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COMMUNITIES IN ONE WORLD

DIALOG GLOBAL

MUNICIPAL CLIMATE PARTNERSHIPS

Documentation of the sixth phase of the project | No. 61

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FOREWORD

October 2017 saw the launch of the sixth phase of the Municipal Climate Partnerships project in Bremen, a Hanseatic city with a centuries-old tradition of trade and exchange. This was a special place from which to venture into new territory with the climate partnerships. The sixth phase of the project was the first one in which municipalities form Latin America, Africa and Germany had worked together. This proved an unmitigated gain. Following the kick-off workshop in October 2017 under the watchful gaze of the 'Bremen Town Musicians' (see photo), it quickly became evident that there are no limits to cooperation across continents on matters of climate change mitigation and adaptation. Right from the first minute, the discussions and the different approaches of the climate partnership reflected an understanding of the shared global challenge of climate change.

In all the partnerships, during the two intervening years of cooperation up to the results workshop in Jeffrey's Bay, Kouga Local Municipality (South Africa) in October 2019, barely a topic was missed out in the quest to translate ways of reducing greenhouse gas emissions and measures for climate change adaptation into joint objectives and projects. Waste management and prevention, renewable energy generation, water management, mobility, natural resource conservation and education work were just some of the cross-cutting themes.

At the project milestones in Windhoek (Namibia), where all the municipalities from the Global South in the sixth project phase met, during the bilateral delegation missions, and at the network meeting of the German municipalities, one thing did, however, become clear: Internationally, we still have a long way to go to achieve the climate targets agreed at the Paris Conference on Climate Change in 2015. The differences of opinion concerning the best and most effective paths are becoming increasingly evident. Not least the global Fridays for Future movement, a catalyst for the absolutely essential transformations processes, has also asked crucial questions of those who govern the world, and called for immediate action to avoid jeopardising the future of generations to come. These

The Bremen Town Musicians © Nicole Pankalla

calls are also based on the scientific findings of the Intergovernmental Panel on Climate Change (IPCC), which reports to the global community on climate change and explains the dangers continuously.

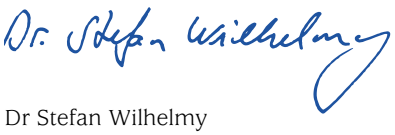
We now have around 80 climate partnerships. We are convinced that with their programmes of action and the global networks of over 150 participating municipalities that have arisen, they are sending important and effective signals across continents and worldwide. W are convinced that through this open dialogue, through jointly applied knowledge and cooperation, through courage, passion and a global mindset, we are helping to show in important ways how the world can respond to the challenges of climate change.

We hope that reading this publication, in which the climate partnerships from the sixth phase present their results, will motivate and inspire other municipalities to also get involved in municipal climate partnerships.

We would like to sincerely thank everyone involved for their intensive and productive joint work and their extraordinary dedication to the climate partnerships. Their engagement continuously inspires us to provide the advice, knowledge transfer and networking services they need.

Our special thanks go to the mayors and district chief executives of the participating municipalities, as well as the councillors, for their political backing of the process. We also thank the administrators for their professional expertise and their appreciation of the contributions made to the programmes of action by civil society.

Given the foundations that have been laid over the two years, we can look forward optimistically to the phase of implementing the programme of action's objectives and measures. In some partnerships first promising activities have already been launched. We wish the climate partnerships every success, and much enjoyment, as they implement their projects together. The Service Agency Communities in One World and the North Rhine-Westphalian Working Party on Agenda 21 (LAG 21 NRW) will be glad to continue advising you on them in the future.



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1. INTRODUCTION

The sixth phase of the 'Municipal Climate Partnerships' project marks a special milestone in the project, which has existed since 2011. This was the first time that municipalities from two continents in the Global South – Africa and Latin America – simultaneously worked together with their German partner municipalities to establish their municipal climate partnerships. This meant that in the course of the intensive networking activities, they were able to dialogue on municipal topics of climate change mitigation and adaptation across continents.

As a result, in the sixth phase the participating municipalities were able to realise the intention of the 'Municipal Climate Partnerships' project with huge commitment and well-founded expertise. Building on their respective extensive experience and expertise in climate change mitigation and adaptation, the participating municipalities were able to enrich their existing partnership by adding the relevant aspects of municipal general interest services. And this also enabled them to embark on new themes in their joint work as partners. Municipalities play a pivotal role in various areas of sustainable development in the actual implementation of activities, and in responding directly to their citizens. The project seeks to lend greater weight to this role in the context of development and climate action, and to facilitate the elaboration of specific solutions to local challenges.

To achieve this, the climate partnerships each spend a period of around 24 months developing joint programmes of action for climate change mitigation and adaptation in their two municipalities which specify targets, concrete activities and earmarked resources. Elaborating the programmes of action lays the foundation for long-term, constructive and systematic cooperation between the partners in these fields. A climate partnership can be based on an existing twinning arrangement, to which it then adds a new dimension. Alternatively it might be established from scratch by two interested municipalities as a theme-based partnership, and then form a starting point for further thematic cooperation or a formal partnership.

The project revolves around professional exchange between municipal experts on various specialised topic, especially within the framework of reciprocal missions. This includes both experts for technical and organisational solutions, and experts who can help make the climate partnership a success with their intercultural, linguistic and other relevant skills. Consequently, the project approach involves consciously including the resources of local civil society on both sides in order to enrich the climate partnership with the perspectives and expertise of these actors.

Regular meetings are held to promote networking among the participating municipalities and to support mutual learning. Here the municipalities are provided with professional and methodological support by Engagement Global's Service Agency and LAG 21 NRW. The project is implemented on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), and is officially supported by Germany's local authority associations – the German Association of Cities (with two specific board resolutions), the German Association of Towns and Municipalities, and the German County Association.

This publication documents the sixth phase of the 'Municipal Climate Partnerships' project, and presents the key results of the work of the partnerships between German, African and Latin American municipalities. A total of twelve municipal climate partnerships took part in the sixth phase of the project.

The various sub-sections of the introduction below explain how the project is organised and structured.

German municipality	African municipality
Bremen	Windhoek (Namibia)
Brühl	Dourtenga (Burkina Faso)
Enkenbach-Alsenborn	Kinigi, Musanze District (Rwanda)
Hachenburg	Gisagara District (Rwanda)
Ilsfeld	Kouga Local Municipality (South Africa)
Hameln-Pyrmont District	Alfred Nzo District Municipality (South Africa)
Munich	Harare (Zimbabwe)
Schwäbisch Hall	Okahandja (Namibia)
Viernheim	Silly (Burkina Faso)

German municipality	Latin American municipality
Cologne	Yarinacocha (Peru)
Herford District	Condega (Nicaragua)
Ludwigsburg	Ambato (Ecuador)

The second section of the documentation is devoted to networking among the partner municipalities. The project aims to network the participating municipalities on various levels. The communication forums provided and supported are first of all described in general terms. This is followed by a brief summary of the key project conferences. This includes both the international workshops held at the beginning and end of the project phase, and the respective meetings of the German, African and Latin American municipal networks.

The third section contains reports on the individual climate partnerships, and includes details on their background, the process of preparing the joint programmes of action and their respective focal areas of action.

The documentation concludes with a section containing conclusions from the sixth phase of the project, followed by a section on the future outlook.

1.1. General workflow of the project

The aim of the project 'Municipal Climate Partnerships' is the collaborative development, step-by-step implementation and continuous improvement of a joint municipal programme of action for climate change mitigation and adaptation. Starting from strategic objectives, the programme of action is gradually concretised in the form of application-ready measures in conjunction with a detailed planning of resources plus indicators for monitoring the achievement of objectives.

Each programme of action is developed within the respective municipal climate partnership over a period of approximately two years, during which time the municipalities receive intensive advice, facilitation and financial support for their bilateral exchange from the Service Agency and LAG 21 NRW. After this phase of intensive development each climate partnership assumes responsibility for self-reliantly implementing and continuously improving its programme of action in the long term. As described in the manual developed by the Service Agency and LAG 21 NRW, this implementation of the programme takes place in three broad steps:

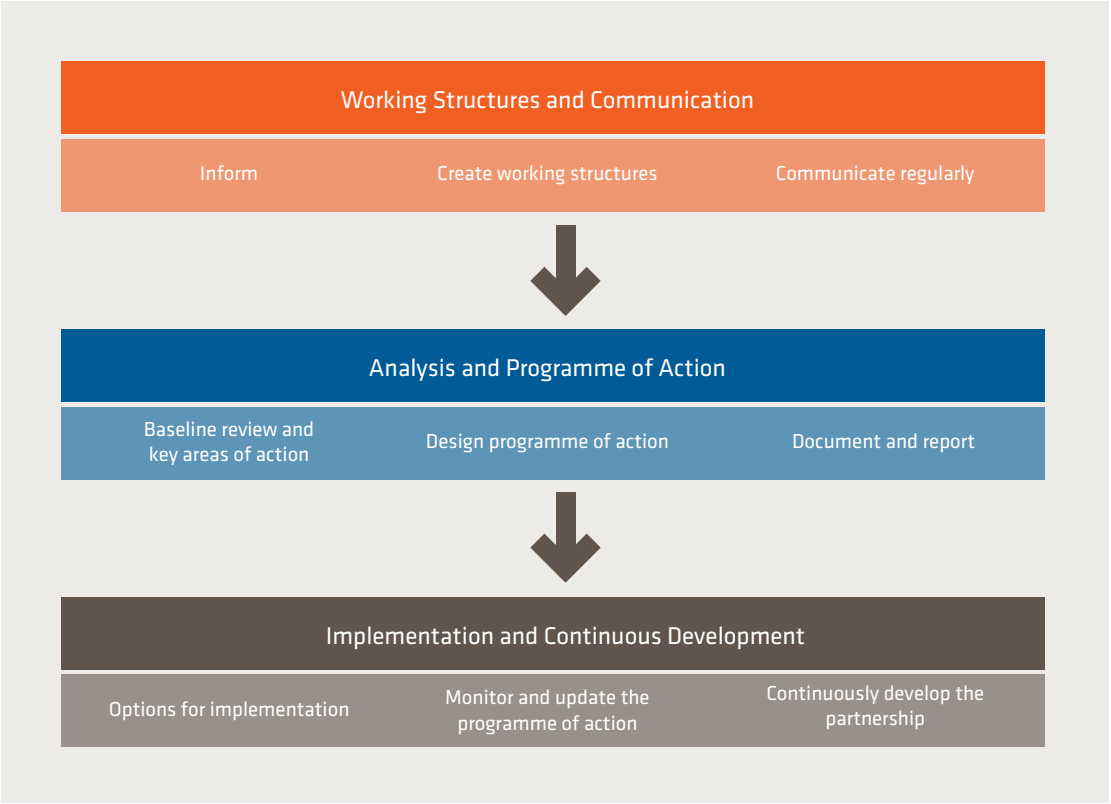


Figure 1: Workflow in the 'Municipal Climate Partnerships' project © LAG 21 NRW/SKEW

Here we should point out that the workflow outlined is a generalised model designed to provide the municipalities taking part with general guidance. Depending on the prior experience, existing relationships or other particular features of the partnership, the process may differ slightly in terms of the content and scope of each step. In long-standing partnerships, for example, the process of establishing the working structures and channels of communication can be cut short. In new partnerships where the people concerned have not yet had any dealings with each other this process may well take longer. In some cases climate partnerships may for instance implement their first concrete projects before completing their joint programmes of action, in order to address particularly urgent needs.

The steps involved in the workflow outlined above are described in detail below.

1.2. Working structures and communication

Establishing a climate partnership involves setting up the working structures and channels of communication. This means informing the actors relevant to the project, establishing the needed working structures and pursuing mutual dialogue.

Inform and communicate

As well as the partners getting in touch with and getting to know each other, 'inform and communicate' means communicating all the information on the climate partnership time line, such as its background and its benefits, to the various actors within the local community (policymakers, administrators, civil society, general public) through different channels (e.g. the press, Internet, presentations, information events). This is designed to ensure sustainable support for the establishment of a climate partnership within the partner municipalities, and develop a joint understanding of the problems and the strategic approach, which may be new. A further aim is to win the support of a broad range of actors who will be actively involved in the partnership.

Working structures and communication
Defining the responsibilities and competences for the tasks within a climate partnership establishes the working structures. The working structures are designed to establish a transparent, viable and workable organisational framework comprising key administrators, policymakers and civil society actors who will each contribute their experience and expertise to the process. The working structures of the municipal climate partnership define clear responsibilities, and are intended to support cross-departmental cooperation within the municipal administration. They are also designed to integrate councillors and civil society actors from an early stage. To facilitate communication, the key contact persons must be appointed and clearly identified within both municipalities. At the same time, it is important to involve other actors both within and outside of the municipal administration and to clearly define their roles. This participatory approach is designed to ensure that the programme of action for the climate partnership can be developed on a bindingly legitimate and professionally sound basis, and implemented sustainably.

To guarantee this, the working structures should include the following elements: (see figure 2)

The **coordinator** plays the pivotal role within the working structures. They are tasked to organise and steer all processes within the municipal climate partnership. The coordinator is the key point of contact for all actors and interested parties, and is at the same time responsible for ensuring results and for public relations work. Equally, the coordinators of the respective municipalities provide the link in the bilateral process, and guarantee the exchange of information and transfer of knowledge between the partner municipalities. They are also the key contact persons within their respective municipality and for external actors (including the Service Agency and LAG 21 NRW). And they are contact persons for the workshops, network meetings and missions, as well as project reporting.

Usually a member of staff from the municipality is appointed as coordinator; teams of two are also possible. To ensure the continuity of processes in case of prolonged absence or changes of personnel, a deputy should always be appointed.

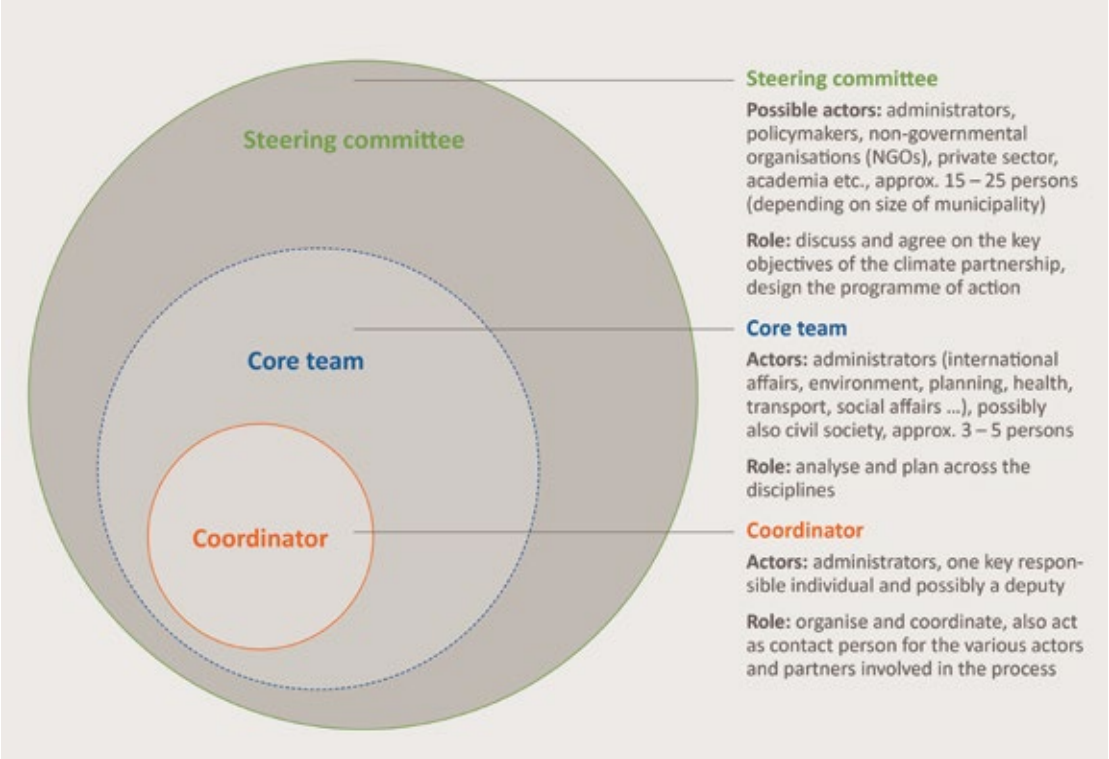


Figure 2: The working structures of a climate partnership © LAG 21 NRW/SKEW

The **core team** supports the coordinator with their various tasks, and may occasionally perform some of them. It is therefore involved in each step of work, and meets regularly. The core team normally comprises between three and five people, depending on the size of the municipality. Its members should be drawn from different specialised departments of the municipality, so that different approaches and solutions can be integrated. To cover as many different perspectives as possible, one option is to also include civil society actors in the core team. In the case of existing municipal partnerships that are also supported by a partnership association or a non-governmental organisation (NGO), it is a good idea to include an actor from each of the relevant organisations. The core team also prepares the work of the steering committee.

The **steering committee** is the largest group within the working structures. Its distinguishing feature is the broad diversity of actors involved. The core team forms part of the steering committee. The steering committee is comprised of balanced numbers of councillors, civil society actors and administrators. It is thus an interdisciplinary body that contributes a broad range specialist expertise and experience to the process of designing the programme of action. It plays a crucial role in ensuring that the climate partnership rests on a broad foundation. It is involved in the pivotal moments and milestones in the project process (such as missions, international workshops) and takes key decisions on the design of the climate partnership's programme of action.

1.3. Baseline review and developing the programmes of action

The basic aim of the 'Municipal Climate Partnerships' project is for the partner municipalities to produce a well-designed programme of action for climate change mitigation and adaptation.

The programme of action is developed in a participatory process involving the steering committees and core teams, and is continuously harmonised within the municipalities and between the partners via the coordinators. It is based on the results of in-depth analyses and the key areas of action jointly agreed for the climate partnership.

Each programme of action has a hierarchical, pyramid-like structure with more abstract, strategic objectives at the top, moving down to more specific, action-oriented measures that concretise the joint vision at the bottom. Key areas of joint cooperation are identified through a baseline survey and reciprocal missions. Building on these key areas, in a next step the strategic objectives are formulated. These form the basis for defining the operational objectives and measures, and reflect the areas of work and projects identified. The individual objectives and measures should be defined such that they match the specific situations in the partner municipalities, and so that implementation can be measured. The targets and activities should also be selected so that they are accepted by the actors involved, are subject to realistic planning and include deadlines for operationalisation (SMART criteria[1]).

The key areas and objectives of the bilateral programmes of action for climate change mitigation and adaptation are as varied as the partnerships themselves. In the field of climate change mitigation, objectives can be formulated for energy efficiency, renewable energy and energy saving. It is also possible to address issues of low-carbon agriculture/forestry, reduction of deforestation, establishment of mobility management, or sustainable solid waste management to avoid greenhouse gas emissions.

Regarding the impacts of climate change – such as rising sea levels, desertification, climate-related soil erosion or more frequent extreme weather events – objectives involving the improved management of these changes are conceivable. These might include measures for coastal protection, afforestation, water management or the preservation of biological diversity.

The programmes of action also create scope for mainstreaming objectives linked to overarching strategies such as comprehensive education work, or expanding databases on climate change through corresponding studies.

1 The SMART is a strategic approach to formulating objectives which is used in project management. The word 'SMART' is an acronym, made up of the letters S, M, A, R and T. These stand for criteria required when formulating objectives: **S**pecific, **M**easurable, **A**ccepted, **R**ealistic, **T**ime-bound.

