution and must be used for coverage of the expenses related to the research stay. The host institution will be responsible for the management of the grant, see Section 6.

The duration of the mobility grant project can be up to 9 months; however, the duration of a research stay in Denmark covered by the mobility grant must be between 1 and 3 months. The maximum budget is DKK 200,000 (inclusive of overhead to the Danish host institution) for each grant. The grant can cover only one researcher’s stay in Denmark.

The outputs of the mobility grant project must include a plan for publications based on the research carried out during the research stay, as well as a plan for further collaboration between the institutions involved in the project (e.g. networking, proposal development, co-publications). During the research stay it is expected that the visiting researcher is integrated into the research activities at the host institution, and amongst others, co-hosts a joint research seminar within the scientific research field of the mobility grant project.

### **3. Assessment criteria**

The MFA (including embassies in the growth and transition countries) will assess the mobility grant project applications based on the relevance, including:

- How well-defined the focus of the mobility grant project is with respect to the announced research theme in the chosen growth and transition country (Appendix 1);
- How the mobility grant project contributes to establishing research networks and collaboration between the institution in the growth and transition country and the host institution in Denmark;
- The potential for further research collaboration between the institutions involved;
- The qualifications of the visiting researchers within the scientific field selected for the mobility grant project.

In the selection, the MFA will consider an even distribution of mobility grants to researchers from the growth and transition countries, and will also aim to ensure a gender balance amongst the visiting researchers.

### **4. Application and appendices**

The project coordinator must apply electronically by filling in the electronic application form and upload the required documents as appendices to the application. The electronic application form is accessible from DFC’s website via link <http://dfcentre.com/mobility-grant/>.

The application must include a brief description of the mobility grant project, including:

- Expected outcomes and outputs in relation to network development and establishing research collaborations,
- The relevance of the mobility grant project to the country-specific research theme selected.
- Highlighted how the visiting researcher will be involved in the research activities/ environment at the host institution/in Denmark within the selected research field (co-hosting of joint research seminar, proposal development, co-supervision, lectures, etc.).
- Time schedule and activity plan for the mobility grant project.

In addition to the e-application form, the application must comprise the following appendices, uploaded along with the e-application:

- Appendix A: CV of the visiting researcher proving that the researcher holds a PhD or equivalent qualification.
- Appendix B: A signed agreement between the head of the Danish host institution (or department), the visiting researcher, and the institution of the visiting researcher (confirming the research stay in Denmark, including managing responsibility, plan for research stay, etc.).

Template for appendix B is available at link <http://dfcentre.com/mobility-grant/>.

The application and appendices must be completed in English. The application must be completed by use of the correct e-application form, and for the appendix B, the template available must be used. The amount applied for must be within the limits and guidance specified in the Call. The application must contain all the required information and the appendices must be submitted as pdf files, with a total volume not exceeding 5 MB.

It is not possible to make corrections to an e-application or to submit additional information after an application has been submitted. Applications which do not include all required information and attachments will be rejected without further consideration.

### **Practical guidance to filling in the e-application**

Before the electronic application system is accessible, the applicant must register as a user with e-mail address and password – use the link “If you have *not* previously used Danida Fellowship Centre’s electronic application system click here”.

To create an application, select the application form “Danida Mobility Grants”. Once an application form is created, it is possible to save and break off from it and resume work at any time by accessing the “Edit” box at the log-in page to the right.

In case the password is forgotten, please type any password in the box, and an e-mail with the correct password will be sent to the registered e-mail address. By sharing the password, the visiting researcher can participate in the application process.

The instructions given in the electronic application form must be followed. All steps in the e-application form must be completed before the application can be submitted. 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, and that the contents of the appendices are correct.

Applicants will receive an electronic receipt notice by e-mail after the submission of their application. If the acknowledgement is not received within 24 hours, the applicant should send an e-mail to [research@dfcentre.dk](mailto:research@dfcentre.dk) to ensure that the application has indeed been received.