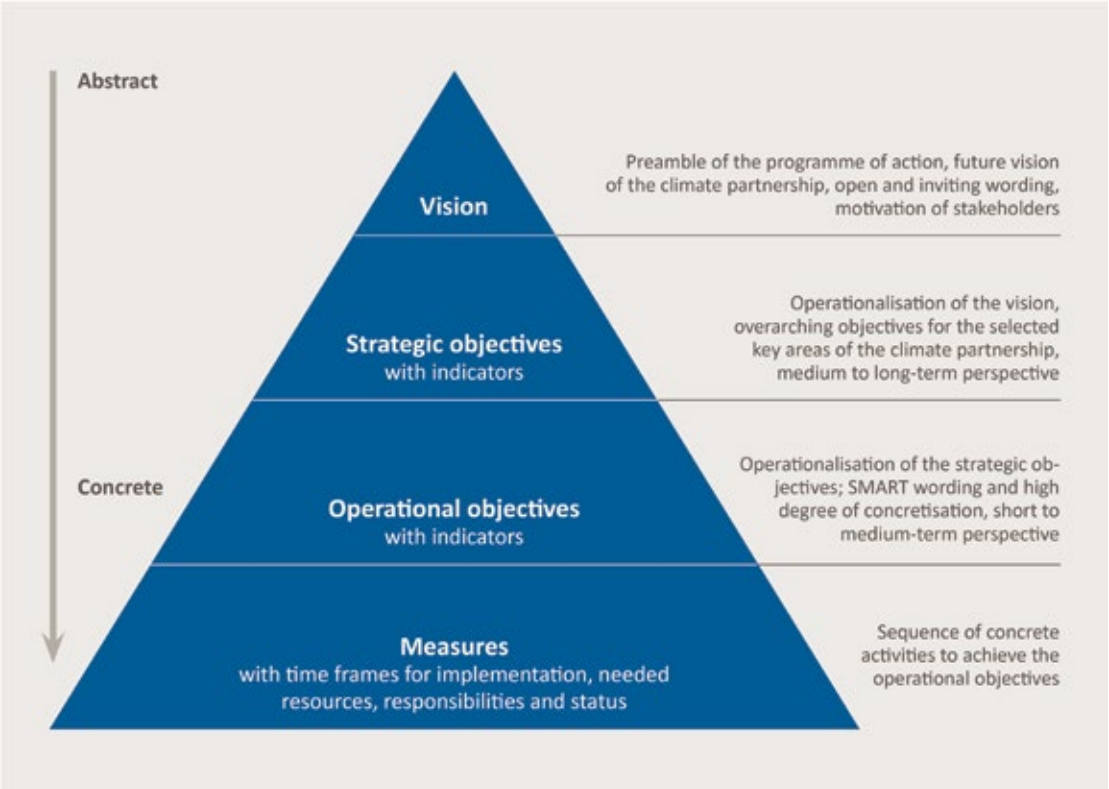


Figure 3: Key elements of the programme of action for a climate partnership © LAG 21 NRW/SKEW

To make the programme of action a manageable, implementation-oriented instrument, it will include both activities that can be implemented by the two partner municipalities self-reliantly, and activities for which support will be required from third parties such as twinning associations, private investors or donor organisations. This means that projects of various sizes can be launched on the basis of the programme of action. Since the programme of action is a joint one, its objectives and measures will relate to both partner municipalities. It may include the design and implementation of so-called 'parallel' measures that can be implemented in both municipalities independently of the local setting (such as exhibitions on climate change or tree-planting actions), as well as measures adapted to the specific local context.

As a preamble and to provide long-term orientation, the programme of action is prefaced with a joint vision. The joint vision of the climate partnership describes an idealised state in the two participating municipalities at a certain point in the future. This ideal state relates to the relationship between the partners, and the objectives to be achieved in the context of global climate change. The climate partnership's vision should convey emotional images of a common and desirable future, and in this way helps actors and the public identify with and focus on it. It should motivate people to make an active contribution. The vision will be on the margins of the feasible, i.e. somewhere between utopia and reality. The wording of the joint vision can and should incorporate visions, guiding principles or the like that already exist within the participating municipalities. It is also conceivable that the actors involved might take an existing partnership agreement and add elements of the climate partnership to it, and incorporate a joint vision there.

1.4. Implementation and continuous development

The joint programme of action for climate change mitigation and adaptation forms the basis for long-term cooperation within the climate partnership. The key areas of action by the climate partnership laid down in the programme are based on a sound knowledge of the situation in the respective partner municipality. The objectives jointly formulated in them are based on harmonised and realistic measures for their achievement.

The final and iterative step of work performed by the climate partnership is the responsibility of the two municipalities themselves, and begins after the international workshop for the presentation of the programmes of action. Options for implementing the activities are jointly explored and the programme of action itself is subjected to a Continuous Improvement Process.

During the preparation of the programmes of action a rough time frame should have been established by defining the duration and date of commencement of the individual measures. This should also reflect the climate partnership's priorities. In principle we recommend first of all implementing a pilot measure with a manageable time frame and modest financial requirements.

Depending on the nature and scope of the activities in the programme of action, these can be implemented using the human and financial resources of various actors that are directly available within the two municipalities, or by attracting external funding. The strategic programme of action itself (which is the outcome of a structured process of reflection and planning), plus the working and communication structures established, provide a very sound basis on which to apply for funding.

Given their medium- to long-term time frame, the programmes of action cannot be static. They must be actively further developed and adjusted. This is why the successful (or unsuccessful) achievement of the agreed objectives, and implementation of the activities, should be regularly reviewed through systematic monitoring. This means applying indicators. The results are discussed in the respective steering committees, where any necessary changes to the joint plans are identified and discussed and agreed on between the partners. Implementation of the programme of action is then continued on the basis of this adjusted plan. This overall approach involves a cycle repeated periodically that encompasses the following steps (see Figure 4):

Figure 4: The Continuous Improvement Process, integrated into the PDCA cycle © LAG 21 NRW/SKEW

A climate partnership report that describes the implementation and further development of the programme of action at continuous intervals provides an important basis for this. The report also serves as a tool for providing information to the policymaking bodies and other interested actors in the respective municipalities.

2. NETWORKING THE PARTICIPATING MUNICIPALITIES

One particularly beneficial feature of the Municipal Climate Partnerships project is that several climate partnerships begin developing their joint programmes of action at the same time. Networking the municipalities is an important project component for peer-to-peer learning that enables participants to share lessons learned and good practice examples within the network, and reproduce them.

The project organises a network for each cohort of partner municipalities within a project phase – in this case the sixth phase. It also networks the climate partnerships across the phases, and internationally by enabling them to take part in conferences at which municipalities have an opportunity to present their climate partnerships.

For example, the three climate partnerships Herford District (Germany) – Condega (Nicaragua), Cologne (Germany) – Yarinacocha (Peru), and Ludwigsburg (Germany) – Ambato (Ecuador), took part in the second conference of 'Municipal Partnerships with Latin America and the Caribbean' organised by the Service Agency in Nuremberg in October 2018. Two climate partnerships from the sixth phase also took part in the fourth conference of 'Municipal Partnerships with Africa'. These were Schwäbisch Hall (Germany) – Okahandja (Namibia), and Viernheim (Germany) – Silly (Burkina Faso). Furthermore, in December 2018 a delegation from the climate partnership Cologne – Yarinacocha travelled to Katowice in Poland to attend the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), where they presented their climate partnership and took part in various side events drawing attention to the impacts of climate change for the indigenous population of Peru.

There are also numerous opportunities for networking within the project itself, as described below.

2.1. Levels of networking in the project

The project 'Municipal Climate Partnerships' enables and empowers the municipalities involved in a given phase of the project to network and share experiences with each other. Here we can distinguish between three different levels of exchange:

Cooperation is based on direct bilateral contact between the two municipalities involved in the climate partnership. Sharing takes place in the form of the reciprocal exchange of local government experts, as well as communication by email, teleconference, social media etc. The municipalities themselves decide on the location and the actors to be involved in the respective mission. During the sixth phase of the project from October 2017 to October 2019, three such expert missions took place per climate partnership. The Service Agency and LAG 21 NRW provided organisational support in conjunction with other professional inputs. In Germany the missions were supported through the provision of workshop moderators. These services were provided both as the key areas for future cooperation were being defined, and during the phase of designing the programmes of action themselves.

The second level of exchange involves the networking of the German municipalities, and the networking of the African and Latin American municipalities. To support this process network meetings are held, to which the coordinators and two members of the core team/steering committee from each of the municipalities are invited. The main purpose of these network meetings is to share lessons learned from work in the individual climate partnerships. The actors involved report on the status quo in their respective climate partnership, receive feedback from the other members of the network as well as from the project team of the Service Agency and LAG 21 NRW, and plan the next steps. They also benefit from technical inputs, as well as further information on the progress of the project as a whole, and on complementary support offerings for municipal partnerships.

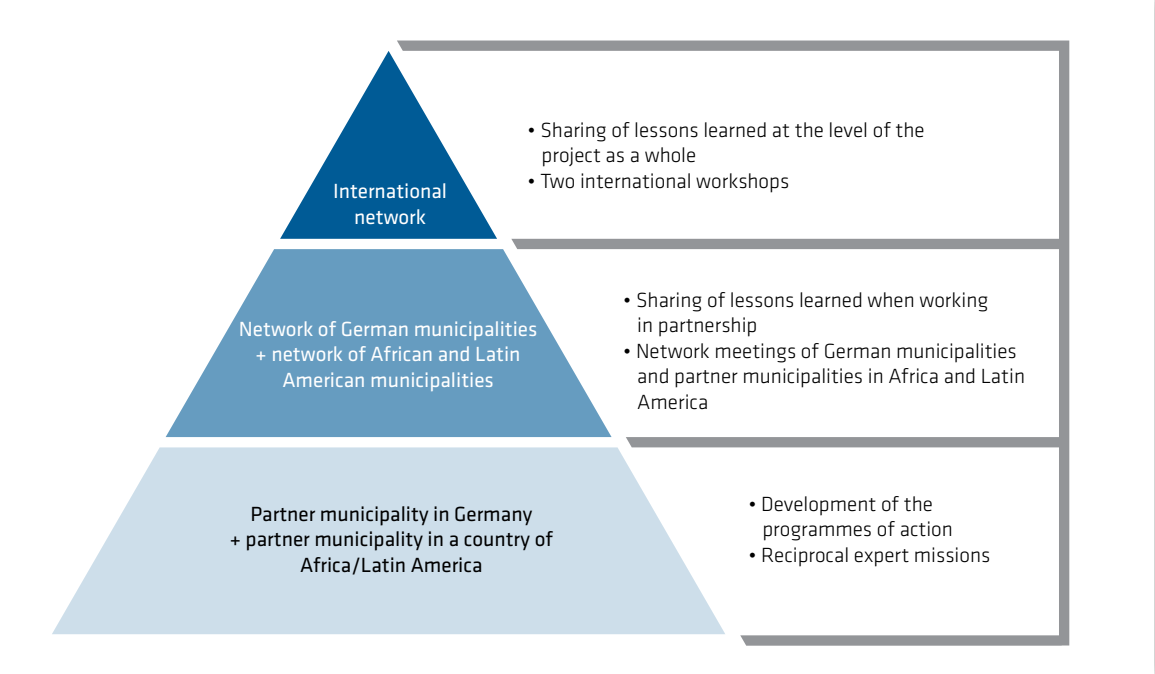


Figure 5: Different levels of exchange within the project © LAG 21 NRW/SKEW

The diversity of the climate partnerships involved in this phase of the project was a distinctive feature of the process of sharing at these network meetings. New partnerships benefited from the experiences of already established partnerships, and by broadening their joint work to include climate change, existing municipal partnerships gained fresh impetus. During the sixth phase a total of four network meetings of the participating German municipalities and one network meeting of the participating African and Latin American municipalities took place.

At the beginning of the joint work on the programmes of action, and later on to present the results of that work, international workshops are held that are attended by representatives of all the municipalities involved. This international network of all municipalities forms the third level of networking. It focuses on sharing lessons learned at the level of the project as a whole. The purpose of the kick-off workshop is to develop a joint understanding of the methods and structure of the project, and to initiate expert exchange among the partners. The second international workshop provides a platform for presenting the programmes of action, discussing future cooperation within the climate partnerships, and pursuing more in-depth expert dialogue.

2.2. Workshops and network meetings

Key milestones in the 'Municipal Climate Partnerships' project are those moments when the actors in the participating municipalities meet face-to-face, work together to develop their programmes of action and profit from the lessons learned in the network of participating municipalities. We will now summarise the various national and regional network meetings, and the major international workshop involving all municipalities, for the sixth phase.

2.2.1. Information workshop for the German municipalities

An information workshop took place in Göttingen from 3 to 4 April 2017. At this first meeting, German municipalities interested in the project were able to take a close look at the background, key content, services and expectations of the project, and use this information to plan their next steps for setting up and establishing the climate partnership. This was supplemented with explanations of the climate-policy and development-policy environment of the project, which highlighted the role of the local level in this context. To complement this theoretical background information, the coordinator of the climate partnership between the German municipality of Horb am Neckar and

Belo in Cameroon provided a report from the third phase of the project from a practitioner's perspective. This showed how in the course of the project a completely new partnership was established, and what opportunities and challenges this entailed.

2.2.2. Preparatory meeting for the kick-off workshop (first network meeting)

To prepare for the international workshop in Bremen, the German municipalities participating in the sixth phase held a joint meeting in Siegburg on 4 July 2017. At this preparatory meeting the Service Agency communicated basic information on the organisation and structure of the project, and explained what services the Service Agency would provide in that context as well as what was expected of the participating municipalities. A further aim of the preparatory meeting was to prepare the organisation and content of the forthcoming kick-off workshop for the sixth phase of the project in Bremen. The municipalities taking part were also able to use the preparatory meeting to discuss their respective next steps for establishing the climate partnership in their municipalities.

Following the preparatory meeting the participants had an opportunity to take part in an intercultural training course delivered by the German Academy for International Cooperation (AIZ). This focused on intercultural cooperation and the definition of advisory roles. The participants were first of all introduced to specific cultural standards and value systems which differ from European expectations in many areas. Further elements of this transfer of intercultural expertise included the sometimes steep hierarchy systems in partner countries, styles of communication, and planning deadlines, which are important when working together in a project. The actors from Germany also discovered how to deal with certain deep-seated stereotypes, and what styles of communication and specific cultural characteristics they should expect.

2.2.3. International kick-off workshop

The international kick-off workshop, which took place from 9 to 11 October 2017 in Bremen, marked the beginning of municipal cooperation in the sixth phase of the project. Out of the total of 24 participating municipalities from Germany, African countries and Latin American countries, for 21 municipalities up to three actors each from the realms of decision-making, administration and/or local civil society attended the workshop. Three German municipalities took part without their partners from the South, who were prevented from attending by other appointments. These actors were inducted into the project at a regional kick-off workshop. Around 100 participants attended the kick-off.

Participants sharing ideas during the kick-off workshop for the sixth phase in Bremen © Martin Magunia

It set out to introduce all the participating municipalities to the objectives, the structure, the methodology and the instruments of the project, and to prompt exchange within the partnerships in order to begin developing the programmes of action. For many participants the workshop was the first chance for them to meet their partners face-to-face. Time was therefore also set aside to allow people to get to know each other and to share ideas and information.

The professional context was covered by presentations delivered by top-class invited speakers: Professor Jörn Birkmann from the University of Stuttgart spoke about the main risks of climate change and the resulting scope for adaptation. Dr Irit Eguavoen from the Centre for Development

Research (ZEF) at the University of Bonn demonstrated options for adapting to climate change, referring to concrete examples in sub-Saharan Afriapprox. During an excursion to the Klimahaus 8° Ost in Bremerhaven, participants were able to experience for themselves the impacts of climate change through a virtual journey around the world.

For dialogue within the partner municipalities, each side identified potential actors for their climate partnership and presented this stakeholder analysis to their respective partners. To identify common thematic areas for the climate partnerships, the partners explained to each other how climate change threatens their municipality, and what strategies and projects they have already implemented to address this. They planned the next steps for preparing their programmes of action, especially the first expert missions, and agreed arrangements for communication.

After the workshop – or immediately before it – the delegations from the African and Latin American municipalities took the opportunity to visit their respective German partner municipalities. For many this was the first visit to the partner municipality. This was therefore a good opportunity for them to gain a better impression of their partner municipality and explore possible topics for joint cooperation.

The kick-off workshop laid the foundation for the climate partnerships of the sixth project phase.

2.2.4. Second network meeting of the German municipalities

The second network meeting of the German municipalities took place from 12 to 13 March 2018 in Schwäbisch Hall (Germany). The municipal and civil society actors taking part focussed mainly on the expert missions conducted in the preceding months. In an open forum they discussed what had gone well in the missions, and what had given them food for thought. Breakout groups were formed in which participants discussed various aspects of the baseline surveys in the two participating municipalities. This included for instance what approach the respective partners had selected for setting up their working structures and for involving other actors in the climate partnership.

To complement the dialogue between the municipalities, specific offerings of the Service Agency on the topic of migration and development were presented, and a panel debate was held to discuss openly the scope for integrating the cultural potential of migrants into the climate partnership. Furthermore, the host municipality of Schwäbisch Hall had an opportunity to present its own climate action initiatives to the other participants.

Discussing the results and key findings of the first mission phase
© SKEW

2.2.5. Network meeting of the African and Latin American municipalities

The three-day network meeting of African and Latin American climate partnership municipalities was devoted entirely to South-South exchange. From 21 to 23 November 2018, some 30 delegates from five African and one Latin American country met in Windhoek, Namibia. The workshop was conducted with organisational support from the City of Windhoek. As with the network meetings of the German municipalities, this conference focused on discussing progress and problems encountered when developing the joint programmes of action. It also brought together municipalities facing the same challenges and working in the same areas of climate change mitigation and adaptation, who were then able to engage with each other directly in the context of their ongoing work with their partners.

The City of Windhoek had invited the participants on a half-day excursion to see the greatest challenge posed by climate change for their municipality: how to continuously improve and optimise

water management. Advancing climate change is exacerbating the country's water scarcity, which is already acute. On the excursion participants visited various water and sewage treatment plants – as well as a hazardous waste processing facility. The feedback from participants was highly positive, as the four excursions enabled them to understand in depth how water is managed and recycled.

Excursion on the topic of wastewater treatment © Johan Jooste

Looking ahead to the finalisation of the programmes of action and the subsequent implementation of concrete projects, the Service Agency presented various kinds of support offered in the form of financial and human resources. The Service Agency explained what conditions the German municipalities needed to meet in each case, and what contributions would need to be provided by their partners in the African or Latin American municipalities. To provide the municipalities with some first-hand experience of developing and implementing the programmes of action, Darby Gounden from Buffalo City Metro in South Africa reported on the lessons she had learned. Partnered with Oldenburg, Buffalo City had taken part in the third phase of the Climate Partnerships Project. The agenda for day three also included a World Café on the topics 'gender and climate change', 'water and solid waste management', 'renewable energy' and 'information work, communication and cooperation with German municipalities'. Here participants had an opportunity to compare notes on specialist issues and specific challenges, and forge links with other municipalities working on the same topics with their German partners.

2.2.6. Third network meeting of the German municipalities

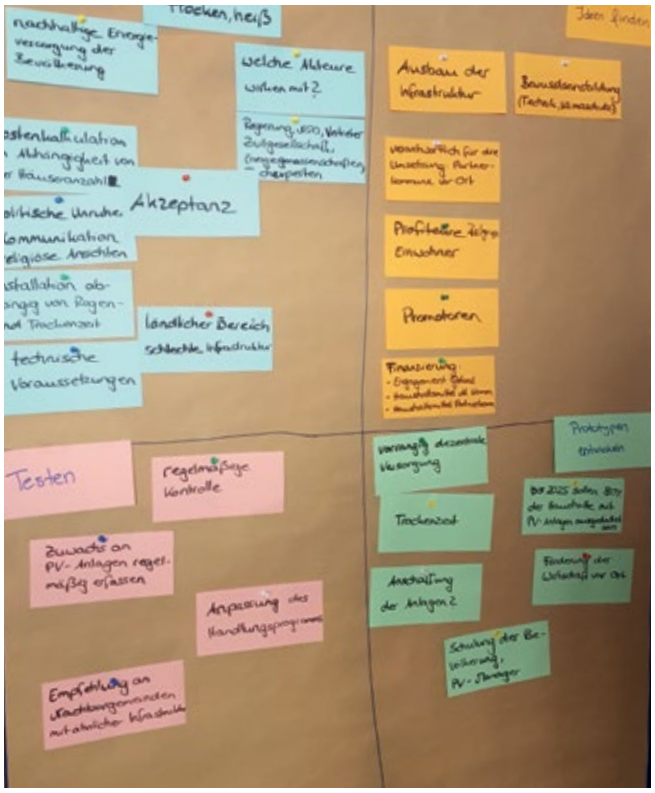
The third network meeting, which took place from 12 to 13 December 2018 in Viernheim, was all about the progress made with developing the joint programmes of action. One core topic was the lessons learned and results obtained during the second expert mission. In small groups the participants presented and discussed the current status of their respective programmes of action in considerably greater detail than on previous occasions. Most of the climate partnerships had by that point defined key areas of action for their joint work, and further concretised this through ideas for projects. From the perspective of the project as a whole, participants were then provided with information on the next steps for further elaborating their joint programmes of action. The discussion also covered the possible implementation of projects in the German municipality. The project team also presented the results of the network meeting of the partners from the Global South in Windhoek, and placed these in the context of the general time line of the sixth project phase.

Participants during the third network meeting of the German municipalities © SKEW

Regarding implementation of the programmes of action, during the network meeting various funding instruments of the Service Agency were presented and their specific features highlighted. To enable participants to better understand how the programme of action can be implemented and what that entails, the long-standing coordinator of the climate partnership Würzburg (Germany) – Mwanza (Tanzania), which took part in the pilot

phase of the project from 2011-2013, presented various projects that had either already been implemented, were currently being implemented or were planned.

2.2.7. Fourth network meeting of the German municipalities



Results of the group work on 'design thinking' © SKEW

The fourth network meeting of the German municipalities took place from 27 to 28 May 2019 in Cologne (Germany). By this point almost all climate partnerships had already produced first drafts of their joint programmes of action, which they discussed intensively in the course of the network meeting. Due to the similarity of their experiences and the challenges they had encountered, by engaging in constructive dialogue all participants were now able to gain important findings and suggestions for finalising their programmes of action. This dialogue was supplemented with lessons learned by the project team from previous phases of the project, and thus with key recommendations for implementation and continued development of the programmes of action in the long term.

At this point the municipalities were on the verge of provisionally completing their work on their joint programmes of action. The agenda thus included the issue of transitioning from the overarching strategic level of the programme of action to concrete project planning. The project team therefore presented various methods and schools of thought that can be used to translate the programme of action into specific and self-contained projects. The methods presented included for instance 'results-based project planning' and 'design thinking'.

Since the fourth network meeting was the final one prior to the international workshop for presentation of the programmes of action, participants also discussed the upcoming reports and preparations for the international workshop.

2.2.8. International workshop for presentation of the programmes of action

The international workshop to present the programmes of action took place in Jeffrey's Bay, Kouga Local Municipality in South Africa, from 9 to 11 October 2019. It marked the end of the stage of developing the programmes of action, and thus a milestone for the climate partnerships. Delegates from all 24 of the municipalities involved in the sixth phase of the project took part, including 13 mayors and district chief executives. As well as local administrators, participants also included council representatives, civil society actors and academics. A total of 115 people attended day one of the conference.

Day one was all about the joint programmes of action. A general review of the sixth phase of the project provided by the Service Agency and LAG 21 NRW, plus a poster exhibition, traced the path taken by the climate partnerships as they prepared their joint programmes of action. The municipal delegates explained how their programmes and the key areas of action had emerged, and presented concrete activities from their programmes in plenary. Participants presented selected activities in the fields of renewable energy, water management, sustainable urban development, mobility, wastewater management and solid waste management in four specialised forums.

Day two began with a reflection on the two-year project phase and the resulting agreements on future communication and on defining and planning the next steps to further develop the climate partnerships. In most cases the partnerships focused on submitting project proposals for funding, and implementing their first joint projects. This was followed by a keynote speech delivered by Dr Peter Johnston from the University of Cape Town, who discussed the impacts of climate change on southern Afriapprox. The presentation also included several good practice examples for mitigation and adaptation at the local level. The next item involved an excursion to 'Africa's first environmentally friendly road'. As part of the pilot project, a 1.7-km stretch of road had been built from recycled plastic. Immediately after that a joint tree-planting action took place in an informal settlement in the host municipality. The participants planted trees to which they attached slips of paper on which they wrote their personal wishes for the climate partnership or climate action. Alongside these activities, and during the evening events, plenty of space remained for dialogue and networking among the participating actors.

Presenting the poster for the climate partnership Hameln-Pyrmont District (Germany) – Alfred Nzo District Municipality (South Africa) © Ernst Ohlhoff

The agenda for day three of the workshop began with cross-partnership dialogue on the topics of integrated water management, participation, good governance, cooperation with civil society, integrating the climate partnership into the local community, renewable energy and the 2030 Agenda[2] in the work of the municipal partnerships.

Joint tree-planting action as a contribution towards carbon offsetting © Ernst Ohlhoff

After that the organisations managing the project (the Service Agency/LAG 21 NRW) provided the participants with information on the support available for realising the programmes of action, and on their further role in continuing to facilitate the partnerships in the future. The international workshop marks the end of cooperation between the Service Agency/LAG 21 NRW and the municipalities involved in the project at the level of intensity with which participants have so far been familiar. All sides did, however, express an interest in continuing the process of exchange. From 2021 onwards, the Service Agency and LAG 21 NRW plan to realise this among other things by organising a joint network meeting with the five previous project phases. In an evaluation of the workshop and the entire two-year project phase, participants had an opportunity to express their views of the project and provide feedback for continued development of the project as a whole.

2 The 2030 Agenda for Sustainable Development, known as the '2030 Agenda' for short, was adopted by all member states of the United Nations in September 2015. Its centrepiece is a set of 17 Sustainable Development Goals (SDGs). See https://sdgs.un.org/2030agenda.

3. REPORTS OF THE MUNICIPAL CLIMATE PARTNERSHIPS

3.1. Bremen (Germany) – Windhoek (Namibia)

	City of Bremen (Germany)	City of Windhoek (Namibia)
Population	approx. 547.340	approx. 415.900
Area	325,42 sq. km	5,133 sq. km
Possible or already noticeable impacts of climate change	• Heavy rainfall • Higher temperatures in summer • Elevated temperatures in bodies of water • Change in the microclimate • Rise in sea level at the North Sea, as a result of which dikes need to be raised	• Recurrent droughts and unfavourable patterns of precipitation • Shortage of water resources due to pronounced aridity • Increase in mean temperatures • Longer and hotter dry spells • Rapid urbanisation

Profile of the climate partnership

Along with Bremerhaven, Bremen is one of the two cities that comprise the federal state of the 'Free Hanseatic City of Bremen', which is located in north-west Germany. The River Weser flows from south to north through the city, linking Bremen with the North Sea 60 kilometres away. The river provides numerous animals with a natural habitat, and is of high leisure and recreational value for citizens. At the same time the Weser is embanked in order to protect against flooding.

Windhoek is the capital city of Namibia, and is located in the middle of the country. The city is surrounded by mountains, which severely constrains any growth in area. Nonetheless, the population is expanding rapidly. In the area around Windhoek, informal settlements have arisen in which there is a lack of both infrastructure and safety precautions against the impacts of climate change.

Through their colonial history Namibia and Germany, and thus Bremen too, have been linked for over a hundred years. In 1884 the Bremen merchant Adolf Lüderitz fraudulently purchased land in Namibia, thus laying the foundation for Germany's violent colonial rule in German South West Africa. Quite a few decades later the City of Bremen supported the SWAPO independence movement and the South African ANC, and to this day acknowledges its special responsibility. These close links still exist, and form the basis for developing and shaping the long-term relationship that since the year 2000 has grown bit by bit, and delivers benefits for both sides.

Bremen's anti-colonial monument and memorial to the victims of the Battle of Waterberg © Free Hanseatic City of Bremen

In the year 2000 the Charter Agreement on joint implementation of the Local Agenda 21 formed the official basis for the city-to-city partnership. In 2010 the two cities decided to focus their joint activities and projects on environmental protection and natural resource management, as it had become clear that climate change would emerge as one of the greatest challenges for the future of both cities. To this end, between November 2014 and May 2017 Windhoek and Bremen jointly implemented a project for environmental education and for improving the quality of surface water in the townships of Windhoek. The project was funded by the Partnership Projects for Sustainable Local Development (Nakopa) programme.[3] This project generated fresh approaches to the disposal of used oil, which the two sides plan to develop further in the future. Only recently a second Nakopa project for constructing off-grid sewage treatment plants in an informal settlement in Windhoek was launched.

To place their joint activities in an overarching framework, since October 2017 Windhoek and Bremen have been taking part in the 'Municipal Climate Partnerships' project. The two cities are working together to implement the United Nations 2030 Agenda for Sustainable Development. In the climate partnership the two sides intend to continue working together in the future in tried-and-tested ways. This will involve knowledge sharing and mutual facilitation, broadening each other's horizons, and developing joint solutions.

Designing the programme of action

In Bremen, coordination and project management for the climate partnership are the responsibility of the Senate Chancellery's Division for Development Cooperation, International Affairs and City Partnerships. In Windhoek responsibility rests with the Division for External and International Relations; this is attached to the city's Office of the Chief Executive Officer (CEO).

These two small teams in Windhoek and Bremen have made intensive efforts to involve as many stakeholders as possible in the partnership. For example, numerous stakeholders have taken part in the delegation visits, and have either travelled abroad or have invited foreign visitors to their offices, workshops, businesses or other places, where guided tours, work shadowing and discussions took place. During the project term, a total of three delegation visits were carried out. In February 2018 actors from Bremen visited Windhoek, and in October 2018 and April 2019 actors from Windhoek paid return visits to Bremen.

Workshop in Bremen with the Service Agency during the second mission, October 2018 © Free Hanseatic City of Bremen

During these visits the following organisations from Bremen took part in the sharing of information and lessons learned: the Senator for Climate Action, Environment, Mobility, Urban Development and Housing Constriction; Umweltbetrieb Bremen; Umwelt Figureung Bremen; Bremen University of Applied Sciences; the University of Bremen; BORDA e.V.; the Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) Regional Office North; hanseWasser Bremen GmbH; Die Bremer Stadtreinigung (DBS); Nehlsen GmbH; swb GmbH; Kaefer GmbH and AbfallWirtschaftsgesellschaft Bassum.

The following organisations and institutions from Windhoek took part: the Solid Waste Management Division, technical support section: landfill sites; the Department of Economic Development and Community Services; the Environmental Management and Health Services Division; the Bulk Water and Wastewater Division; the Gammams Water Works (sewage treatment plant); the Department of Infrastructure, Water and Technical Services and the Division for External Relations and Networking of the Office of the CEO.

3 https://skew.engagement-global.de/funding-from-the-nakopa-programme.html

The excursions in both cities in particular made a key contribution towards deepening the understanding and extending the knowledge of the partners involved. Participants thus had an opportunity to observe work in the sewage treatment plants, landfill sites, offices and other facilities. Here it became clear the two partner municipalities in some cases face similar challenges, which resulted in a highly constructive dialogue between the experts on both sides.

One thing that should be strongly underlined is the exceptional hospitality extended during the visits by the three delegations and at the other meetings. The hosts were eager to let their visitors see how they go about their work and were ready to share information and lessons learned. In Windhoek the delegation from Bremen received a very warm welcome from CEO Robert Kahimise. In Bremen the official state representative to the Federal Government, Ulrike Hiller, welcomes the delegations from Windhoek at the Hanseatic city's historic town hall. Furthermore, all the aforementioned participants were extremely helpful throughout and were at pains to make the stay as rewarding as possible. During the visits many personal contacts were struck up which the two sides intend to maintain.

The key measures of the programme of action

To develop the programme of action for their municipal climate partnership, Bremen and Windhoek began by analysing the areas in which the two cities were likely to be hardest hit by climate change, and in what fields the two cities possess the needed expertise to tackle its impacts. Here they incorporated the ongoing efforts of other stakeholder groups in both cities, and their activities to date within the city-to-city partnership.

Based on these reflections, six strategic objectives emerged:

- Promote further development of waste management engineering in Windhoek, especially waste incineration plants
- Promote a change of waste management culture in both cities, especially through education and awareness-raising to promote recycling, waste separation, clean-up of the two cities, and waste avoidance through the re-use of recyclable materials
- Share knowledge and technology on wastewater treatment and sanitation in central and possibly off-grid sewage treatment plants
- Develop sustainable tourism in conjunction with a sustainable tourism strategy for the City of Windhoek
- Include climate change in city-wide activities and debates
- Develop urban mobility by promoting non-motorised transport; improve public transport with support from the GIZ 'Transport, Mobility, Logistics' project in Namibia

Visiting an informal settlement in Windhoek during the first mission, February 2018 © Free Hanseatic City of Bremen

It emerged from discussions that two topics are particularly important for the municipal climate partnership between Bremen and Windhoek, namely **wastewater treatment** and the **municipal waste recycling**. Both are included among the core tasks of any municipality: If wastewater and municipal waste are not properly managed this has considerable consequences for the health and safety of citizens as well as negative environmental impacts, such as groundwater and soil contamination. The on-site visits and meetings held in the two cities showed that the actors involved would profit from dialogue on these issues, because their solid waste and wastewater management systems, and the challenges these entail, are similar enough to allow comparisons and cross-referencing.

Waste water treatment in Windhoek and Bremen

In the informal settlements of Windhoek there is an urgent need for sanitation infrastructure. Most of these settlements are not yet connected to the city's central sewage treatment plant. Moreover, groundwater is scarce. It is therefore very important to ensure that wastewater is not discharged in an uncontrolled fashion, in order to prevent groundwater contamination.

In February 2018 there was an outbreak of hepatitis E in one of the informal settlements in Windhoek, which highlights the urgency of this problem. This liver disease is mainly caused by polluted water. Professional hygiene management in densely populated areas can reduce the risk of pathogens being transmitted through contaminated water.

As part of the municipal climate partnership, Bremen and Windhoek are now building an off-grid sewage treatment plant at a pilot location in the informal settlement 'Mix'. The project encompasses a local gravity-based sewage treatment plant which, in conjunction with 40 low-flush toilets, are designed to guarantee sanitation for 40 households. As well as this technical solution, other important aspects of the project include public information and training measures for local citizens, plus stakeholder participation. To guarantee accountability, the project will be implemented with the participation of the city's political leadership and community leaders, and in cooperation with local universities. The climate partnership also envisages promoting cooperation between Bremen's wastewater treatment utility hansewasser, the Umweltbetrieb Bremen and the Gammams Water Care Works to train technical specialists for sewage treatment systems.

Solid waste management

Population growth is making the systematic treatment of municipal waste in Windhoek an increasingly urgent matter. Bremen has recently seen a number of changes in solid waste management. In summer 2018 responsibility for solid waste management was once again transferred to the municipality, and the utility 'Die Bremer Stadtreinigung' was established.

The sharing of knowledge and lessons learned with methods to treat municipal waste has proved highly successful in the climate partnership. Numerous actors in Bremen have warmly welcomed partners from Windhoek and shared their knowledge with them. They did so for instance when visiting a landfill site (the most important form of waste management in Windhoek), when visiting a recycling centre in Bremen (a similar centre exists in Windhoek), and when discussing urban clean-up campaigns, innovative waste incineration technology and potential for using landfill gas.

The next joint activities of the municipal climate partnership will address these topics. The aim will be to reduce the quantity of landfill waste in Windhoek through recycling, waste separation and the introduction of further technical systems. There are also plans to degas the landfills. For its part, Bremen intends to continuously increase its share of recycled waste, and would like to step up cultural dialogue with Windhoek on the reuse of materials and goods in order to generate less waste overall.

3.2. Brühl (Germany) – Dourtenga (Burkina Faso)

	Municipality of Brühl (Germany)	Municipality of Dourtenga (Burkina Faso)
Population	14.489	9.517
Area	10,19 sq. km	214 sq. km
Possible or already noticeable impacts of climate change	• Increase in extreme weather events (torrential rainfall with flooding, storms) • Hot and dry spells in the summer • Milder and wetter winters • Invasion by alien animal and plant species and displacement of sensitive species • Rising mean annual temperature • Shift in vegetation periods	• Shortage of water reservoirs and growing number of water extraction points that have a negative impact on infrastructure development, making water infrastructure inadequate • Lowering of the groundwater level • Destruction of vegetation • Desertification/drought • Soil impoverishment and declining agricultural yields/harvests • Disappearance of land for crop and pasture farming, plus land ownership challenges

Profile of the climate partnership

Brühl and Dourtenga have been municipal partners for over 20 years. The municipality of Brühl and the Dourtenga Supporters' Association in Brühl have set themselves the task of improving life in Dourtenga by implementing projects, particularly in the fields of education, health and water supply.

As the initiator of the partnership the Mayor of Brühl, Dr Ralf Göck, and the municipal council took the partnership's 20th birthday as an opportunity to begin a new chapter with the climate partnership. The municipal council of Dourtenga adopted an identical resolution.

The Municipality of Brühl is located at the heart of the economically strong Rhine-Neckar Metropolitan Region, and has a well developed infrastructure. Effects of climate change in Brühl that are particularly worthy of mention include extreme weather events that are negatively impacting agriculture and municipal infrastructure. Brühl is facing up to its responsibility for climate change, and has already developed programmes and activities to increase energy efficiency and promote renewable energy use. It plans to tackle these areas systematically through an integrated climate action master plan. By contrast, the Municipality of Dourtenga is very rural. Extensive crop and pasture farming practised with very little financial or infrastructural investment form the main sector of the local economy. Climatic imponderables are a further feature.

Visiting a biogas plant in Dourtenga © Abel Abga

Hunting and forestry are also practised, while fishery is non-existent due to the lack of water bodies. One aspect that merits particular emphasis is that the rural Municipality of Dourtenga covers a small area and barely any agricultural land is available.

The rural Municipality of Dourtenga faces the following constraints (amongst others):

Natural constraints:

- Climate change (desertification, drought, fall in groundwater level etc.)
- Unpredictability of food resources
- Disappearance of land for crop and pasture farming, plus land ownership challenges
- Inadequate water reservoirs, also due to ageing water infrastructure
- Inadequate energy resources

Constraints with respect to the regional market:

- Agricultural output and productivity (crop farming, animal husbandry, forestry) are too low to be able to gain a foothold on the regional market
- Low capacity for processing products from agriculture, forestry and animal farming
- Low availability of energy resources and low energy production

Given the above-mentioned problems, the population of the rural Municipality of Dourtenga live under conditions of relative poverty. This means that, more than any other factor, poverty determines their vulnerability to climate change and limits their ability to adapt.

Given that climate change poses challenges for both municipalities, motives for establishing the climate partnership involved a focus on water management, renewable energy and sustainable agriculture.

Designing the programme of action

The first step was to create the working structures in the two municipalities. Each municipality formed a coordination team, a core team and a steering committee comprising administrators, councillors, private sector actors, civil society representatives, official from public institutions, professional experts and committed private individuals. The Dourtenga Supporters' Association in Brühl and the Partnership Committee in Dourtenga were also involved in the work process.

One important foundation for developing the joint programme of action is regular communication between the coordinators and experts in the two partner municipalities. This took place through regular exchange of emails, and through face-to-face meetings during missions.

The **first mission** took place in January 2018. A three-person delegation from Brühl visited their partners in Dourtenga with the aim of laying the needed foundations for the further course of the project. This enabled actors from the two municipalities to get to know each other and compare notes, identify problems on the ground and draw up possible projects to solve the problems. This work in the municipality led to the production of a matrix containing the key areas for the programme of action – water management, renewable energy and sustainable agriculture. It also listed possible projects that can contribute towards climate change mitigation and adaptation. Further work in the climate partnership continues to build on this existing matrix.

Workshop at the church community centre in Brühl
© Anna-Lena Schneider

In the **second mission** in July 2018 a three-person delegation from Burkina Faso visited the Municipality of Brühl. During this mission too, the two sides were able to take further steps towards their joint programme of action. The partners from the Global South were also able to see what measures for climate change mitigation and adaptation have already been taken in Brühl, and at what points in the programme of action parallel activities might be developed in both municipalities.

Alongside the dialogue between the two partner municipalities, the project team from the Service Agency and LAG 21 NRW organised and conducted network meetings for the German municipalities,

the meetings of the partners from the South and the joint workshops to further develop the climate partnership.

The key measures of the programme of action

The objectives and activities in the programme of action were based on the matrix drawn up during the first mission in January 2018. This already listed possible projects that the two partners finally arranged thematically, thus defining the following key areas for the joint programme of action:

- water management
- sustainable agriculture
- renewable energy

The lack of sufficient water is one of the biggest problems in Dourtenga. This is why the municipalities are planning **water management** activities to improve the water situation for humans, animals and agriculture by increasing the amount of water and stabilising the groundwater situation. Two key aims in this context are to ensure access to safe drinking water for the population, and improve the water retention capacity of the soil. The partners plan to secure access to safe drinking water by constructing solar powered wells to which all citizens will have access. Before the wells are drilled, however, several studies will be conducted to identify the appropriate sites. Furthermore, so-called water protection zones will be set up around the wells to limit agricultural use, thus preventing contamination of the groundwater with nitrate/ fertilisers etc.

A further option for water storage is the construction of a cistern to collect rainwater during the rainy season, which can ultimately be used as required during the dry season. It is also envisaged that the planned restoration of the natural vegetation will put a stop to further soil desertification and improve the water retention capacity of the soil. Here the partners are considering using the Zaï method, for which Yacouba Sawadogo – a farmer from Burkina Faso –won the Right Livelihood Award.[4]

The improved water supply should enable the year-round production of food and other agricultural products to supply the population. Since water is not only vitally important for human and animals but also has major impacts on agriculture, water is at the top of the agenda for the partners from the South.

For water management, Brühl has set itself the goal of preventing the contamination of water bodies by the population and local enterprises. To achieve this it will introduce a tree sponsorship scheme designed to make citizens aware of their responsibility to water municipal trees. A further step will be the introduction of tree sponsorships in schools in Dourtenga, which will make each school student responsible for a tree in the school garden.