Technical disclaimer: The DFC is obliged to inform prospectively applicants of any system errors that make the e-application system unavailable, affecting the applicant's possibility of submitting e-applications. Information regarding such unavailability, and other unforeseen events, will be posted on the DFC website <http://dfcentre.com/research/>.

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.

Data Protection Act: Danish privacy law (Danish Act on Processing of Personal Data, Lov om person-data, no. 429 of 31 May 2000 with subsequent amendments) accords the applicant certain rights when information concerning the applicant is processed electronically. Please note that the applicant has the right at his or her request, to inspect and verify personal data if such data are processed electronically.

### **Reviews of the applications**

All applications received will be reviewed by DFC for formal requirements. According to Section 4 of the Executive order on the granting function etc. under the Danish Council for Independent Research and the Danish Council for Strategic Research (Executive Order no. 322 of 30 March 2014), an application may be rejected without substantive consideration if the formal requirements set out in this Call for applications are not met.

The MFA will assess the relevance of applications meeting the formal requirements with respect to the thematic focus area (refer to Section 3). The applicants will be informed of the MFA's decision within four weeks after an application has been submitted. The approved projects can expect to start immediately after receiving and endorsing a Letter of Commitment. The research stay, on the other hand, can at the earliest be initiated 5 months after project approval.

## **5. Eligible Costs**

The grant applied for must be indicated in the e-application form by overall budget lines. Only eligible costs and only expenses budgeted for in the application can be covered by the grant. The grant does not allow double coverage of any of the expenses.

DFC's administrative services must be used in arranging the practical details of the stay, see link <http://dfcentre.com/research/how-dfc-administers-research-projects/research-fellows/>. In connection with the research stay in Denmark, expenses for travel, accommodation and daily allowances can be covered. The DFC rates for "senior researchers" should be used in the calculation except for the administration fee of DKK 6,000 which will not be charged. The expenses incurred by DFC are not subject to overhead.

In addition, the necessary costs to research materials and equipment and to communication and publication can be covered. Overhead/administration fees can be covered for the Danish host institution.<sup>3</sup> Salaries for the visiting researcher or Danish researchers (including project coordinator) cannot be covered by the grant and must be covered by the researchers' own institution.

The project period (maximum 9 months) can be used for further activities, e.g. publications and elaboration of the future collaborative activities, including applications for further funding.

## **6. Grant management, accounting, and reporting**

The Danish host institution will be responsible for managing the grant. The institution will thus be responsible for:

- The approved project activities are carried out;
- The outputs are achieved;
- The grant is used exclusively for the approved activities and expenses;
- The present guidelines are followed;
- The deadline set for reporting and accounting will be met;
- The budget is in accordance with rules and regulations of the institution;
- The required ethical and other approvals will be obtained before the start of the activities.

Information about the grant and project will be published in the Danida Research Portal, subject to the rules in the Danish Act on Processing of Personal Data (Act No 429 of 31 May 2000), see: <http://drp.dfcentre.com/>. In connection with all public communication concerning the grant, it must be informed that the grant is given by the MFA.

It is not possible to provide additional funding once the project is underway and overspending cannot be covered. Reallocation by up to 10% between the main budget lines can be made. All expenditures must be effectuated within the project period, as stated in the Letter of Commitment. DFC will deduct the expenses for travel, accommodation and allowances at DFC directly from the grant.

Within two months after the end date of the project the reporting and the accounts must be submitted to DFC by mail using the forms available at DFC's website.

Reporting form for mobility grants: The report must explain how the research stay has led to the anticipated and approved outcomes and outputs, both concerning the research and the collaboration with the Danish researchers, and include information about status for joint publication(s) as well as the plans for future collaboration.

Financial accounts form: Only expenses which appear in the approved budget can be covered. None of the budgeted expenses can be funded by other sources. Unspent funds will have to be returned to DFC. In case the reporting and accounting have not been submitted in time to DFC, it is considered as a violation of the conditions and a return of funds will be requested.