Explaining water management on the island of Koller in Brühl
© Anna-Lena Schneider

The second key area is **sustainable agriculture**. In the long term, the aim is to make agriculture in both Brühl and Dourtenga organic, so that it can do without the use of pesticides. The know-how needed for sustainable agriculture will be transferred primarily to young farmers (both female and male) in Dourtenga in an agricultural school. The farmers will be familiarised with appropriate methods, and ultimately apply them. Seminars and workshops will be held to raise awareness of sustainable agriculture among the remaining village population.

A further aim in agriculture is to make degraded soils suitable for cultivation, so that farming can be resumed there. To achieve this, soil erosion

4 For an explanation of the Zaï method, see https://www.gemeinsam-fuer-afrika.de/der-mann-der-die-wueste-stoppte/ (German only).

will be prevented by constructing rows of stones, planting hedges and composting. Farmers will also be trained to use modern, nature-based and site-appropriate cultivation methods that do not place too great a strain on the soil.

Furthermore, when new plants are planted steps will be taken to ensure that these are well adapted to local climatic conditions. To this end, following the analysis of particular species with respect to their salt tolerance and drought resistance, lists of plants will be drawn up indicating which ones are suitable for Dourtenga.

The third key area for the climate partnership is renewable energy. Brühl and Dourtenga intend to significantly reduce their CO_2 emissions by increasing and improving energy efficiency, and implementing energy-saving measures.

Brühl for instance intends to retrofit street lighting and interior lighting in municipal buildings with modern and power-saving LED technology. It also plans to install photovoltaic power generation systems on municipal buildings. In Dourtenga the traditional hearths will be replaced with more energy-efficient hearths or solar stoves.

3.3. Enkenbach-Alsenborn (Germany) – Kinigi, Musanze District (Rwanda)

	Municipality of Enkenbach-Alsenborn (Germany)	Kinigi, Musanze District (Rwanda)
Population	Approx. 7.300	Approx. 29.500
Area	30,04 sq. km	80,70 sq. km
Possible or already noticeable impacts of climate change	• Warmer summers and winters • Soil dehydration • Lowering of the groundwater level • Proliferation of the bark beetle • Large amount of deadwood in the forest • Tree death • Torrential rainfall events	• Soil erosion • Soil dehydration • Lowering of the groundwater level • Torrential rainfall events • Flooding • Negative impacts on agriculture

Profile of the climate partnership

Enkenbach-Alsenborn Alsenborn has been one of Germany's 'master plan municipalities'[5] since 2012. It has thus been one of the pioneers of renewable energy, the achievement of Germany's climate targets to 2050 and the reduction of global warming. In all key areas of Germany's energy transition such as electricity, power, e-mobility and storage systems, Enkenbach-Alsenborn works with state-of-the-art technologies. As well as five electric vehicles it also has (amongst other things) one biomass heat and power plant, three cogeneration plants, two woodchip heat and power plants, solar parks, numerous photovoltaic roof systems and wind power systems.

The integrated comprehensive school in Enkenbach-Alsenborn has been partnered with a primary school in Rwanda for 30 years, and for 10 years with a large comprehensive school (around 2,300 school students) in Kampanga, which is part of Kinigi. So far, through this partnership four classrooms, one drinking water supply system and one kitchen have been built. Renovation work on the school building has also been carried out. Regular exchange takes place involving both students and teachers, alternating between Germany and Rwanda (so far supported by Engagement Global's ENSA programme[6]).

Due to the close and long-standing cooperation between the two schools the two sides have agree to realise an additional climate action project in the school at Kampanga.

Visiting a solar park in Enkenbach-Alsenborn
© Municipality of Enkenbach-Alsenborn

5 https://www.klimaschutz.de/masterplan-kommunen-liste

6 ESNA is a German acronym that stands for 'school exchange for development'. The programme encompasses educational offerings and funding for school partnerships. It enables school students from Germany and countries in the Global South to learn from each other, understand global interdependencies and get involved in sustainable change. https://ensa.engagement-global.de/start-en.html

Kinigi is located in north-western Rwanda, right on the edge of the Volcanoes National Park, close to the borders with Uganda and the Democratic Republic of the Congo. In Kinigi there is a tourist industry thanks to the national parks and the gorillas that live there. These parks are famous not least due to the reports and research work published by the American Dian Fossey. The natural landscape around Kinigi is very mountainous with few forests or trees, and most of the land (90 per cent) is used for agriculture. The mountainous landscape means that terraces are often cut into the land to make it suitable for farming.

Thanks to the good connections and the activities of the school principal, the school at Kampanga in Kinigi is a flagship school in Rwanda. The school is equipped with 120 computers for the school students. In the school and the roughly 40 buildings in the neighbouring area, power cuts are a frequent occurrence. This often disrupts lessons and use of the computers. A delegation from Enkenbach-Alsenborn visited Kinigi in October 2018. During this visit the two sides also discussed problems associated with flooding, waste management, soil erosion and the expansion of agriculture. Providing the Kampanga school with a modern photovoltaic system would safeguard computer use at the school and at the same time reduce the high electricity costs. The money saved could then be used for more teachers, to enable impoverished children to attend school, or to provide meals for school students. It is also likely that the Kampanga school may become a flagship project for climate action across the whole of Rwanda.

Designing the programme of action

In February 2018 the Director of Agriculture from Musanze, Jean Ngendahayo, visited Enkenbach-Alsenborn. The two other delegates who had been expected had to cancel their journey at short notice. A delegation from Enkenbach-Alsenborn visited Kinigi in October 2018. The delegates were Mayor Jürgen Wenzel, Plant Manager Anita Frank and Matthias Klein (IT specialist from the Fraunhofer Institute in Kaiserslautern).

In Enkenbach-Alsenborn, touring the plants for renewable heat and power generation was an important focus of the mission. The visitors were interested to take a look at the municipality's electric cars too. The itinerary also included other public institutions such as schools and the town hall. Furthermore, during the visit by the Rwandan partners the climate partnership also took part in the local kick-off workshop conducted by the project team from Engagement Global and LAG 21 NRW. This was also attended by the other German-Rwandan climate partnership Hachenburg – Gisagara District. This workshop explained to the municipal climate partnerships the basics and key information on participation in the project. It also marked the official launch of the two-year phase for these two climate partnerships, which were unable to attend the international kick-off in Bremen.

The contact persons in Rwanda included the Director of Agriculture, the Mayor of Musanze District, and the principal plus several teachers from the Kampanga school.

Dr Uwe Drescher from Enkenbach-Alsenborn and Pierre Claver Bagirishya from Musanze District planning the joint next steps for the climate partnership © Ernst Ohlhoff

Meetings were held with representatives of organisations for nature conservation, environmental protection and climate action. The environmental organisation SACOLA showed the delegates local projects to control soil erosion and improve environmental protection. Discussions were held with local representatives and organisations on climate change and the role of renewable energy in that context. It clearly emerged that renewables are, or can be, advantageous not only environmentally but also economically. It was notable that a ban on the use of plastic bags is in place in Rwanda. In other words, in this regard Rwanda is significantly more environmentally friendly than Europe. The positive

mood and optimism of the Rwandan people are infectious and inspiring in equal measure. The delegation from Musanze were very interested to see the technical possibilities in Enkenbach-Alsenborn both in general, and with regard to renewable energy in particular.

Key moments for the **design of the programme of action** were the visits themselves. These highlighted the completely different conditions under which people in the two countries live. This prompted numerous discussions on environmental goals and ways of achieving them. Ultimately, jointly designing projects for environmental and climate protection can only be based on mutual acceptance and respect, and familiarity with everyday life in the partner municipality. Good verbal and written communication are not just the basis for drawing up the programme of action. They are equally essential for realising a climate action project later on.

The key measures of the programme of action

In the course of the missions and field visits, the two partners agreed three key areas:

- produce a master plan for sustainable climate action
- establish and develop renewable energy
- further develop the education system

In these key areas, the two sides have defined joint objectives and measures which they intend to implement together over the coming years. Although all the measures are important, it is not possible to tackle everything at the same time. The partners therefore need to set priorities.

The key measures they have identified for the climate partnership are the master plan for Kinigi and Enkenbach-Alsenborn, the installation of a photovoltaic system on the roof of the school at Kampanga and training for technical occupations and trades in Kinigi. These key activities will form the first milestones en route towards achieving the climate partnership's strategic objectives.

The main of objective of both municipalities is to significantly reduce greenhouse gases such as carbon dioxide (CO_2), nitrous oxide (N_2O) and methane (CH_4). By 2050 the concentration of CO_2 should fall by 95 per cent. The two projects for climate action and for the school system are expected to generate sustainable environmental, social and economic developments. To achieve the climate target for 2050 it is essential to implement renewable energy extensively. By 2030, the target here is to ensure that 95 per cent of the electricity mix is accounted for by renewables. In the heating sector too, the partners intend to largely do without wood burning in Rwanda, and gas and oil in Germany. In Rwanda, protecting the relatively few trees still standing is very important for people and agriculture. Here it is necessary to halt soil erosion in its tracks and if possible prevent flood disasters and landslides completely.

The **master plan for Kinigi** which the two sides intend to draw up together will serve as a planning tool to define the areas where action is needed, as well as the strategic objectives, projects and activities. It will bring the two sides closer together through reciprocal visits and close communication, and play an important role in achieving the objectives. In conjunction with the generation of green electricity, it is envisaged that the broadening of teaching at the Kampanga school will become a flagship project for many schools across the whole of Rwanda. In 2012 Enkenbach-Alsenborn gained the distinction of becoming one of Germany's first 'master plan municipalities'. The master plan required for this was produced by experts at the University of Applied Sciences in Birkenfeld and implemented by Enkenbach-Alsenborn. A similar master plan is also envisaged for the climate partnership. Here too, experts from the University of Applied Sciences in Birkenfeld and other universities can work together with experts from the University in Kigali to produce an effective plan.

The long-standing school partnerships (dating back to 1990) between the integrated comprehensive school in Enkenbach-Alsenborn and two schools in Rwanda are an important driver of the joint activities in the climate partnership. Several projects have already been successfully implemented together with the Kampanga school in Kinigi. In this school amongst other things four new classrooms have been built, a drinking water supply system has been installed and a large kitchen was built to cook for the entire school and all its 2,300 pupils. Through the ENSA programme school students go on regular exchange visits here every three years. Thanks to its new kitchen, the school currently burns 50 per cent less wood and

CO_2 emissions are being reduced. Enkenbach-Alsenborn is one of Germany's leading and award-winning municipalities for climate action, and for introducing and using renewables. This special expertise (dating back 20 years) will now serve to step up and add to the links that already exist between its school and the school in Kampanga.

As a first planned project, the roof of the Kampanga school in Kinigi will be fitted with a modern photovoltaic system attached to a battery with sufficient storage capacity. This battery unit will make green electricity available day and night, and during bad weather. Hopefully the electricity thus generated will be able to replace entirely the fuelwood currently being used for cooking. Furthermore, the new system will ensure a continuous supply during the frequent power cuts in the local grid. The Kampanga school is something of a flagship school in Rwanda, and therefore has a total of 120 government-funded laptops. Here too, power cuts would no longer disrupt ongoing lessons.

A building at the Kampanga school in Musanze District on which a PV system will be installed
© Municipality of Enkenbach-Alsenborn

The **new photovoltaic system and the battery** will significantly lower the high electricity costs (0.25 € / kWh). At that rate, an annual consumption of 10,000 kWh would generate costs of 2,500 €.

Regarding education, the partners plan to establish a trade school at the Kampanga school. Female and male trainees will be trained as electricians, or as technicians for supply systems and solar power. In a first step three school students will be trained in Enkenbach-Alsenborn. Later on they will be able to transfer their knowledge as vocational instructors, or as directors of a small enterprise in Kinigi.

A **broadly based education system** helps ensure a country's future sustainability. With the aforementioned activities the climate partnership will be launching a climate action and education project designed to deliver social, environmental, climatic and economic results. The actors involved are convinced that here too, they will be able to report an overarching, optimal cooperation between municipalities in two countries in the northern and southern hemispheres. In the short term they intend to reduce CO_2 emissions, and in the long term to help keep climate change in check. Improving people's lives and their environment is one objective of the joint project. The two sides plan to establish a pilot project for many schools across Rwanda. This can improve people's social conditions in the country and provide future generations with better prospects. The special feature of this project, however, is that the cooperation between the two schools already reflects a long-standing cooperation between the two municipalities. The links that already exist will help successfully realise the joint programme of action.

3.4. Combined Municipality of Hachenburg (Germany) – Gisagara District (Rwanda)

	Combined Municipality of Hachenburg (Germany)	Gisagara District (Rwanda)
Population	24.119	368.709
Area	173,73 sq. km	678,9 sq. km
Possible or already noticeable impacts of climate change	• Increase in number of torrential rainfall events • Higher temperatures • Decline in amount of precipitation • Increase in damage to trees caused by wind • Bark beetle calamity	• Destruction of schools, houses and churches by storms and torrential rainfall • Floods and landslides • Soil erosion caused by torrential rainfall events • Plant and animal diseases • Droughts

Profile of the climate partnership

Located in the northern part of Germany's federal state of Rhineland-Palatinate, and part of the Westerwald District, the Combined Municipality of Hachenburg has already been involved in local climate action for many years. As well as the early uptake and promotion of wind power and other renewables, Hachenburg's key initiatives include its biomass-based district heating system and its master plan for climate action.

The partners during the first mission to Hachenburg
© Harald Schneider

As well as the master plan, what led the municipality to take part in the climate partnership were its efforts to deepen the close links with its partners that already existed thanks to its Rwanda Support Association (Ruandahilfe Hachenburg e.V), the long-standing partnership between the federal state of Rhineland-Palatinate and Rwanda, and the Rwanda Day organised by Hachenburg in 2017. At this event the two mayors developed the idea of establishing a climate partnership. In autumn 2017 they set the seal on this by signing their respective Memoranda of Understanding with the Service Agency.

Gisagara District lies in Rwanda's Southern Province and covers an area of 678.9 sq. km. It is highly vulnerable to changes in temperature and precipitation caused by climate change, as it depends heavily on rainfed agriculture. Particularly vulnerable are the tea and coffee plants with which the population earn their livelihood.

The most pronounced environmental impacts in Rwanda are caused by the increase in forest clearance for housing construction, the construction of new facilities, the use of wood as a fuel, and above all the clearance of forest land for agricultural purposes. Extensive deforestation has caused a loss of biological diversity. Furthermore, the limited availability of land has led to many wetlands in Rwanda being drained, and soil erosion has increased as a result of overgrazing.

For several years the environment and climate change have been at the top of the agenda as cross-cutting themes, as laid out in the national strategy papers. This has increased Rwanda's willingness to work together in partnership with others.

It became clear very quickly that the initial situation for the partnership was conducive, thanks to the many activities of association and organisations supporting the work of the partnership. Here we should once again give a special mention to the Rwanda Support Association (Ruandahilfe Hachenburg e.V.), the Rhineland-Palatinate – Rwanda Liaison Office in Kigali, the Rhineland-Palatinate Ministry of the Interior and Sport, the Hachenburg Forestry Office and the engineering firm Alhäuser and König in Hachenburg. The latter kindly supported the partnership by releasing a Rwandan-born engineer working for them at the time. His technical, cultural and linguistic knowledge was and is an immense support to the climate partnership.

Designing the programme of action

During the development phase **steering committees** were formed in both municipalities. These brought together dedicated actors from various spheres to help develop the programme of action and consolidate the partnership. On the Gisagara side, staff members of the Gisagara District Administration were involved. Robert Muyenzi of the Rwandan Red Cross, an organisation dedicated to protecting the environment and the climate, was also a great help with the knowledge he provided. On the Hachenburg side actors included the Rwanda Support Association (Ruandahilfe Hachenburg e.V.), the Hachenburg Forestry Office and several staff members from the various departments of the municipality. The personal dedication of Patrick Kambanda is also worthy of mention. Born in Rwanda, his support made a major contribution towards the project design, communication and partnership-building. Not only his language skills, but also his technical expertise as an engineer are of inestimable value for the partnership.

For the development of the programme of action the **missions are certainly key moments** to mention. As well an allowing the partners to meet face-to-face, the missions also enabled them to enhance their mutual understanding and gain first-hand impressions. This is where the key components of the programme of action, such as the joint vision and the key areas, emerged and were further developed.

The communication in between, the organisation of the missions and the fine-tuning of the programme of action were managed chiefly by email. The partnership coordinators also exchanged simple messages and updates through instant messaging services.

A municipal assembly during the second mission in Gisagara
© Harald Schneider

To improve coordination of the programme of action, and since no third mission could take place, the **core teams** discussed the final steps in a video conference supported by the Service Agency and LAG 21 NRW. This was very helpful in bringing the two sides together and enabling them to clarify formal issues directly.

In Hachenburg the core team met at regular intervals to discuss matters in precise detail, particularly since as well as the climate partnership Hachenburg also has a municipal partnership with Gisagara. Work in the municipal partnership was also ongoing, which generated synergies and enabled knowledge to be applied.

The key measures of the programme of action

The programme of action for the climate partnership Hachenburg – Gisagara will address three key areas. These result first of all from the impacts of climate change, which are already making themselves felt in both municipalities today. Secondly, they result from the motivation to tackle climate change together through climate action. The key areas are

- afforestation and erosion control
- renewable energy
- environmental education.

The key areas lead to strategic objectives: This provides a thematic framework to help solve the problems of climate change through climate change mitigation and adaptation measures. To achieve these objectives the partner municipalities have jointly developed measures which they intend to implement together over the next few years.

The key measures result from their direct link to the key thematic areas, and – crucially – the achievement thereof through cooperation between the partners. The **afforestation measures and measures to stabilise damaged forest stands** in both municipalities are therefore an important component of the programme of action. In both Gisagara and Hachenburg forest stands are already threatened at many points for various reasons, and are vulnerable to the impacts of climate change. Over the next few years this intervention will support the measures already being taken by the municipalities, and reinforce and promote them through the partnership-based approach.

Terraced mountain slopes in Gisagara © Harald Schneider

Furthermore, the climate change adaptation measures in both municipalities will also play an important role. In Gisagara, 'radical terraces' will be built on slopes threatened by landslides, in order to harness the benefits associated with terracing – slope stabilisation and erosion control – through subsequent planting. In the Combined Municipality of Hachenburg the intervention involves building preparedness for extreme weather events such as torrential rainfall. To analyse such impacts and adapt accordingly a flood protection plan will be prepared, on the basis of which next steps will be identified.

Alongside such practical measures, activities such as planned joint tree-planting campaigns will be a further important focus joint programme of action. This will support the joint work and raise public awareness of the partnership, in order to boost civic engagement in both municipalities.

Public mobilisation is at the same time a further important component of the programme of action, as **environmental education and public awareness-raising** is the only way to motivate society to step up climate action and persuade citizens to participate as required. Sustainability plays an important role here. The Sustainable Development Goals (SDGs) contained in the 2030 Agenda provide a framework for this, in which the partner municipalities wish to participate as best they can through their programme of action. At the same time this represents the long-term impact that the Combined Municipality of Hachenburg and Gisagara District aim to achieve with their programme of action.

3.5. Ilsfeld (Germany) – Kouga Local Municipality (South Africa)

	Municipality of Ilsfeld (Germany)	Kouga Local Municipality (South Africa)
Population	9.568	98.558 (as at 2011)
Area	26,51 sq. km	2.419 sq. km
Possible or already noticeable impacts of climate change	• Localised torrential rainfall events, becoming shorter and heavier • Major fluctuations in temperature • Longer periods of low precipitation / • dry spells (especially drier winters) • Tree death	• Unpredictable dry and rainy seasons • Increase in longer dry spells • Coastal erosion • Uncontrolled forest fires

Profile of the climate partnership

The climate partnership between the municipalities of Kouga and Ilsfeld was launched as part of the sixth phase of the 'Municipal Climate Partnerships' project.

The delegations from the two partner municipalities of Kouga and Ilsfeld © Martin Magunia

With a population of just under 10,000, the Municipality of Ilsfeld is facing up to the challenges of global climate change. The impacts of climate change have already made themselves felt in Ilsfeld in the form of localised torrential rainfall events, prolonged dry spells and major fluctuations in temperature. Forests in Ilsfeld are under strong pressure from prolonged hot summer days and the proliferation of the bark beetle. Climate action and energy efficiency are key themes for the Municipality of Ilsfeld. Its main strengths include low-carbon heat supply and comprehensive protection against flood events. Since 2016 the Municipality of Ilsfeld has been certified with the European Energy Award, which will enable it to tackle energy supply and climate action in even more structured ways in the future.

The Municipality of Kouga has a population of 98,558 (as at2011), and covers an area of 2,419 sq. km. The seat of local government is Jeffrey's Bay. Per day on average up to 100 additional residents of non-legal accommodation are added to that figure, making it very much more difficult to ensure fresh water supply. A further challenge for fresh water and drinking water supply is the major change in precipitation patterns in the course of climate change. A further noticeable effect of climate change is uncontrolled forest fires caused by prolonged dry spells. The Municipality of Kouga has for years been attempting to tap into new sources of water in order to be no longer dependent on dams. This is why the two sides defined 'water' as a key area of their municipal climate partnership. By participating in the 'Municipal Climate Partnerships' project and implementing their joint programme of action defined within it, the partner municipalities have committed to long-term and constructive cooperation for climate change mitigation and adaptation. To successfully implement the planned measures included in the programme of action it is important to sustainably involve a range of actors from the spheres of politics, civil society, academia, business and administration. The partners will continue developing their programme of action in order to achieve their planned objectives.

Designing the programme of action

The link-up between the two municipalities was facilitated by the Service Agency and the South

African Local Government Association (SALGA). It was made official on 16 October 2017 through the handover of the Memorandum of Understanding in Bremen. Three delegation missions have taken place as part of the climate partnership.

Mayor Thomas Knödler from the Municipality of Ilsfeld holding a sapling in his hand © Ernst Ohlhoff

The actors involved are the Municipality of Ilsfeld with Mayor Thomas Knödler, Thomas Stutz (Head of Department for Construction and Planning), Thomas Gessler (Climate Action Manager), Cornelis-Johannes Izelaar (Director of Technical Services) and Nicole Friedrich (General Manager for, Childcare Establishments). Councillors Dr Matthias Mugele and Werner Kühner, and Deputy Mayors Reiner Vogel, Bärbel Fuchslocher and Ralf Weimar are also involved. A further actor is Professor Christian Buer of Heilbronn University of Applied Sciences. Other actors are Wolfgang Schuler of the IBS engineering company, the Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB and the 'Green Dot' company (Der Grüne Punkt – Duales System Deutschland GmbH). The participating actors from South Africa are Executive Mayor Horatio Hendricks, the Director of Infrastructure and Planning Victor Felton, Councillor Daniel Benson, Nomvula Machelesi and Charl Du Plessis (Municipal Manager), and Anene Jonck (Manager in the Mayor's Office).

Added value was created for both Ilsfeld and Kouga by sharing professional expertise. The municipal climate partnership has enabled the formation of new networks designed to guarantee a more active dialogue on issues of climate change, education and the different ways of working. The two sides are improving their intercultural skills as well as providing insight into their local problems. There is also huge potential for sharing various approaches and solutions from which both municipalities can benefit.

The **pivotal moment on the path towards the joint programme of action** was the international kick-off workshop in Bremen. The workshop enabled the partners to meet face-to-face for the first time and explore possible key areas for cooperation. The first visit by a delegation from Kouga to Ilsfeld in October 2017 yielded key approaches for structuring the partnership, and identified possible infrastructural solutions. Early 2018 saw the first mission of a delegation from Ilsfeld to Kouga. On this occasion the focus was on visiting sites and projects linked to the key areas of the partnership. A **water supply master plan** was drawn up with financial support from the Service Agency's Fund for Small-Scale Municipal Development Cooperation Projects.[7] During a second mission in early 2019, more or less concrete objectives for the programme of action were formulated and a further visit was made to key area projects. To realise a zero-carbon hotel and a master plan for tourism, two groups of students from the Heilbronn University of Applied Sciences were sent to Kouga.

The key measures of the programme of action

The main objectives of the partnership between Kouga in South Africa and Ilsfeld in Germany involve climate action and environmental protection at the local level. Here it is important to maintain a vigorous exchange of knowledge and technical expertise in order to ensure quality of life and adapt to climate change. One strategic objective of the partner municipalities is to reduce local CO_2 emissions. By 2025, the partners aim to reduce current emissions by at least half. By 2030, they intend to stop procuring fossil fuels altogether. Natural resources will be used both sustainably (i.e. sparingly) and more efficiently.

To help achieve its strategic objectives the climate partnership Kouga – Ilsfeld has defined the following key areas:

7 https://skew.engagement-global.de/fund-for-small-scale-municipal-development-cooperation-projects.html

- sustainable water management
- reduction of CO_2 emissions
- renewable energy
- awareness-raising and environmental education

The central key area of cooperation is sustainable water management, which encompasses measures for water supply, wastewater disposal and awareness-raising in South Africa and Germany.

The situation in Kouga is characterised by water scarcity caused by prolonged periods of drought, pipelines in need of rehabilitation and illegal water withdrawal. Accordingly, the programme of action defines reducing water consumption and tapping into new sources of potable water as a joint strategic objective of the partnership. To achieve this the partners have laid down the following crucial actions as part of the programme.

The delegations from Ilsfeld and Kouga visiting the sewage treatment plant in the town of Humansdorp © Municipality of Ilsfeld

Kouga currently suffers drinking water losses of around 42 per cent. This is due largely to defective pipelines. It therefore makes sense to purchase a leak location vehicle with trained personnel and materials on board that can quickly localise any damage and repair it in situ. The vehicle can be procured swiftly and straightforwardly in order to reduce water losses.

In the communities affected by drought, water supply is currently intermittent. It is possible to provide water continuously in these communities by installing off-grid pumping systems. The only way to deliver water sustainability is to use solar powered pumps. Since using boreholes with solar-powered water pumps is the only way to guarantee continuous water supply, this is absolutely essential. The water thus obtained will then be fed into the existing water supply network.

The towns of Hankey and Patensie in Kouga, which are located in the Gamtoos valley, are dominated by the irrigation-intensive production of citrus and other fruits, smallholder structures and agriculture in general. All the water comes from the Kouga Dam, and involves a water withdrawal quota. However, the quantity of water available is not sufficient. The water is therefore made available only in the mornings and later afternoons. These water restrictions might jeopardise the smallholder structures, resulting in the loss of a large share of jobs. The Gamtoos Canal undergoes maintenance work every year during the dry season. No water can be drawn during this time. Water collection vessels are an environmentally sound solution that can be quickly implemented. The use of collection vessels aims to ensure support for socially deprived and needy households. The design of the vessels will also enable cost reduction, and the time factor also plays a role. Compared to water supply using tankers, collection vessels are significantly more low-carbon and can be implemented more quickly. This is therefore how water supply to poorer sections of the population will be achieved.

The water supply networks that exist at present are fed both from local sources, and from regional systems that are hard hit by the low water levels in the reservoirs. Linking up these water supply systems, which so far have not been connected, will at least bring about a local improvement in supply. This measure is based on a simple planning process.

The climate partnership aims to guarantee long-term and effective cooperation between the two municipalities. Over the last two years the cooperation has grown continuously, and the very good communication between the various actors provides a solid foundation for the future projects and objectives now pending. Over the last couple of years the partnership identified not only water, but also tourism and schools/kindergartens as key areas for action.

3.6. Cologne (Germany) – Yarinacocha (Peru)

	City of Cologne (Germany)	Yarinacocha District (Peru)
Population	1.080.394	103.941
Area	405 sq. km	197,8 sq. km
Possible or already noticeable impacts of climate change	• More frequent heat waves • Rise in temperature in rivers and lakes, leading to fish death • Severe droughts that threaten water reserves	• Abrupt temperature fluctuations (heat waves and cold waves) • Landslides • Rockslides • Flooding • River erosion • Heavy rainfall

Profile of the climate partnership

Cologne is located on the banks of the River Rhine in Germany's federal state of North Rhine-Westphalia. With a population of around one million, the City of Cologne is located in the heart of the Rhine-Ruhr Metropolitan Region.

Photovoltaic system for the refectory and the water purification system at the National Intercultural University of the Amazon (UNIA) © Yarinacocha District

A densely populated city with plenty of industry, Cologne has to cope with major challenges regarding the production of large quantities of clean energy and providing a sustainable mobility system. Citizens in this city of one million people have a strong demand for food, clothing, materials and consumer goods, which often come from other parts of the world.

Yarinacocha is one of the seven districts in the Province of Coronel Portillo in the Department of Ucayali. The District of Yarinacocha, with its capital Puerto Callao, was founded in 1964 with the incorporation of several villages and hamlets. The district is also home to indigenous communities – the Shipibo-Conibos. These have extensive natural landscapes and maintain many customs and traditions.

Founded in 1981, the Federación De Comunidades Nativas de Ucayali y Afluentes (federation of the indigenous communities of Ucayali – FECONAU) is one of the oldest indigenous federations in the Peruvian Amazon region. This federation was involved in the major social struggles and achievements in the 1980s in the Ucayali region in Peru, and is also the founder of the Asociación Interétnica de Desarrollo de la Selva Peruana (Interethnic Association for the Development of the Peruvian Rainforest – AIDESEP).

Over the last few years Yarinacocha District has already experienced the impacts of climate change. This is compounded by the problem of inappropriate natural resource management. Examples of this include illegal logging and inappropriate management of soils, which result in accelerated deforestation in some of the populated areas of the district. Moreover, a contamination of rivers and lakes is to be observed. Untreated wastewater and solid waste from restaurants, amenities and houses close to the banks are being discharged into Lake Yarinacocha, for instance, which is jeopardising the lagoon's species diversity. A further environmental problem is the increase in the quantity of solid waste on the streets in the district.

The indigenous peoples in general, and indigenous communities of the Shipibo in particular, face a number of difficulties and challenges. Natural resources in their areas are not being managed sustainably, and species diversity is under threat. The Peruvian Government has sold many of the originally and traditionally populated areas without consulting or involving the indigenous peoples. It has done so for instance as part of various ownership models such as forest and mining concessions and oil extraction rights, and through the creation of nature reserves.

Involving the indigenous communities in and around Yarinacocha was a key concern for both partner municipalities when launching the climate partnership, in order to improve lives and protect natural resources. To help address the challenges meet the needs of the indigenous communities, the following starting points for cooperation were defined as part of the municipal climate partnership:

- The indigenous communities should be enabled to develop resilience to climate change through specially designed local initiatives.
- When implementing the 2030 Agenda's Sustainable Development Goals (SDGs), the indigenous communities' visions and world views, and their autonomy of development, should be taken into account.
- The cultural survival of peoples and respect for their world views are fundamentally important for the coming generations.
- Local initiatives, indigenous forest management practices and respect for nature should form the foundations for development in Yarinacocha District.
- The climate partnership offers the possibility of adding sustainable practices such as renewable energy use and the substitution of technologies, while at the same time promoting environmental awareness on all levels in Yarinacocha District.

Designing the programme of action

The process of developing the programme of action began with the first meeting between the two municipalities during the kick-off workshop in the City of Bremen in October 2017.

The expert missions in both directions enabled the two municipalities to quickly define the key areas of the programme of action, as both sides were able to see for themselves the current situation in their respective partner municipality. In addition to the official missions as part of the programme, two further missions took place at which delegates from both municipalities were able to meet and prepare a number of further meetings.

One of the missions took place in conjunction with the partnership's participation in the second conference of 'Municipal Partnerships with Latin America and the Caribbean' held by the Service Agency in Nuremberg in October 2018. A second mission took place on the occasion of the 24th Conference of the Parties to the UNFCCC in Katowice in Poland in December 2018 .

Furthermore, throughout the entire period expert knowledge and information was often shared using instant messaging services, video communication and email. In this way documents and responses were transmitted, and discussions took place.

First visit by a delegation from Cologne to the indigenous communities along the edge of the River Ucayali © Aldo Perez

The actors participating in the climate partnership are the City of Cologne, Yarinacocha District, the federation FECONAU, the Friends of Cologne/Yarinacocha, the university UNIA, Cologne University of Applied Sciences, Cologne Botanical Garden, Yarinacocha Botanical Garden, the organisation Ecoselva, the organisation ACITCJIA, the Climate Alliance, the Cologne Institute for Ecology and Action Anthropology (Infoe), the Schiller School in Cologne and the Colegio Nacional in Yarinacocha.

The expert missions enabled the participants in the climate partnership to get to know the reality

in their respective partner municipality. The visits also led to an open discussion between officials from both municipalities, and between actors involved in specific thematic areas of the climate partnership. Together they identified problems and worked out possible solutions. The face-to-face meetings between the participants created trust for teamwork, and enabled a better understanding of the rules and planning methods for the 'Municipal Climate Partnerships' project.

Milestones of cooperation in the climate partnership included the discussions held in both partner municipalities, and at workshops and conferences. Here the participants discussed the methods and worked out the programme of action, which the two partner municipalities then adopted.

The final visit by the delegation from the City of Cologne was particularly enriching and valuable. It created space for discussing the programme of action to 2030 and for identifying projects, together with the team of experts from Yarinacocha District, and with civil society (represented by FECONAU). During this last visit, the representatives of Yarinacocha District also received training on the use of funds and on project implementation.

The key measures of the programme of action

The key areas of the programme of action are:

- biological diversity
- wastewater and drinking water management
- renewable energy
- sustainable mobility
- promoting environmental awareness

The first strategic objective formulated by the climate partnership is to restore **biological diversity** in all indigenous communities in Yarinacocha District by more than 50 per cent by 2030. The communities should have an agenda for natural resource conservation and management, and be able to generate new income from sustainable activities. In Yarinacocha District it is envisaged that the community themselves, as well as schools and civil society organisations, will also be involved in conserving biological diversity.

To achieve this objective the municipal partnership has developed various concrete measures. A first step will be the preparation of a study to determine the status quo (social and economic situation, species diversity) and to identify economic activities in the indigenous communities in Yarinacocha District. The study will be designed to close information gaps and identify the development potential of the indigenous communities. This will ensure that environmental, social and economic aspects are taken into account when developing projects in the indigenous communities. Specific activities will be planned together with the indigenous communities. This will provide the foundation for achieving the aforementioned objective of conserving biological diversity. The scope for implementation is already wide, as planning is already at an advanced stage.

One of the operational objectives is the recovery of species diversity. This is why a target for 2030 is to enable all communities in Yarinacocha District to manage their own territory and develop strategies to prevent illegal activities. Furthermore, minorities within the indigenous communities will be strengthened in the field of human rights and protection against discrimination. This objective was developed following dialogue with the indigenous communities and other minorities such as LGBT individuals. The situation was also discussed with local specialist organisations, which confirmed the need to define such an objective in the programme of action.

This objective is important because the indigenous communities are vulnerable. Once the indigenous communities receive more support, they will also be better able to manage their environmental problems. In Yarinacocha District the topics of 'gender equality', 'the rights of lesbian, gay, bisexual and transgender (LGBT) persons' and human rights in general have so far been little discussed, and therefore receive little consideration. Local groups that defend the rights of minorities such as LGBT persons do exist. However, it has not yet been possible to create sufficient awareness among the public at large.

The second strategic objective is the key area of **wastewater and drinking water management**: By 2030, it is envisaged that all wastewater from the municipal area in Yarinacocha District will be treated before being discharged into Lake Yarinacocha and the Ucayali River; furthermore, all indigenous communities in Yarinacocha District

will have a wastewater management system and be supplied with safe drinking water.

Participation in the construction of a sewage treatment plant for the Amazónico Hospital was identified as the first top-priority measure. The current water pollution and resulting loss of biological diversity in Lake Yarinacocha promoted the two municipalities to develop measures on this topic.

These are important because of the loss of diversity at Lake Yarinacocha and the risk of disease among the population caused by water contamination. On the one hand the topic complex, and requires a great deal of expertise and intervention by many actors. Implementing the measures is also made more difficult by the high costs. On the other hand the District of Yarinacocha and the regional government possess a strong will to work in this area.

Planting campaign in Yarinacocha District © Yarinacocha District

The fourth strategic objective encompasses the key areas of renewable energy and sustainable mobility: By 2030, the two sides envisage that at least 30 per cent of the electricity requirement of public buildings in Yarinacocha District and at least 50 per cent of the electricity requirement of all indigenous communities will be covered by solar power. In all indigenous communities, at least one sustainable means of transport should be available, and the e-mobility master plan should already have been implemented in some areas of the district.

To achieve this objective, as a first activity a pilot project involving electric and solar-powered tricycles in Yarinacocha District will be implemented to protect the environment and provide environmental education.

This project is very important, because the plan is to inform and educate the public on the topics of ‘renewable energy’ and ‘sustainable mobility’. The main reasons why this project was identified were the major potential of solar power, the urgent need to establish sustainable mobility and the lack of knowledge on these issues in the region. Knowledge of these issues remains very low not just in the region, but also in the whole country. The City of Cologne has access to experts in this field who can support implementation of the project. The partner municipalities have already worked together in the field of ‘solar energy’.

The fifth strategic objective is the key area of **environmental awareness-raising**: By 2030, the two sides envisage that 10 per cent of citizens in Cologne are aware of the environmental problems and climate change in Peru in Germany. The partners attached lower priority to this strategic objective than they did to the other objectives, as a result of which for the time being no measures have been identified for implementation.

The joint objectives of the climate partnership that will be pursued through the aforementioned measures correspond specifically to the following Sustainable Development Goals (SDGs) of the 2030 Agenda: SDG 1 – No poverty; SDG 4 – Quality education; SDG 5 – Gender equality; SDG 8 – Decent work and economic growth; SDG 10 – Reduced inequalities; SDG 11 – Sustainable cities and communities; SDG 13 – Climate action, and SDG 17 – Partnerships for the Goals.

3.7. Herford District (Germany) – Condega (Nicaragua)

	Herford District (Germany)	Municipality of Condega (Nicaragua)
Population	250.000	35.040
Area	450 sq. km	398 sq. km
Possible or already noticeable impacts of climate change	• Increased number of extreme weather events • Premature water scarcity and extreme dry spells • Observed increase in parasitism in flora and fauna • Proliferation of invasive species • Shift in seasons	• Fluctuations in climate variables (precipitation, temperatures, sunlight) • Limited availability of surface and groundwater, longer and more severe periods of drought, concentrated precipitation and flash floods • Reduction in cropland for the main types of grain and coffee due to water requirement • Rising migration, low incomes, low yields • Low availability of pasture and sale of cattle at low prices

Profile of the climate partnership

Around 250,000 people live in Herford District in north-eastern North Rhine-Westphalia, in the economically vibrant region of East Westphalia. The district encompasses 6 towns (Herford, Bünde, Löhne, Enger, Vlotho and Spenge) and 3 smaller local authorities (Hiddenhausen, Kirchlengern and Rödinghausen). The region is largely rural, with a small number of conurbations. Since 2015 the district has been implementing a climate action master plan. It is committed to establishing climate action sustainably across its territory. By 2030, through joint action the plan envisages reducing CO_2 emissions at the local level by 30 per cent relative to the 2012 baseline. The plan is broken down into five areas of action with a total of 34 measures, which when implemented will help minimise CO_2 emissions across the district. The largest emitter is transport (38 per cent), followed by industry (36 per cent) and private households (26 per cent). Calculating CO_2 emissions per head of population yields an annual figure of 10.4 t per person, which is similar to Germany's national average. Green electricity production currently covers just under 10 per cent of total electricity consumption in the district.

Condega belongs to the Segovia region, and in economic terms with its population of 35,040 is the second-largest municipality in the Department of Esteli Condega comprises 18 urban districts and 56 smaller local authorities. 60 per cent of the population live in rural areas, and compared with other municipalities in northern Nicaragua, are strategically well located e.g. for transporting products. There are various socio-economic aspects which play a role in the production of goods (e.g. tobacco, coffee). Condega also has sites for developing tourist activities which are ready to go. Since 1998, following a hurricane a number of measures have been taken at the local level to prevent and mitigate the impacts of climate change, with a focus on flooding. With support from the Centro Humboldt,[8] the measures are geared to various sectors, events and multiple threats.

The partnership began approximately 30 years ago, and had its origins in solidarity with Nicaragua as it dealt with the legacy of the civil war. Over the intervening decades a partnership has grown that is characterised by regular meetings and mutual support. The climate partnership is

8 https://humboldt.org.ni/obras-para-llevar-agua-a-comunidades-vulnerables-de-condega/

building on these links and taking the partnership forward to a new professional dialogue. Climate action is a topic that is not confined to individual regions. The two sides share the vision that by working together they can better understand the causes of climate change and make their climate action more effective. To achieve this they need to look beyond borders. Both partners are learning from each other, and intend to respond jointly to climate change with good practice examples and ideas. Dialogue on how to manage these issues will promote good ideas on both sides and help redouble global networking and professional exchange.

Welcoming the delegates to Herford District © Herford District

Designing the programme of action

Actors on each side:

Herford District	Municipality of Condega
Local authority:	**Local authority:**
Climate action management	Environment
Office of the Head of Administration	Social affairs
International links	Business & production
Nature conservation and regional planning	Water
	Health care
Further actors:	Climate action
Condega – Herford Friendship Association	Infrastructure
Bielefeld University of Applied Sciences	
Interested citizens	**Further actors:**
	Instituto de Promoción Humana (INPRHU)
	National Army of Nicaragua
	University
	Government institutions
	Non-governmental organisations
	Interested citizens

Throughout the entire process the dialogue was actively shaped by both sides. The understanding of the climate partnership in general and what it means is something that had to be continuously reviewed on both sides. On the German side, for instance, one or two difficulties arose when it came to involving other actors in the process. In Nicaragua, on the other hand, the political situation was tense for a long time. Identifying joint measures involved quite a large amount of work, as it was first of all necessary for each side to get to know the other's circumstances before generating appropriate ideas. Together, the group were able to respond to these challenges creatively, and solve them. The majority of the written work for the climate partnership was produced during the final mission. Hours of intensive discussion spent in the conference room in Condega town hall, and hard-working brains, helped complete the joint programme of action.