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<sup>3</sup> Maximum overhead rates must follow the General Conditions for ongoing projects, see: <http://dfcentre.com/wp-content/uploads/2017/01/General-Conditions-2017.pdf>.

## **7. Information and contact**

For questions concerning the application procedures and project management, please contact the Research Management Unit at DFC at [research@dfcentre.dk](mailto:research@dfcentre.dk).

## APPENDIX 1

### **Mobility grants to researchers from growth and transition countries – country-specific research themes in 2018:**

#### **Bangladesh – Occupational health and safety**

The economy of Bangladesh is growing fast and the ready-made garments sector is increasingly important. After major accidents in 2012 and 2013 that left hundreds of workers dead, the international community as well as international companies reacted strongly to ensure strengthened regulations for building construction and fire hazards. However, other aspects of occupational health and safety such as chemical hazards, accidents and manual load handling have not been paid similar attention. The objective of Strategic Sector Cooperation is to improve the occupational health and safety for workers in Bangladesh through strengthening the Ministry of Labour and Employment (BMoLE) and the Department for Inspection of Factories and Establishments (DIFE). This will be done by capacity development, improved inspection and through better information and awareness. Further research to address the improvement of occupational health and safety in broad terms would be appropriate.

#### **Brazil – Digitalisation and Innovation**

Brazil faces major challenges in terms of developing innovative, user-friendly digital solutions to meet future demands from both citizens and businesses. The focus of Strategic Sector Cooperation is on digitalisation and innovation in the Brazilian public administration and entails developing a sustainable digital infrastructure that enables innovative solutions and creates better business-oriented digitalisation. The main aim is to assist the National School of Public Administration in developing a laboratory for digitalisation and innovation, inspired by and with direct capacity building from the Danish government laboratory called MindLab.

#### **Brazil – Efficient healthcare management**

Brazil faces challenges in guaranteeing timely and good quality healthcare for all. Through two “pillars”, Strategic Sector Cooperation aims to ensure better, faster and universal access to quality healthcare services and products by supporting the development of more efficient healthcare management. Pillar 1 focuses on improving healthcare with better systematic use of data, which is considered the key for improving access to timely and quality healthcare as it contributes to optimised treatment, cost efficiency, patient security, coherent patient pathways, etc. Pillar II focuses on improving healthcare by introducing efficient and transparent approval processes for pharmaceuticals, taking into account the overall licensing principles of quality, safety and security.

#### **China – Food safety and agriculture**

Strategic Sector Cooperation on this theme is divided into two projects:

- A project dealing with food safety, entailing the establishment of a China-Denmark food safety control cooperation platform to provide basic technical support for food safety supervision and to assist the authorities in achieving safer production, improving the food safety levels and ensuring public health. Two themes dealing with food safety regulation and standards have been identified where the experience and lessons of one country can be used in the other: i) legislation and regulations on food safety supervision; and, ii) food safety testing and evaluation technology.
- A project dealing with animal manure as fertiliser, in which the aim is to develop regulatory guidelines together with the Chinese authorities. Inspiration on how to set-up a regulatory system that aims to create more efficient and more environmentally friendly arable production will be the main deliverable. Two themes dealing with the practical aspects of manure handling and the regulatory aspects at administrative level have been identified, in which Danish experience and lessons learned can be modified to the Chinese context: i) handling, storage and application of manure; and, ii) regulatory guidelines for promoting the use of manure.

### **China – Sustainable Urban Development**

The city of Beijing is struggling with a wide range of urban challenges such as traffic congestion, air pollution, water scarcity, cloudbursts/heavy rains, flooding and life-style diseases such as diabetes. Encouraged by the immense public demand for a healthier environment, Beijing has reached out to the city of Copenhagen to help tackle sustainability issues. Strategic Sector Cooperation focuses on three main themes: i) sustainable urban development (including infrastructure development, waste management and green energy); ii) climate change adaptation and water management; and, iii) diabetes. Through this cooperation it is intended to support specific urban development projects in Beijing, e.g. the development of the Qinglong Hutong or new Eco-city areas, as well as the improvement of the regulatory framework, plans and strategies for sustainable urban development.