By working together in the climate partnership the partner municipalities were able to achieve the **following results**:

- Through the climate partnership, both municipalities were able to broaden their perspective to accommodate the situation of their partners.
- An awareness was created of the impacts of climate change in Latin America have been caused by industrialised countries over decades.
- The two sides came to know and appreciate cultural differences.
- They acknowledged that professional dialogue is highly valuable.
- Each side got to know their partners better (warm-heartedness and hospitality) and circumstances on the ground.
- The joint programme of action was completed.

Visiting the gas turbine plant in Kirchlengern © Herford District

The key measures of the programme of action

When designing the joint programme of action the two sides identified six key areas that were of particular importance to both of them in the context of climate change mitigation and adaptation:

- integrated water management
- renewable energy
- forest protection
- agriculture
- risk management to improve adaptation to climate change
- raising awareness of climate change

The climate partners defined ensuring the sustainable supply of key resources in their respective municipalities as the key objective of their cooperation. Due to the differences between the two municipalities, although the objective is the same in a generic sense, the actual requirements differ. While Condega aims to achieve sustainable water supply, Herford District aims to supply its citizens with green electricity. Condega sees sustainable water supply in the context of 'solidarity' between members of the community in light of climate change. Rural families are to be provided with a secure supply of water plus electricity generated from renewables. Herford District, on the other hand, does not seek to secure satisfaction of a basic need, but rather to increase the share of green electricity as a percentage of total consumption. In 2017 renewables accounted for 10 per cent of the mix in the district. One planned measure to increase this figure is to launch private-sector programmes to promote photovoltaic systems. Both partners attach particular importance to public awareness-raising and education on climate action and environmental protection in conjunction with the sustainable supply of key resources. To reach as many people as possible, the two sides will support this process through public outreach work and networking.

On 28 July 2010 the **right of access to clean water** was recognised as a human right by the United Nations General Assembly. In Condega, this access to clean water cannot yet be provided to the whole population. This is due first of all to infrastructure, and secondly to a lack of technical and microbiological expertise, as well as funds. Access to clean water is vitally important everywhere, including in rural areas, for a good and healthy life and for survival. It also provides quality of life, and creates the basis for improved and secure crop yields in agriculture. These measures will therefore be tackled first. Water will be delivered using renewables, in order to avoid the use of electricity generated from fossil fuels. This objective is linked to the implementation of possible activities in Herford District. Here, to protect the climate it is necessary to produce green electricity locally and reduce the overall electricity requirement.

Based on these considerations, the two key areas of **integrated water management** and **renewable energy** were accorded top priority for implementation. However, since the main objective of the climate partnership can only be achieved when accompanied by **joint awareness-raising measures**, this report describes all three of these key areas in detail below, covering selected objectives

and giving examples of activities for implementation in these three especially important areas.

In the key area of integrated water management, the climate partnership intends to realise sustainable and socially sound water management for ten village communities/urban neighbourhoods in Condega by 2025, through alliances for joint climate action. For this objective, Herford District will provide support in the form of technical advice. By 2025, all village communities that face difficulties with the availability and distribution of water will be equipped with infrastructure (wells and catchment areas), and where appropriate with photovoltaic pumping systems. To this end the partners plan to build wells and water catchments in communities with corresponding requirements, and install aqueduct systems to convey domestic or municipal water.

Taking a first-hand look at the gas turbine © Herford District

As part of the joint work between the municipal partners, by 2025 the share of renewables in the total energy mix will be increased. This will occur in the realms of municipal infrastructure, commercial enterprises and private households. Concrete measures planned include the installation of photovoltaic energy systems. The key area of renewable energy also includes the operational objective of equipping houses in remote sectors and communities in Condega with photovoltaic systems by 2025. Households that face difficulties with transporting drinking water will thus be provided at certain times with power to operate additional appliances plus high-quality water supply in their homes or their village community. The main actors agreed on the need for alternative irrigation systems by 2025, and will make preparations for their installation and use on the various existing areas of cropland and pasture.

The measures were identified on the basis of urgent local need. It is absolutely essential to respond to water scarcity and seek opportunities for renewable energy use.

The two sides also developed joint awareness-raising activities that will be implemented as parallel projects in both partner municipalities. These are:

- a campaign to mobilise citizens
- establishing a climate action information centre
- a ‘good practice examples’ award for climate action measures
- establishing a climate action working group/ introducing ‘climate action’ as a school subject and implementing Plant-for-the-Planet academies
- use of joint information materials on climate action and climate change, and adaptation of the materials for use in the partner municipality and for holding harmonised themed workshops
- joint membership of the international Climate Alliance.

3.8 Hameln-Pyrmont District (Germany) – Alfred Nzo District Municipality (South Africa)

	Hameln-Pyrmont District (Germany)	Alfred Nzo District Municipality (South Africa)
Population	148.000	801.344
Area	796 sq. km	11.119 sq. km
Possible or already noticeable impacts of climate change	• Rising temperatures • Wetter winters • More frequent extreme weather events • Areas particularly affected: energy supply, agriculture and healthcare, town and transport planning, flood control, river bank protection	• Alternating droughts and floods • Water scarcity • Sharp increase in land degradation • Encroachment by invasive plants in areas that are important for strengthening climate resilience; these include for instance watersheds and agricultural land • Changed and unpredictable weather (summer rains up to April, and snow-fall up to November)

Profile of the climate partnership

Hameln-Pyrmont District with its eight towns and other municipalities forms the heart of the middle Weserbergland region south-west of Hanover. It is one of the most populous districts of Lower Saxony. The district was selected by the German Federal Government as one of 22 exemplary municipalities in Germany expected to develop a so-called master plan for 100 % climate action to serve as a model for other municipalities. The aim of the master plan is to develop a strategy through which the district can become carbon-neutral by 2050. The Klimaschutzagentur Weserbergland (Weserbergland Climate Action Agency – KSA) is responsible for implementing all the climate-related measures. Acting as a neutral advisory body, it supports the municipalities' ambitious goal of significantly and sustainably reducing greenhouse emissions in the region. This is why it is also involved in the climate partnership in an advisory capacity. The district and the KSA consider it their responsibility to share their lessons learned in order to promote globally sustainable development.

The Alfred Nzo District Municipality (ANDM, hereinafter referred to as 'ANDM District') comprises the four local municipalities of Mbizana, Ntabankulu, Umzimvubu and Matatiele, which cover an area extending from the coast right up the alpine regions of the Drakensberg mountain range. The topography affects natural, social and economic conditions in the district. The latter is characterised by high biodiversity and diverse landscapes including river landscapes, virgin forests and fertile soils. The district is largely rural. Communities face major socio-economic challenges, and are often directly dependent on an intact natural environment in order to secure their livelihoods. Although ANDM District is rich in biological diversity, the sustainability of natural resources is under threat. The factors causing this include the increasingly frequent tornadoes in some parts of the district, changes in weather patterns, and unauthorised land-use in conjunction with deleterious land-use practices. The main causes of increasing land degradation are the fact that grassland (veld) is often burned inappropriately/every year or too frequently, leading to a deterioration in soil quality. At the same time, in many cases informal settlements are arising in wetlands and other marginal areas. This also poses a major problem.

Through the Eastern Cape Office of the Premier, ANDM District had entered into a partnership with the German District of Hameln-Pyrmont. The partnership aims to provide support on climate action matters and boost the climate resilience of ANDM District. Before this partnership existed, ANDM District had already begun addressing climate change and its impacts. In this connection

it had a study produced on the specific threats which climate change entails for the district. The study also identified the areas where action is required in order to improve the municipalities' climate resilience. The fact that most communities in ANDM District are heavily dependent on the natural environment to secure their livelihoods increases vulnerability to the negative impacts of climate change. This is the context in which the district entered into a partnership with the German District of Hameln-Pyrmont, in order to obtain support for climate change mitigation and adaptation.

Evidence of deforestation caused by invasive plants in Ntabankulu Local Municipality © Hameln-Pyrmont District

Designing the programme of action

Dialogue and work on the programme of action essentially took place through face-to-face meetings during the missions, as well as the exchange of emails and instant messages. The two sides made intensive use of the visits by the delegations for workshops, for work meetings, and for further developing projects and the programme of action. The partnership also set up a platform for collaboration that comprised a database for centralised document management.

On the Hameln-Pyrmont side, as well as the KSA, renewable energy and water management institutions from the district are also involved in the climate partnership. Salzhemmendorf comprehensive school and the Didi S.P.S. school in ANDM District have founded a school partnership. Hameln-Pyrmont District also succeeded in gaining support from the Lower Saxony State Chancellery to implement the first projects.

Various institutions are also involved in the climate partnership on the ANDM District side. The core team, for instance, includes representatives of the South African Local Government Association (SALGA), the NGO Conservation South Africa, the environmental agency and the education ministry. Representatives of the local municipalities and the district were also involved in developing the programme of action. The District Climate Change Committee is also involved in the partnership.

The missions were highly beneficial because they enabled the two sides to get to know each other on a professional and personal level. They also provided an opportunity to discuss the challenges associated with climate change, and conduct on-site visits to climate change mitigation and adaptation projects. The partners also set up work and communication structures, defined the key areas for the partnership and planned the broad contours of joint work for the next two years. During the first visits to Hameln-Pyrmont (2017) and ANDM District (2018), not only the climate partnership's core team but also councillors and senior managers were involved in drawing up a list of key areas for inclusion in the programme of action. The decision on which key areas to include was taken not only by the responsible administrative officials, but also by councillors. This was particularly encouraging for the Climate Change Committee in ANDM District, because without the support of the top decision-makers and the administration the joint programme of action would not have been of great value to the municipalities.

Furthermore, the missions helped make the actors involved aware of just how acute the threat to vital natural resources is, and that every action on one side of the world impacts significantly the lives of people on the other side of the world. In other words, the municipal climate partnership has shown the actors in both municipalities just how important climate change mitigation and adaptation are.

The key measures of the programme of action
The programme of action of the climate partnership between ANDM District and Hameln-Pyrmont District encompasses the following key areas:

- sustainable energy management
- sustainable water management
- awareness-raising and education.

Presenting a solar energy project at the Eugen Reintjes school in Hameln © Hameln-Pyrmont District

The key area 1) **sustainable energy management** aims to expand renewable energy as envisaged in Chapter 3 of South Africa's 'Vision 2030' National Development Plan and the corresponding agreement. It also aims to increase the acceptance of renewables through awareness-raising measures, so that more households and businesses switch to these alternative energy sources. The priority area also aims to increase energy efficiency in all relevant areas/sectors.

In key area 2) **sustainable water management** the partners plan to significantly drive back the invasive plant species by 2030. As well as eliminating these plants, they intend to rehabilitate the water sources with the wells, restore the ecosystem and make the land suitable once again for sustainable management. The long-term aim is to increase water quality and quantity.

In key area 3) **awareness-raising and education** the municipal partnership intends to heighten public awareness of the impacts of climate change in both municipalities by 2030.

In the field of sustainable energy management one of the key measures will be to improve the image of solar energy so that more citizens make greater use of it in the future. In ANDM District this is not yet the case, despite favourable preconditions (high insolation). The government agency responsible for electricity supply in South Africa has quite some way to go with the electrification of rural communities. In their discussions the representatives of the two municipalities agreed that pilot projects to promote solar power would likely help persuade the public in ANDM District of the benefits of solar energy, and boost trust in this form of power generation. The construction of a photovoltaic system at a school in Mbizana was the first pilot project funded by the municipal climate partnership. The pilot project is designed to increase the acceptance of photovoltaic power in ANDM District, and more widely in the Eastern Cape region. The partners intend to dispel reservations concerning photovoltaic power on a broad basis, and to improve awareness by communicating best practices. These activities will also be accompanied by education measures. The topic of solar power will be covered in schools, for instance. The partners also intend to improve solar power's currently poor image amongst citizens and decision-makers by implementing awareness-raising and PR measures. It may then be possible to succeed in opening up new areas of business for entrepreneurs in the Eastern Cape region.

A further key area of the municipal climate partnership is sustainable water management. ANDM District is particularly hard hit by the impacts of climate change in rural areas. These include water scarcity, soil erosion and the loss of native plants. The continued advance of invasive plants and the generally difficult conditions are generating strong pressure on groundwater resources. The impacts of climate change are causing prolonged dry spells, for instance. These in turn enable invasive plant species to encroach on damaged areas and displace native species. The objectives in the area of sustainable water management include rehabilitating water sources (wells), restoring ecosystems, and in the long term improving water quality as well as increasing the amount of water available.

The impacts of climate change are palpable in both municipalities. They include for instance rising temperatures, wetter winters and more frequent extreme weather events. This is the backdrop

against which the two sides selected awareness-raising and education as a key area, in order to make citizens more aware of climate change and its impacts. Education, particularly for school students and administrative personnel, is an important part of the municipal climate partnership. These target groups are considered disseminators for a greater awareness of climate change mitigation and adaptation. The core objective of the joint efforts of ANDM District and Hameln-Pyrmont District is to share lessons learned in both directions, promote knowledge transfer, pursue mutual learning, launch new climate change mitigation and adaptation projects and further develop existing ones.

Biogas plant in Matatiele Local Municipality
© Hameln-Pyrmont District

The partners envisage that their municipal climate partnership will raise awareness of how municipalities can boost their climate resilience. To this end they will implement projects to promote adaptation to the impacts of climate change and improve the climate resilience of municipalities. Furthermore, they will also include projects to mitigate climate change in their partnership.

3.9 Ludwigsburg (Germany) – Ambato (Ecuador)

	City of Ludwigsburg (Germany)	City of Ambato (Ecuador)
Population	93.000	180.000 330.000 (including suburbs)
Area	43,4 sq. km	46,5 sq. km
Possible or already noticeable impacts of climate change	• Health risks caused by greater exposure to heat • Negative impacts on agriculture and forestry caused by soil erosion as well as drought and heat stress, plus thermophilic pests and diseases • Endangerment of species and biotopes • Increase in high water and flooding, as well as flooding risk for urban drainage • Higher electricity costs caused by need to refrigerate • Damage to urban vegetation, buildings and transport infrastructure	• Loss of biodiversity (more pronounced dry spells and rising temperature) leading to reduced climate resilience • Rise in temperatures • Change in precipitation, more dry days without precise dates and no plan of action for implementing measures to deal with lower amounts of precipitation

Profile of the climate partnership

The City of Ludwigsburg in Germany's federal state of Baden-Württemberg is part of the Stuttgart Metropolitan Region. The hallmark of the cityscape is the Baroque Residential Palace with its gardens, green spaces and promenades.

Youth group from Ludwigsburg with Mayor Javier Altamirano
© Siegfried Rapp

The City of Ambato is the capital of Tungurahua Province, and is located on a plateau in the Andes at an altitude of around 2,570 m. Ambato is considered the city of flowers and fruits, and is also known for its large leather industry as well as its economic importance due to its central location.

The basic idea of the municipal climate partnership between Ambato and Ludwigsburg is to initiate and strengthen professional cooperation in the fields of environmental protection, and climate change mitigation and adaptation. The climate partnership's starting point was visits made by the Ecuadorian ambassador, Jorge Jurado, to Ecuador's Honorary Consulate in Ludwigsburg. Jorge Jurado had made several attempts to facilitate cooperation with an Ecuadorian municipality in order to jointly tackle environmental challenges. Representatives of the German Federal Government also encouraged the municipality in Ludwigsburg to initiate a further climate partnership in addition to its existing one with Kongoussi in Burkina Faso.

In 2014 Ludwigsburg received the German Sustainability Award for being the most sustainable medium-sized city in the country. The city has been actively pursuing integrated sustainable development for many years through its urban development master plan and its Department for Sustainable Urban Development. In its existing climate partnership with Kongoussi in Burkina

Faso, its coordination desk for municipal development cooperation and its five city-to-city partnerships, Ludwigsburg also has an established track record of international engagement. Conscious of its global responsibility, through the climate partnership Ludwigsburg would like to receive valuable stimulus from its partners, transfer its own expertise and thus jointly address the challenges of climate change.

The City of Ambato faces major environmental challenges and therefore attaches high priority to environmental protection in its strategic planning. The City of Ambato is focusing on transforming itself into 'The great city' that promotes sustainability, tourism and social integration, in order to take Ambato out into the world and bring the world to Ambato. The key areas are social cohesion, tourism, environment, professional development, innovation and technology. Together with businesses, universities and the local administration, these fields are being integrated into the broad themes of work, safety, mobility and culture in the city and the rural areas. In this way Ambato will become a good practice example for public administration.

The key motive that led the two sides to establish the climate partnership was their shared awareness that environmental challenges in general, and climate change in particular, do not stop at borders. Both sides are conscious of the fact that these challenges can only be tackled through international dialogue, and by joining forces.

Designing the programme of action

Building on the project missions and other visits, and with the participation of key actors, the partners have drawn up a joint programme of action that will address the main environmental challenges and key areas, and continuously update the approach.

The two coordinators of the climate partnership guarantee regular communication and discussion, as a result of which close and regular dialogue have been established. The mayors were actively involved in the process of developing the programme of action, as were relevant specialist departments of the municipalities and utilities. Key external stakeholders were also involved in the reciprocal visits and in project development. Most importantly these included the Honorary Consulate of the Republic of Ecuador, which fortunately is located in the immediate vicinity of Ludwigsburg Town Hall. The Honorary Consulate not only promotes dialogue at the political level. It is also very actively involved in project development and implementation.

Planting 440 trees in Ambato © Siegfried Rapp

There are also other non-municipal actors supporting and promoting the climate partnership, which played very important roles above all during the missions. These include the University of Stuttgart, the Baden-Württemberg Academy for Nature Conservation and Environmental Protection, and experts from private enterprises. These institutions contribute specialist expertise, and thus complement the experience and existing good practice examples in the municipalities.

Between March 2018 and March 2019 three expert missions took place, two to Ambato and one to Ludwigsburg. Moreover, since the end of 2017 further externally funded and self-financed visits have taken place involving the municipalities, entrepreneurs and civil society actors. In total more than 20 individuals have thus visited the partner municipality and participated in the expert dialogue. Through trips made by an inclusive band and a youth group, another roughly 30 individuals promoted intercultural exchange and implemented first environmental projects.

The reciprocal visits were an important part of developing the programme of action. During all the visits, excellent interpreters facilitated communication on what were sometimes complex and

specific technical topics. The two sides got to know each other in person, gained an understanding of the conditions and challenges in the respective partner municipality, and engaged in expert dialogue on concrete problems and solutions. This enabled them to identify key areas and develop corresponding projects.

Institutionalising the climate partnership at the municipal, civil society and private sector levels creates a perfect enabling environment for a lasting partnership to promote climate action and sustainable urban development.

The key measures of the programme of action

The joint programme of action encompasses seven strategic objectives in various thematic areas. Each objective is to be achieved through a specific project. The partners also already have ideas for further projects which they will concretise and implement later on in a second phase of the partnership. The starting point for defining the strategic objectives were the exiting impacts of climate change already identified, and the key areas based on that. Water, solid waste, green spaces, biodiversity and environmental education form the key areas of the programme of action.

One of the key challenges in Ambato is **wastewater treatment**. Above all the large leather industry generates highly contaminated wastewater, which due to a lack of infrastructure is currently discharged directly into a river. In cooperation with the wastewater institute at the University of Stuttgart, the climate partnership will develop a wastewater treatment master plan and study the feasibility of an industrial sewage treatment plant.

To promote **biodiversity** and **intercultural exchange**, together with the Honorary Consulate of Ecuador and with active participation by young people and adults from both municipalities, a participatory PR project is being implemented. In Ludwigsburg, in conjunction with the ‘Blooming Baroque’ project citizens, schools and businesses are being supported in planting 100 bee pastures. In Ambato young people from Germany and Ecuador are planting 1,000 native trees. These activities are enabling the public to experience biodiversity and nature conservation first hand.

Environmental education and **biodiversity** in Ambato will be promoted by planting and extending green spaces such as parks and gardens, and by developing innovative educational trails. Urban biotopes will be networked, invasive plant species will be replaced with native species, urban gullies will be sustainably developed and existing environmental education offerings will be expanded.