### **China – Water and environment**

There are many serious water resource and environmental problems in China. Key challenges are the lack of enforcement of legislation and weak implementation of government strategies and policies at decentral level. Highest priorities are: i) water resource scarcity, groundwater and surface water management, including flood management; ii) law enforcement on air pollution from traffic and industry; and, iii) law enforcement and investment strategies regarding wastewater. The aim of Strategic Sector Cooperation is to enhance the capacity to address some of the large societal water challenges in a holistic and integrated way with input from Danish experiences and technological solutions. In this context there is a focus on knowledge building in the Chinese institutions responsible for development of guidelines and monitoring as well as enforcement of environmental standards as expressed in two national action plans: Water Ten and Air Ten.

### **China – Maritime and shipping**

Strategic Sector Cooperation between China and Denmark is being developed concerning green and more energy efficient shipping and shipbuilding. A Sino-Danish MoU on green maritime technology, shipbuilding and offshore equipment has been signed. Several areas of investigation within energy-efficient shipping and shipbuilding are relevant. These include:

- fuel consumption and fuel content (Sox, NOx, methane, etc.);
- alternative fuels (LNG, DME, electrification etc.);
- more efficient engine and propeller design;
- marine coating such as antifouling paint;
- improved ballast water systems;
- ship design to reduce greenhouse gas emissions.

### **Colombia – Veterinary and food safety**

The aim of initial Strategic Sector Cooperation is to assist the Colombian authorities in improving the veterinary and food safety systems within the pig meat sector. This will contribute to the objectives of ensuring safer production, safer products, a positive impact on public health, increasing national pig production and accessing the global market for pig meat. Cooperation involves both the regulatory and the technical levels and the main outcome will be to support the Colombian authorities in four areas with regard to veterinary and food safety services. These are: chemical residues; pathogens (salmonella); risk analysis; and food safety at slaughterhouses and meat inspection units.

### **Ghana – Maritime environment**

The Gulf of Guinea is the key trade route and an important livelihood resource for both Ghana and West Africa. A major challenge is to ensure that the economic potential of the Gulf is realised in a sustainable and safe manner. The overall objective of Strategic Sector Cooperation is to build capacity and strengthen the framework conditions for the maritime sector in Ghana through government-to-government cooperation between the maritime authorities. The specific purposes are to enhance the capabilities in key maritime institutions in Ghana and to promote a maritime regulatory and enforcement environment, which is in compliance with international standards.

### **India – Smart city water management**

India is facing a rapid urbanisation with an expected increase in the urban population of 400 million by 2040. The Government is tackling this challenge by upgrading 100 cities through a Smart Cities initiative, which includes water management. Strategic Sector Cooperation entails working with the City of Udaipur (located in the state of Rajasthan) and the state of Gujarat in their efforts to improve urban water management by identifying efficient strategies and plans for coping with shortages and improving management in an integrated and sustainable manner. The focus is on several sub-sectors including efficient and safe water supply, non-revenue water remediation, sustainable waste water management including sewage treatment and the remediation of lakes and rivers (in Udaipur). It is also intended to use the experiences and lessons from Udaipur and Gujarat to reach the national policy level.

### **Indonesia – Circular economy through waste management**

Indonesia is facing serious waste challenges especially in large and rapidly growing cities, which have to deal with increasing amounts of waste as well as inadequate solid waste management systems. Challenges include the lack of capacity among the many different responsible authorities to implement and enforce the waste regulations, lack of public awareness about waste sorting and recycling and the lack of financing mechanisms. Strategic Sector Cooperation aims to tackle the challenge of improving municipal solid waste management and resource efficiency to address environmental, economic and health issues as well as looking into linkages with industrial waste management. The focus is on addressing environmental challenges in Indonesia within the waste sector as well as the shared challenges in building solutions that may keep more materials “in the loop” – as valuable resources for a sustainable environmental development trajectory.