German and Ecuadorian wastewater experts performing an analysis © Florian Tögel

In Ambato the existing school **environmental education programme** will be extended to include **small children** from five upwards. Together with the Baden-Württemberg Academy for Nature Conservation and Environmental Protection and in dialogue with experienced colleagues in Ludwigsburg, environmental multipliers will be trained in Ambato who will be able to raise awareness amongst preschool teachers. Nature education will then become part of the daily routine of 18,000 preschool children.

A sustainability and environmental competition in which schools compete with respect to efficient resource management, will raise awareness of environmental protection, resource efficiency and global interdependencies not only amongst the contestants, but also amongst citizens in Ambato and Ludwigsburg. Since Ludwigsburg has already

successfully run this competition within the city itself, it will be able to build on valuable experience with planning and implementing it.

As well as the long-term development of a recycling plan for Ambato, the two sides also have initial plans to reduce plastic waste at the main city festivals in Ambato and Ludwigsburg. They plan to continuously raise the awareness of all involved actors. Based on an initial review, they will reduce the proportion of plastics used in floats, costumes, packaging and other materials. Reciprocal visits to the festivals will make citizens more aware of the climate partnership.

To make tourism in Ambato competitive, environmentally sustainable and socially sound, the city has embarked on a process to become a certified sustainable travel destination. Furthermore, in dialogue with Ludwigsburg's own tourism & events company and tourist destinations in Baden-Württemberg, it plans to develop an organisational unit for managing and marketing tourism in conjunction with a tourist marketing plan.

The frame of reference for the programme of action is provided by the Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda and the Paris Agreement of the Parties to the UNFCCC of 2015. With their programme of action the two cities have acknowledged their responsibility to actively protect the climate, the environment and human rights. The objectives of the programme of action are designed to make a specific contribution towards achieving the SDGs at the international and local levels. SDGs 13 (Climate Action) and 17 (Partnerships for the Goals) define the framework for the climate partnership.

3.10. Munich (Germany) – Harare (Zimbabwe)

	City of Munich (Germany)	City of Harare (Zimbabwe)
Population	1,6 Mio.	1,5 Mio. (official figure, estimated figure at least 2.3 million)
Area	311 sq. km	872 sq. km
Possible or already noticeable impacts of climate change	• Above-average frequency of very high temperatures in summer (heat stress, increase in atmospheric particulate matter and ozone during hot spells) • Reduced precipitation in the summer (damage to vegetation caused by prolonged dry spells), increase in winter • Increase in torrential rainfall events (storm damage, flooding of roads and cellars)	• Prolonged hot spells with aridity and negative impacts on water supply, electricity supply, harvests and health • Increase in storms and torrential rainfall events with damage to agriculture, buildings, energy supply and transport infrastructure

Profile of the climate partnership

Harare, the capital city of Zimbabwe in southern Africa, and Munich, the capital city of Germany's federal state of Bavaria, have been twinned since 1996. Expert dialogue between the two municipalities played an important role right from the beginning. In the early years of the partnership the focus tended to be on technical advice, e.g. concerning water supply and solid waste management. The cooperation projects of the last few years, however, have been geared more towards strategic and conceptual issues involving modernisation of the administration in Harare. Experts from Munich and Harare have for instance jointly developed an IT strategy for Harare. In another project the municipality of Harare received advice and training from Munich's Geodata Service. This will enable it to make appropriate use of modern geographic information systems in planning and administration in this city with a population of well over one million.

In these cooperation activities, sustainable urban development is a permanent cross-cutting theme. At the same time, striking a balance between environmental, social and economic requirements in Harare is a particular challenge given the extremely difficult economic situation there. Yet it is also an opportunity. In a cooperation agreement signed in 2009 (and updated in 2015) the two cities declared their intention to also work together in the field of climate change. In 2017, Harare and Munich then decided to get involved in the 'Municipal Climate Partnerships' project in order to realise this intention. At this point it was clear that the increasingly urgent social and economic problems in Harare needed to be addressed. Not least for this reason, they then decided to focus their climate partnership initially on the sustainable mobility sector.

Planing a new bus station for Harare © Gerhard Gross

Harare Is strongly characterised by the structures that date back to the apartheid era, with a business district in the inner city and the townships for the black population on the very outskirts. This

is why all routes lead to the centre, which in this sprawling city entails considerable distances. The predominant means of transport is minibuses. Public transport is highly unstructured, and there are barely any public buses. Owning your own car is a status symbol. Only those who can't afford it travel by public transport. Riding a bike is considered a less-than-ideal solution, for poor people. The roads are clogged up with cars and minibuses, and there is a lack of funds for the needed bike infrastructure. Harare would like to make mobility in the city more sustainable. This will be a contribution both towards climate action and towards improving air quality in the city. At the same time, public transport that works is also considered an important element for greater social justice and quality of life, and for economic development in the city.

Due to its high population growth (from 1.3 million inhabitants in 2005 to 1.6 million in 2018), Munich too faces major challenges in transport and mobility planning. Traffic density in the city and the region has increased significantly. This entails high levels of pollution, especially with nitrous oxides. As a result, some main roads frequently exceed the air pollution limits set by the European Union. Further increases in traffic are anticipated in the future, as the population within Munich's city limits is expected to reach 1.85 million by 2035-40. To maintain a high quality of transport in Munich and the region, and reduce pollution, it will be necessary to both expand public transport systems and increase the share of bike and pedestrian traffic.

Designing the programme of action

The idea of participating in the 'Municipal Climate Partnerships' project arose in the course of a previous cooperation project on geographic information systems. In that project the two sides were already holding intensive discussions on sustainable urban development and urban planning. As described above, the two partners quickly agreed to focus the climate partnership initially on the transport sector, as they had identified an acute need for local action in both cities.

This is why the respective departments for urban and transport planning – the Department of Works in Harare and the Department of Urban Planning and Building Regulation in Munich – were made the main contact points for technical issues. Development of the programme of action was supported by selected environmental organisations right from the beginning. In Munich this was the Green City association along with its subsidiaries, and in Harare the NGO Environment Africa. The Technical University of Munich and the University of Harare were also included in the missions, and were involved in the planning of some components. As the objectives and activities were elaborated in more detail, other local civil society initiatives and actors were brought on board. These included the GIZ Office, the German Embassy and the Delegation of the European Commission in Harare. The process was coordinated in the two cities by the respective departments for international cooperation. The city councils were not involved in the steering committees. However, in Munich the municipal climate partnership has reported regularly to the City Council's Committee for Municipal Development Cooperation, and in Harare the council has been involved primarily through meetings and events during the missions

Workshop to develop the programme of action © Gerhard Gross

The City of Munich had already been involved in the third phase of the 'Municipal Climate Partnerships' project from 2014 to 2015, together with its then partner municipality of Cape Town in South Africa. For Harare the objectives and systematic approach were new. The kick-off workshop in October 2017 was therefore an important starting point for establishing the same level of knowledge and commencing professional dialogue. During the total of four professional meetings – one directly following the international kick-off workshop in October 2017 plus three missions (January 2018

and March 2019 to Harare, July 2018 to Munich) – the two sides gradually developed and concretised the elements of their programme of action. They also made intensive use of the missions to supplement and better understand the information they had shared concerning the situation on the ground. After that they systematically analysed the various findings and ideas for objectives and cooperation activities that had resulted during the second mission to Munich, and incorporated this into the plan of action. A workshop moderated by the Service Agency and LAG 21 NRW was very helpful in this regard. On that basis, during the final mission the two sides were then able to define in precise detail and prioritise their planned measures.

The key measures of the programme of action

The overarching objective is to **strengthen cooperation between the two cities** for **developing sustainable urban mobility**, with a special focus on the respective social, political, economic and environmental situation in each municipality.

To achieve this they intend to improve the fundamentals, methods and processes of transport and mobility planning in Harare, and facilitate the use of environmentally friendly, sustainable means of transport in the city and the region. Above all, this means promoting walking and cycling as well as public transport use. Achieving that will require the creation of enabling frameworks, including sufficiently wide and protected footpaths, squares and green spaces for pedestrians, as well as safe options for crossing major roads. It also includes providing attractive and safe bike paths and parking facilities, as well as efficient, effective, environmentally friendly and reliable public transport.

The two sides analysed the situation today during the various visits and performed a desk study of the available documents on urban and transport development. On that basis they identified a need to improve knowledge and expertise on modern methods of analysis and visualisation for urban and transport planning in the municipality of Harare. To achieve this the partners plan to conduct exchange visits with other African cities it order learn from their experience in this field.

They also intend to put in place the technical requirements and methodological foundations for visualising plans, and to clarify the frameworks for outsourcing a Sustainable Urban Mobility Plan (SUMP). This SUMP would form the basis for assessing, planning and realising sustainable transport systems, especially public ones. To this end the existing geographic information system (GIS) will be supplemented with more recent elements and planning-oriented applications. Personnel in the Department of Works in Harare will be trained accordingly. The partners also consider it appropriate for the City of Harare to appoint a mobility expert who possesses experience with integrated sustainable mobility planning, and can support the processes for drawing up and implementing the SUMP.

A bike workshop in Harare © Gerhard Gross

A further focus of the programme of action involves **measures to increase the acceptance and use of public transport and cycling in Harare**, and to make streets and public spaces more attractive and safer for pedestrians. To this end a communication strategy will be designed in order to make inhabitants, workers and visitors to the city aware of the benefits of walking and cycling both for themselves and for the city's sustainable development. The partners plan to implement pilot projects on this in schools and at the university in Harare. Furthermore, existing bike paths in the city will be reactivated and new ones planned. Existing spaces for pedestrians and walkers will be reclaimed and new ones created. Where appropriate, this may also include closing off inner-city roads and public spaces to motorised traffic for limited periods. Targeted campaigns will also be conducted to increase the use of public transport. Here the partnership will seek to learn

lessons from other cities in Africa, as well as in Europe and Germany.

Since there is strong pressure to act in Harare, first steps to implement the programme of action have already been taken: A process to **assign at integrated planning expert** through the Service Agency's Experts for Municipal Partnerships Worldwide (FKPW)[9] programme has been launched. The two sides also hope that further short-term measures will be made possible, if a proposal submitted to the Service Agency's Fund for Small-Scale Municipal Development Cooperation Projects is approved. These will involve training for personnel of the Department of Works in Harare, and the development of a communication strategy to promote cycling and walking.

9 https://skew.engagement-global.de/experts-worldwide.html

3.11. Schwäbisch Hall (Germany) – Okahandja (Namibia)

	Schwäbisch Hall (Germany)	Municipality of Okahandja (Namibia)
Population	40.621	32.183
Area	104,18 sq. km	164,2 sq. km
Possible or already noticeable impacts of climate change	• Increase in extreme weather events such as prolonged droughts, torrential rainfall and heat waves • General change in precipitation patterns • Decline in the number of insect species and biodiversity • Climate-induced losses in agricultural production	• Prolonged drought • Unusual weather for the given season (e.g. extreme heat) • Loss of jobs and increasing urbanisation within the city and the district as a result of drought • Decline in food production in the district • Increase in poverty and hunger • Flooding possible during the rainy seasons

Profile of the climate partnership

Okahandja is the capital city of the district of the same name, in Otjozondjupa Region. The municipality has a population of 32,183 and covers an area of 164.2 sq. km. The figure for the current population was calculated on the basis of the numbers taken from the 2011 census, but factoring in a growth rate of 1.6 per cent per annum. Located some 70 km north of the capital Windhoek, Okahandja is known as the 'Garden Town of Namibia'.

The name Okahandja comes from the Otjiherero (one of Namibia's indigenous languages), and means the place where two rivers flow into each other to form one wide one. The two rivers in question are the Okakango and the Okamita, which carry water only in the summer and run dry for the remainder of the year. Okahandja is of historical importance, and the district of the same name offers many leisure opportunities for locals and tourists alike.

The city's economy accomplices various retail and service enterprises, as well as manufacturing industries. Agriculture takes place largely in Okahandja District, i.e. on the municipal and private farms and in the smaller settlements.

As a result of climate change Okahandja has to cope with prolonged droughts, declining water resources, further damage to biotopes in the city and its environs, as well as growing health risks caused by heat waves and prolonged dry spells.

The large district town of Schwäbisch Hall is located 60 km north-east of Stuttgart, in the Heilbronn-Franconia region in Germany's federal state of Baden-Württemberg. Covering 104.18 sq. km, it has a population of around 41,000 who come from more than 120 countries.

A delegation from Schwäbisch Hall visiting their partners in Okahandja © Municipality of Okahandja

The history of the town goes back a long way and is closely linked to the mining of salt, which in the Middle Ages was referred to as 'white gold'. As early as the fifth century BCE, Celts settling in

the area would obtain salt from brine. Salt mining was not discontinued until 1924, but the saltwater baths are still in operation to this day. The town offers a wide range of arts and cultural events, and leisure facilities. These include exhibitions at the Würth art gallery, open-air theatre on the famous St. Michael's steps, and salt and summer festivals.

Some 26,000 of the town's inhabitants are in employment; the unemployment rate is 2.8 per cent. In 1971 the town founded its own public utilities company (Stadtwerke Schwäbisch Hall), which has invested massively in renewable energy and its own district heating system. The town has been actively involved in local climate action for years, and has its own energy and climate action master plan.

Since 2015 the Municipality of Schwäbisch Hall has also been active in Namibia, where it has a project partnership with the Waldorf School in Windhoek. During that same period the town attempted to establish cooperation at the municipal level. In 2017 Okahandja and Schwäbisch Hall agreed to work together in a municipal climate partnership, in order to identify appropriate solutions for mitigating the impacts of climate change at the local and global levels.

Right from the beginning, both partners were aware of how ambitious and difficult this would be. Yet given the massive threat which climate change poses to humankind and the future of the planet, there is no alternative to joint, coordinated efforts.

The climate partnership between the two municipalities goes back to the Namibian Ambassador to Germany, Andreas Guibeb, who recommended such an arrangement in 2017.

Designing the programme of action

Following intensive written communication, delegates from the two municipalities met in person in Bremen in October 2017 at the international kick-off workshop for the sixth phase of the 'Municipal Climate Partnerships' project. The partners discussed the threats that climate change entails for each municipality. After the workshop the two sides continued their discussions in Schwäbisch Hall.

During this visit they laid the foundation for the partnership. The two sides agreed that the partnership should be based on mutual learning and respect, joint responsibility for all activities and results of the partnership, and transparency and openness.

A return visit took place in February 2018. A delegation from Schwäbisch Hall led by Mayor Hermann-Josef Pelgrim and the municipality's Climate Action Officer Stefano Rossi travelled to Okahandja to see for themselves how things looked on the ground. The delegation had an opportunity to meet and get to know members of Okahandja Municipal Council.

Once the two sides had got to know each other the delegation visited various facilities and plants including a waste dump, the town hall, a public hospital, a school and the sewage treatment plant. The delegates were then able to see for themselves that the waste dump and the town hall were in urgent need of modernisation and renovation. More specifically, a recycling centre needs to be built, the town hall needs to be renovated and the sewage treatment plant needs to be modernised. Bearing this in mind, the two sides defined several key areas for cooperation.

In November 2018 a delegation from Okahandja travelled to Schwäbisch Hall. The delegation was led by Mayor Johannes Hindjou, the Manager for Environmental Health Julia Hukununa and Urban Planning Manager Phillip Hendjala.

The agenda included visits to a biogas plant, a waste disposal centre and a composting plant. The delegation from Namibia also met with representatives of the Schwäbisch Hall public utilities, and discussed the planned photovoltaic system in Okahandja with them. At a one-day workshop organised by the Service Agency and LAG 21 NRW, representatives of both municipalities had time and opportunity to work on their vision and their joint programme of action for the municipal climate partnership.

The second visit to Schwäbisch Hall was a key milestone for the delegation from Okahandja. This was because the delegates found the lessons learned by Schwäbisch Hall in the fields of waste and energy management, and particularly the management of a recycling plant, highly valuable.

The workshop proved to be an excellent learning experience and provided the visitors with key insights, as the major challenge for Okahandja is waste and energy management.

The **key interim results** when developing the joint programme of action were the definition of the key areas, the establishment of the work structures and the emergence of a productive working relationship.

Mayor Hermann-Josef Pelgrim from Schwäbisch Hall discussing possible sites for a solar power system in Okahandja with Mayor Johannes Hindjou and members of Okahandja Municipal Council
© City of Schwäbisch Hall

So far, the following units and entities are involved in the municipal climate partnership:

Municipality of Okahandja	Schwäbisch Hall
Office of the Mayor	Office of the Mayor
Office for Environmental Health and Disaster Risk Management	Department for Central Administration
Office for Urban Planning	Schwäbisch Hall Public Utilities
Office for Local Economic Development	NGO Friends of Namibia
Office for Technical Infrastructures	
Joint Venture between Okahandja and CenoRed	

The key measures of the programme of action
ABased on the actual situation on the ground and the subsequent consultations that took place during the visits, representatives of the two municipalities defined the key areas. These were selected in particular in response to the poor condition of the waste dump and the service infrastructure.

At the level of the vision, the climate partnership envisages educated, capable and committed citizens working towards achieving key climate targets by 2030. Schwäbisch Hall and Okahandja will raise their citizens' awareness of climate change and its consequences, and how this will impact the environment and the vital natural resources on which people depend.

To achieve this vision in the long term the two partners have identified key areas in which they plan to implement joint measures. The key areas are:

- promote renewable energy
- optimise solid waste management
- optimise sanitation
- raise awareness of climate change

These key areas are described in detail below:

Renewable energy: By 2030 the climate partnership will aim to achieve a 50 per cent share of renewables in the electricity mix. The first key area of the programme of action encompasses key projects such as strengthening local energy supply by jointly installing an open-ground photovoltaic system. The two sides will also look into whether smaller photovoltaic systems can be installed on the roofs of municipal buildings.

The Municipality of Okahandja will benefit immensely from the lessons learned by the Schwäbisch Hall Public Utilities company, which since 2018 has already been delivering 100 per cent green electricity to the area it supplies. Further measures include training in project planning for renewable energy, which has been ongoing at the Schwäbisch Hall Public Utilities company since February 2018. The Schwäbisch Hall Public Utilities company is now also part of the core team for the municipal climate partnership. With this package of measures, Okahandja is likely to make a significant contribution towards sustainable power generation in Namibia.

Solid waste management: In the second key area of the joint programme of action, the two municipalities will focus on the options for managing solid municipal waste, optimally recycling collected reusable materials and developing appropriate solutions for Okahandja. The climate partnership has set itself the target of recycling 50 per cent of solid municipal waste in Okahandja by 2030. Currently, neither solid waste management in general nor management of the waste dump in particular are meeting the needs of citizens in Okahandja. Sometimes light materials such as plastic bags and newspapers are blown away from the dump and into the surrounding area by the wind. Consequently, waste avoidance must be a key component of a waste management strategy to be developed. Furthermore, the actors involved should be enabled to recognise the potential of intelligent waste management and waste itself as a valuable resource for generating income.

Actors from Okahandja showing their partners from Schwäbisch Hall the sewage treatment plant in Okahandja
© City of Schwäbisch Hall

The third key area of the programme of action involves **sanitation**. Here the municipal climate partnership plans to promote knowledge transfer between the two municipalities so that operation of the sewage treatment plant can be optimised. By 2030 the two municipalities plan to double the percentage of households connected to the sewerage system.

The fourth key area of the programme of action involves **environmental education** to promote sustainable development in the water, energy and waste management sectors. This will aim to raise citizens' awareness of the impacts of climate change, persuade them to change the way they see their own environment and climate change, and encourage them to adopt environmentally friendly behaviours. This can lead to positive effects. Citizens will thus be enabled to separate their waste properly, for instance, so that fewer reusable materials end up on the waste dump. The partners also plan to raise public awareness of the wasteful use of water, so that less water is lost, and show citizens how they can use renewables instead of fossil fuels. The climate partnership views public awareness-raising as a cross-cutting measure.

The aforementioned measures were selected in order to address specific problems on the ground. When a delegation from Okahandja visited Schwäbisch Hall in October 2017, the visitors expressed concern, pointing out that that there was an urgent need to act with regard to the waste dump and the sewage treatment plant. A further topic was energy supply in Okahandja and the country as a whole.

The members of the Namibian delegation also explained to their hosts in Schwäbisch Hall how the power supply in Namibia is structured. The system has a central power supply model in which a large proportion of the electricity required is imported from South Africa (in the form of coal-based electricity). It therefore makes sense to install a photovoltaic system in Okahandja in order to guarantee an environmentally friendly, sustainable and affordable power supply for the city. Switching to photovoltaic power generation would improve the environmental situation and promote a lifestyle in which fossil fuels, which damage both the environment and human health, no longer play a role.

The **main objective of the municipal climate partnership** is to jointly tackle the challenges of climate change. To this end, greenhouse gas emissions need to be reduced both in the municipalities and in other parts of the world. The municipalities of Schwäbisch Hall and Okahandja are proud to be making the energy transition to a low-carbon future. By so doing they will also enable future generations to enjoy the miracles and the beauty of life on Earth.