### **Indonesia – Energy sector modelling**

There are plans to increase power generation capacity in Indonesia by over 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 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. Within this framework, activities have been developed around energy modelling, planning and integration. Further research on wind resource assessment modelling could complement these efforts. In addition, research into building construction, building codes and energy savings in buildings could be useful in order to deepen understanding of the critical issues and facilitate knowledge-based decision making.

### **Iran – Protection and enforcement of Intellectual Property Rights (IPRs)**

With the lifting of the economic sanctions in January 2016, Iran – with its 80 million inhabitants – is an interesting market for international investment. Enhancing the capacity of the Iranian intellectual property rights (IPRs) infrastructure and making it easier for companies to protect and enforce their rights in Iran will be important as “knowledge intensive” companies consider this a relevant parameter when deciding where they put their investments. Strategic Sector Cooperation between Denmark and Iran addresses constraints in relation to the protection and enforcement of IPRs, focusing on institution building, legal alignment, capacity building and awareness raising. The overall objective is to enhance the capacity of the Iranian institutions in relation to the protection and enforcement of IPRs.

### **Kenya – Green growth in the manufacturing sector**

Strategic Sector Cooperation aims to support and strengthen opportunities for Kenya to pursue green growth in its manufacturing sector, while the Kenyan Industrial Transformation Programme (KITP) under Vision 2030 is promoting the development of the country as an industrial hub in Africa. The thematic focus is sustainable production and circular economy in manufacturing in existing and new industries, including product design, cleaner production processes, solid waste management, wastewater management and industrial symbiosis. Cooperation entails supporting the implementation of the KITP, the Green Economy Strategy Implementation Plan (GESIP) and the National Solid Waste Management Strategy (NSWMS) that all underpin the demand for

action and implementation of contemporary measures in the manufacturing sector, where reduced environmental impact, efficiency and higher productivity go hand in hand.

### **Kenya – Food safety**

The objective of Strategic Sector Cooperation 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.

### **Mexico – Energy planning and wind modelling**

There are opportunities for research in connection with energy system planning, regulation and modelling in Mexico. An important issue is how to integrate intermittent sustainable energy sources such as wind and solar power within the energy supply system. There is also a need for research in connection with multi-scale, model-chain evaluation for wind atlases in large regions. This would entail investigation of measurements and uncertainty estimations as well as modelling and control of wind power plants in the Mexican system, e.g. in terms of weak grids and dynamic modelling.

### **Mexico – Strengthening primary healthcare**

Several major development challenges are currently threatening Mexico's healthcare system, including: i) a shift in disease burden from infectious diseases to non-communicable diseases (NCDs) and mental illnesses; ii) inequality in access to quality health services deriving from a fragmented healthcare system characterised by several providers of healthcare; and, iii) incoherence in primary healthcare. Strategic Sector Cooperation aims at strengthening the primary healthcare system in Mexico in the light of the shared challenges in Denmark and Mexico resulting from a growing burden of NCDs and mental illnesses. Three complementary result areas are included: communication and referral mechanisms; IT-systems and digital communication; and efficient use of data equipment and telemedicine.

### **Myanmar – Labour market reform**

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. Particular focus in research should be given to small and medium-sized enterprises.

### **South Africa – Water management**

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 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 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.

### **South Africa – Renewable energy**

The South African Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) has been hailed as one of the most successful renewable energy procurement programmes globally. The programme has brought more renewable energy online in 4 years than the rest of sub-Saharan Africa has achieved in more than 20. Despite this achievement there remain various design and operational features of sector policies, planning processes and operations that require further improvement. These include issues with short to long term energy planning, grid integration of renewable sources, system adequacy for variable energy sources, opportunities for providing baseload through decentralized energy production from variable renewable sources such as wind, biomass and solar power, as well as opportunities for potential inclusion of time-based energy blocks, etc. In addition, there are many countries in sub-Saharan Africa that are planning to embark on renewable energy auctions in the next few years, presenting an important opportunity for South Africa's experience to be translated into valuable lessons for the rest of the continent through applied research.

### **South Africa – Sustainable smart city development**

The City of Tshwane (Pretoria) is experiencing rapid population growth. In addition, the peculiar urban planning during the apartheid era has resulted in “disintegrated” cities. This puts an immense pressure on the administration to deliver services, housing, infrastructure, safety and employment opportunities. Strategic Sector Cooperation aims to address these challenges and is expected to strengthen the partner's capacity to develop sustainable solutions for urban planning. Cooperation draws on the experience of the City of Aarhus with sustainable and smart urban development as well as on collaboration with private sector developers and knowledge institutions. The focus will be on: i) the quality of life including safety, diversity, liveability, convenience, leisure and inclusion; ii) growth including knowledge, innovation, employment, value added and investment; and, iii) sustainability including carbon neutrality, clean air and water, recycling, waste to resources, water and energy efficiency.

### **Turkey – Low-carbon heating and cooling**

Strategic Sector Cooperation with Turkey includes a focus on the efficient and low-carbon supply of heating and cooling. Within this context, efficient energy production is also important. Roughly one third of the energy consumed in Turkey is today used for heating and cooling purposes. The authorities are aiming to promote the use of energy efficient and low carbon heating and cooling systems. Currently heat is mostly provided in building-level heating systems and most systems use fossil fuels. Relatively few district energy systems are found while combined heat and power is almost only applied in industry. Research is needed to explore opportunities for developing energy efficient and low carbon solutions in these sub-sectors.

### **Turkey – Waste and resource management**

Current waste generation and waste management in Turkey represent a significant environmental challenge. Due to economic and population growth, the increase in purchasing power as well as rapid urbanisation, both the amounts of waste and the demand for proper waste, resources and waste water management services will increase substantially in the future. The focus of Strategic Sector Cooperation is on the waste and resource management system with special emphasis on municipal solid waste. There is also initial collaboration on wastewater and sewage sludge management. The main objective is to assist Turkish government agencies and other relevant stakeholders in developing a well-functioning waste and resource management system supporting better enforcement and implementation of legislation to achieve the government's long-term goals.

### **Vietnam – Food safety in the pork value chain**

Strategic sector cooperation includes a focus on food safety in the pig value chain. A key concern is the routine use of antibiotics and other compounds to manage diseases in order to achieve productivity and biosecurity outcomes. Solutions to better manage this and reduce the amount of antibiotics used could include hygiene, biosecurity and disease surveillance measures as well as the prevention of diseases through vaccination. Research is needed to help establish how such measures - along with prudent use practices consistent with a "one health" approach - may be implemented. This would include determining the actual disease risk and status, current livestock farming and antibiotics usage practices, as well as the prevalence and risk of antimicrobial resistance with a view to making recommendations on pathways to improved disease prevention and control practices. It is recommended that the research be inter-disciplinary, include an analysis of the role of relevant stakeholders in achieving behavioural change and focus on developing innovative solutions that will work in the Vietnamese context.

### **Vietnam – Health care**

The prevention and treatment of non-communicable diseases (NCDs) in primary healthcare is in focus through Strategic Sector Cooperation. 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.

### **Vietnam – Technical and Vocational Education and Training (TVET)**

Literacy among Vietnam's adult workforce is widespread and more so than in other countries, including wealthier ones. However, inadequate skills of job applicants (a "skills gap") and scarcity of workers in other occupations (a "skills shortage") are both identified as major challenges in the next step of industrialisation. The focus of Strategic Sector Cooperation has been on vocational education and training, supporting an enhanced coherence between the Vietnamese TVET system and the labour market addressing skill-gaps and future skills needs. Relevant line ministries and their regional branches are supported to develop tools and mechanisms to implement the parts of the strategy focusing on enhanced cooperation between schools, companies and authorities. Research is needed to assess strategic as well as concrete interests and opportunities for companies and educational institutions to engage in and influence these gaps and shortages in view of the rapid socio-economic and structural development, ongoing privatization and significant international integration of the economy.