With the municipal climate partnership the two partner municipalities are embarking on a long

and arduous journey. Nonetheless, they are convinced that their actions today will prove a useful contribution for humankind and our planet.

3.12. Viernheim (Germany) – Silly (Burkina Faso)

	Viernheim (Germany)	Silly (Burkina Faso)
Population	34.265	Approx. 34.000
Area	48 sq. km	1.238 sq. km
Possible or already noticeable impacts of climate change	• Several torrential rainfall events with flooding of parts of the town • Successive years with pronounced summer drought stress negatively impact tree stands in the surrounding forests and agriculture • Rising temperatures	• Irregular and lower rainfall lead to declining harvests, even crop failure • Changes in temperature and precipitation affect public drinking water supply • The rainy season begins more intensely, but is interrupted Customary local buildings fail to withstand heavy rainfall and wind • Advancing desertification

Profile of the climate partnership

Viernheim is a medium-sized town north-east of Mannheim in the Rhine-Neckar Metropolitan Region. It has four commercial districts with numerous medium-sized enterprises. The town's forward-looking energy policy has won acknowledgement and support from the Hessian Ministry of the Environment. In 1994 it won the Hessian municipal competition for the 'Brundtland Town' award. Here, 'Brundtland Town' means energy-saving town, named after the Brundtland Report published in 1987 by the UN World Commission on Environment and Development, and chaired by the former Norwegian Prime Minister Gro Harlem Brundtland.[10] The key message of the Report was that primary energy consumption and thus CO_2 emissions in the industrialised countries will need to be halved during the coming decades. Since then, climate action has been a key focus of the Municipality of Viernheim's activities

Silly, Viernheim's partner municipality, is a rural municipality with 31 villages. It is located in the Centre-Ouest region of Burkina Faso in the province of Sissili, roughly 90 km from Léo, the provincial capital. The main activities are crop farming and animal husbandry, which basically comprise subsistence agriculture. In terms of climate the Municipality of Silly is located in the semi-arid zone, with tree savanna vegetation.

The official town twinning arrangement involving a partnership agreement has been in place since 1994. In September 2013 the agreement was extended to cover the entire territory of the rural Municipality of Silly.

Working visit by a delegation from Viernheim's partner municipality of Silly, shown here with representatives of the Municipality of Viernheim and the Focus e. V. association © Focus e.V.

By 1995 the Municipality of Viernheim had already developed a climate action master plan, the content of which it largely implemented over the subsequent years. In 2018 the Municipality of Viernheim and its Brundtland Office set themselves

10 https://www.viernheim.de/leben-bauen-Figureung/oekologie-umwelt/brundtland-und-klimaschutz.html/

the target of drawing up an ambitious and innovative climate action master plan 2.0 for this Brundtland Town. Alongside the traditional energy sector, this also addresses the topics of mobility, sustainable lifestyles, regional value creation and adaptation to climate change.

Just as Viernheim was about to commission its climate action master plan, in the spring of 2017 Engagement Global/the Service Agency published a call for proposals for the sixth phase of the 'Municipal Climate Partnerships' project. This was designed to launch municipal climate partnerships between both German and African municipalities, and German and Latin American municipalities.

Viernheim's Council Chair is responsible for town development and environmental planning as well as for the town's Brundtland Office. The FOCUS e.V. association is commissioned by the Municipality of Viernheim to manage projects for municipal development cooperation and the climate partnership under the twinning arrangement. Once the Mayor, the Council Chair, the municipal departments and FOCUS e.V. had completed their discussions, all sides were in favour of getting on board. The responsible municipal bodies in Silly were notified of the possibility of a climate partnership. After consulting with the municipal departments for agriculture and forestry, water supply and school inspection, the Mayor of Silly agreed to expand the partnership to cover climate change mitigation and adaptation. The initiative was then presented to the Silly Municipal Council. In Viernheim in May 2019, a resolution of the official municipal bodies noted the programme of action that had since been drawn up. It approved this as a framework of action and a basis on which to begin implementing the joint Viernheim – Silly municipal partnership.

Designing the programme of action

One major advantage for participating in the sixth phase of the municipal climate partnerships was that Silly and Viernheim dad already been **officially twinned** since 1994. The two sides will thus use the climate partnership agreement which they signed officially at the international kick-off workshop in Bremen in October 2017 to restructure and deepen their municipal partnership, which has existed for 25 years. Taking part in the project will give the partnership fresh impetus. All actions by the municipalities of Viernheim and Silly will be aligned with the needs and challenges created by climate change, with a view to creating municipalities that are healthy, just, sustainable, resilient and climate friendly.

Following the kick-off workshop each municipality appointed a **project coordinator,** formed a core team and selected possible actors. Both municipalities attach high priority to involving as many municipal and civil society actors as possible in order to popularise the climate partnership in as many different segments of the community as possible. The key principles are working together as equals, mutual learning and joint responsibility for developing and implementing the programme of action.

A dedicated breakout group at a workshop in Silly (Burkina Faso) to develop the programme of action for the climate partnership
© Focus e.V.

The first mission, to Silly, took place in January 2018. In a workshop to develop the climate partnership the two sides began by conducting a baseline analysis. All the discussions revolved around the question of how the municipal partnership could be extended and enriched by also making it a climate partnership.

During the second mission, to Viernheim, the discussions became more concrete. Supported by the Service Agency and LAG 21 NRW, the two sides held a workshop at which they began by reviewing the partnership to date, and then defined the working structures and key areas for the work of the climate partnership. They subsequently worked on a new vision, and after final reflection

went on to plan the next steps. The two sides succeeded in defining the first clear contours for a joint programme of action, and intensive talks were already held with several selected actors.

Following that mission both municipalities continued work on the programme of action. With some detailed results to show for their efforts, in February 2019 a delegation from Viernheim travelled to Silly for the third mission. During this visit a workshop was held which was attended by the delegation from Viernheim, the Mayor and Council Chair of Silly, municipal councillors, representatives of the specialist municipal departments and civil society actors. The joint programme of action was presented to everyone involved. Questions on the programme were collected, and subsequently discussed and answered point by point. One important aspect for both partners is the inclusion of formal and non-formal education for young and old. This is designed to support achievement of the objectives through educational projects designed to raise public awareness of climate change mitigation and adaptation and to encourage responsible action.

The key measures of the programme of action

At the workshop in Viernheim in October 2018 the two sides defined the following key areas for future cooperation:

- renewable energy
- strengthening regional structures
- school and education
- good governance
- agriculture and forestry, environment, water supply, irrigation, disposal and health

In 2019 Viernheim adopted a **climate action master plan**. In Silly, measures for adapting to climate change will be integrated as a component of the local development plan. Major potential exists in Viernheim in the fields of photovoltaics, sufficiency (sustainable lifestyles – 'less is more') and cycling. By contrast, in Silly the potential lies rather in the expansion of solar power and the adaptation of agriculture. Cross-cutting themes here are education, motivation, awareness-raising and political will-formation. The structures of a rural municipality in Africa such as Silly, and those in a medium-sized town in a German Metropolitan region such as Viernheim, are also very different. This means that strategic objectives and measures will diverge widely, and will be difficult to manage in the same way in both municipalities.

Primary school children in Silly can hardly wait for the fruit tree seedlings to bear their first fruit in a few years © Focus e.V.

Renewable energy: In Viernheim the municipal actors aim to multiply the percentage share of renewables in the heat and electricity mixes. To achieve this they intend to initiate a new solar power campaign in 2020 in cooperation with the local citizens' advisory service for solar power. The partners in Silly plan to initiate a solar power strategy and set up a so-called 'Solartainer'. Biogas plants will be installed in all villages. This will be accompanied by measures to raise household awareness of their benefits. Measures will be created to establish and develop local enterprises that specialise in solar energy.

Strengthening regional structures: The partnership will strengthen local and regional structures, with a focus on mobility, nutrition and consumption. Silly will have a strong organisation for processing shea butter (vegetable fat from the shea tree) which can supply the national and international market with finished products at competitive prices. Local artisanal enterprises with a technical focus (solar power, biogas, shea processing) will also emerge.

School and education: The climate partnership aims to develop an education plan for children and youth that sees 'education for sustainable development' as a key instrument, based on the Sustainable Development Goals (SDGs) formulated

by the United Nations in the 2030 Agenda. The school and out-of-school education providers in Viernheim and Silly will agree a local education plan that encompasses the following key areas: climate change, energy, consumption, nutrition, mobility, work, biodiversity and justice. A group of experts will develop a proposal for an appropriate non-formal education plan. In both municipalities, awareness of climate change and adaptation to its impacts will be raised through awareness-raising campaigns and by supplementing the curriculum for schools, plus projects. In Silly, the partners also intend to raise awareness as described above by building a 'municipal climate house' that includes an environmental garden and a library. A further objective is to certify schools and cooperating organisations as 'sustainable education providers'.

Good governance: The climate partnership aims to pursue a systematic climate action policy, and create suitable structures for achieving the long-term objectives of the master plan for climate change mitigation and adaptation by 2050. In this context the municipalities of Viernheim and Silly see themselves as networkers They plan to establish a sustainability council to initiate, facilitate and evaluate the processes and measures.

Agriculture and forestry, environment, water supply, irrigation, disposal and health: Given the structural differences the measures in this area diverge widely, and for the most part apply to Silly. The 'life without plastic' initiative can be implemented as a parallel project with the same objectives in both Silly and Viernheim. In Silly the partners plan to improve access to drinking water. By 2030, crop farming and animal husbandry will enable a secure and more efficient nutritional base. To this end, agricultural production facilities will be built or refurbished. The badly damaged retention basin in Silly will be rehabilitated and extended. Farmers will receive awareness-raising and training on good agricultural practices that are resilient to climate change. Stores selling appropriate agricultural inputs will be set up in selected villages. The population will be provided with agro-meteorological information and extension services on agricultural practices. The development plans for afforestation need to be updated. The measures to maintain existing tree stands need to be redoubled, and the planting of fruit trees needs to be stepped up.

4. CONCLUSIONS

In an intensive two-year process the twelve municipal climate partnerships of the sixth project phase embarked on an exciting path. Some of them extended their existing partnerships to include the topics of climate change mitigation and adaptation, while others initiated and built new partnerships within this thematic context.

This provided an impressive demonstration of the fact that all municipalities are affected by the impacts of climate change, but in very different ways. While some report extreme weather events and prolonged periods of heat or drought, others are affected by water scarcity and soil erosion. Impacts are accentuated depending on the particular climate zone. Municipalities in Burkina Faso suffer droughts, water scarcity and soil impoverishment, while municipalities in Peru have to cope with flooding, landslides and rockslides. The German municipalities tend to report longer hot spells in the summer and torrential rainfall events.

Eight climate partnerships in the sixth project phase are built on existing partnerships, while four were established from scratch. The partnerships that already existed largely involve long-standing twinning arrangements or school partnerships. For the newly established partnerships in particular, but also for those that already existed, the main challenge was to create in a relatively short time a sound professional and organisational basis for further cooperation.

For the first time, municipalities from Germany and from various countries in Africa and Latin America were brought together within a single project phase. The previous five project phases each focused on a single region of the world. This created various new challenges regarding communication in different languages, which the project team had to bear in mind when organising and setting the agenda for the international conferences. The journey for the municipal delegates from Latin America to Windhoek in Namibia for the network meeting of municipalities from the Global South, or the trip to Kouga in South Africa for the results workshop, also proved difficult. This was due for instance to visa requirements and the length of the journeys. Nonetheless these problems were outweighed by the positive aspects. This was because the dialogue across three continents enabled the participants to share and discuss even more perspectives, challenges, lessons learned and solutions within the international network. Although it was not always easy for the actors from the partnerships to find a common language, generally speaking it was possible to quickly mobilise support from colleagues from other municipalities or the interpreters. All in all, including two regions of the world was therefore an enrichment for the climate partnerships of the six phase, and generated more fresh ideas. The challenges faced when responding to the impacts of climate change are similar in African and Latin American municipalities, as is the motivation to tackle them together.

Regarding the **work structures**, coordinators and core teams have been appointed in all the municipalities. In most cases steering committees were also set up that have met several times during the course of the project. In some cases the partnerships made use of existing bodies for climate action and environmental protection, which they supplemented with further actors. The composition of the various groups of actors is heterogeneous, and varies according to the specific situation of each particular municipality. In almost all the municipalities, however, they involve a range of actors including policymakers, administrators and civil society actors. This has enriched the process of exchange and placed the cooperation on a sound and broad footing. The coordinators and core teams include both representatives of departments for international affairs, and departments for the environment or climate action. Particularly in the smaller municipalities where these departments do not exist, (honorary) councillors and mayors themselves make a major contribution. In some partnerships actors from the private sector are also involved. These include Ludwigsburg (Germany) – Ambato (Ecuador), and Brühl (Germany) – Dourtenga (Burkina Faso). In some cases private individuals are involved who act as language and culture mediators, as in Hachenburg (Germany) – Gisagara District (Rwanda).

Universities and research institutions are relatively well represented on the steering committees, which creates interesting opportunities for in-depth analysis of specific aspects of project content. In the partnership Cologne (Germany) – Yarinacocha (Peru), for instance, alongside indigenous grassroots organisations (FECONAU) and other civil society organisations, the universities in both municipalities are also involved. Furthermore, in many partnerships schools and school students have been recognised as important actors. School partnerships are being established amongst others in the partnerships Enkenbach-Alsenborn (Germany) – Kinigi, Musanze District (Rwanda), and Hameln-Pyrmont District (Germany) – Alfred Nzo District Municipality (South Africa). These will be more closely integrated into the activities of the respective climate partnerships in the future.

Christopher Eita from Windhoek and Gerhard Gross from Munich holding a lively conversation © Ernst Ohlhoff

To ensure political backing, in those cases where councillors are not already directly involved themselves, the coordinators regularly update the political decision-making bodies on progress at the regular meetings. The reciprocal visits made by the delegations from the respective municipalities provided particularly good opportunities to do this. These mutual exchange visits and the international workshops were also used to raise public awareness of the climate partnerships and what they were all about, for instance through press releases, and announcements on municipal websites and social media.

Designing the programmes of action was not always a continuous and linear process. In some cases, political changes and shortages of human resources led to long interruptions. The language barriers presented a challenge for mutual communication, and continue to do so. As a result, the Service Agency sometimes needed to provide translation and interpretation services. Nonetheless almost all the partnerships found creative solutions, which often included involving voluntary associations or committed private individuals. This will be a key prerequisite for continuing the cooperation.

As in the previous phases of the project, in this phase too professional dialogue on the lessons learned, strategies and needs led to a rapid identification of key areas that were of interest to both sides. The reciprocal missions were particularly important elements of this process. The Latin American and African partners often highlighted the links between climate change and improving the lives and incomes of the local population. In the German municipalities, special importance was attached to raising awareness and motivating citizens to adopt climate-friendly lifestyles.

The programmes of action produced as outputs of this intensive process are presented for each climate partnership in the previous section. They all possess a hierarchical structure (strategic objective – operational objective – measure) and are clearly structured. They specify responsible individuals, time frames, resources required and indicators. This provides an excellent basis for implementation. One contributory factor here is that the programmes of action include both larger-scale, resource-intensive projects, and measures that can be tackled independently of external funding based on the human, material and financial resources already available. As well as measures that are planned to be implemented over the next one to two years, there are also some medium-term targets. The planned resources and indicators have been defined in detail chiefly for those projects already prioritised for immediate implementation. For the other measures, however, some of the information is still of a rather general nature, and will no doubt be elaborated in more detail once the municipalities plan to submit a funding proposal. Given the very different contexts and dynamics in the partnerships, the degree of

detail with which the programmes of action have been drawn up also varies.

By definition, the **key areas** selected reflect the specific situation and needs of the two partner municipalities concerned. Overall, the following topics were selected most often:

- awareness-raising and environmental education
- renewable energy and energy efficiency
- water management
- solid waste management
- sustainable agriculture

Participants in the network meeting of municipalities from the Global South in Windhoek during the excursion to a municipal water treatment plant © Johan Jooste

The majority of the objectives and measures that involve the construction or expansion of infrastructure or the use of specific technologies will be implemented in the Latin American and African municipalities, with the German municipalities providing support to their partners in the form of technical advice and joint project management (including advice on applying for funding). There are also several 'parallel projects' that will be implemented in both municipalities in similar ways. Examples include water management and measures to prevent plastic waste. Awareness-raising, education and public information work are also very important in all the municipalities. Among other things, the German municipalities intend to use the massive impacts of climate change in their partner municipalities to raise awareness of global interdependencies, and to boost the engagement of their own citizens.

In some climate partnerships, **implementation of the programmes of action** has already commenced. With BMZ funding, 13 projects of climate partnerships in the sixth phase are being, or will be, implemented through the Service Agency's Fund for Small-Scale Municipal Development Cooperation Projects, the Partnership Projects for Sustainable Local Development (Nakopa) programme or the Programme to Support Municipal Climate Change Mitigation and Adaptation Projects (FKKP). Despite the restrictions in connection with the corona pandemic, further projects will be launched in the course of 2020. The fact that implementation is being tackled so vigorously this early on will raise the profile of the climate partnerships and motivate everyone involved. No one should lose sight of the wider context of the programmes of action, however. The longer time frame and broader framework of the programmes of action will enable the municipalities to build on these individual measures through follow-on projects and complementary measures in the same area of activity or other areas. This will lay the foundations for broader and more sustainable results, and the continued strengthening and further development of the climate partnerships

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5. OUTLOOK

Through our municipal climate partnerships we followed the trajectory of the United Nations climate change conferences from Copenhagen in 2009 to Madrid in 2019. The idea for the 'Municipal Climate Partnerships' projects was born in the run-up to the 11th Federal Conference on Municipal Development Cooperation in 2009, and was closely linked to the failure of the COP 15 UN Climate Change Conference in Copenhagen. By facilitating the bilateral design of the joint programmes of action for climate change mitigation and adaptation by the German municipalities and their partners in the Global South, we wanted to send a message. Our message was that global climate change – and its impacts that are already with us today – can only be tackled successfully in cooperation with all actors in the North and the South.

Horatio Hendricks, Mayor of Kouga Local Municipality in South Africa, seen here holding plastic pellets in his hand. These will be processed to build 'Africa's first environmentally friendly road'. © Ernst Ohlhoff

Having begun the eighth phase of the project we are now looking at some 80 climate partnerships. They are sending a clear signal that we can increase the momentum for participatory climate change mitigation and adaptation by working together as equal partners

In the sixth phase the partners from the Amazonian region of Peru made it across the coffee plantations of Nicaragua to the deserts of Namibia, and on to the coastal strips of South Africa. And in Germany they got to know (amongst others) the Free Hanseatic City of Bremen, the Westerwald mountain range and Viernheim, the 'Brundtland Town'.

The partnerships between the municipalities and the people involved in them alone are already a tremendous gain for all those who joined us on this journey. We believe that stopping climate change is a joint task for North and South. The impacts of climate change are global and are not constrained by borders. The programmes of action jointly developed by the climate partnerships are pursuing this aspiration.

Based on this firm foundation, the aim going forward is now to make the climate partnerships sustainable and enable them to implement the objectives and measures that they have set themselves. In this context it seems important that the programmes of action should be integrated into the daily routine of the municipalities concerned, and that the municipalities should regularly report on the programmes of action and update them. Both within the administration and at the meetings of the decision-making bodies, the relevant actors should report on the progress of implementation and any obstacles encountered. Appropriate tools for this purpose would include the progress reports on the municipal master plans for climate change mitigation, or reports prepared by twinning associations. Furthermore, the programmes of action should be seen as dynamic documents which are therefore to be reviewed and further developed at regular intervals.

Both municipalities share equal responsibility for short-, medium- and long-term implementation of the planned measures and projects. Here it is imperative that the actors involved in the climate partnership municipalities transfer knowledge systematically. To ensure this knowledge transfer, regular dialogue should be guaranteed so that the programmes of action can be updated, and continuously supplemented with fresh knowledge and expertise. In this context it will be crucially important to maintain continuous communication and keep the working structures vibrant. Administrators

should make it a priority to ensure that the work of the climate partnership is managed not just by one individual, so that cooperation is not interrupted when people are assigned to new positions with different responsibilities.

Numerous activities of the programmes of action elaborated are also vitally dependent on the involvement of external actors. Consequently, in the future it will be even more important to see civil society groups, academia and the private sector as partners for success, and therefore to seek and maintain links transparently. The Fridays for Future movement, for instance, offers an opportunity to reach out to engaged young people and involve them in the work of the climate partnerships.

When realising the joint objectives in the climate partnerships the question of available resources will always crop up. A large number of the projects described in the programmes of action are ambitious and cost-intensive, whereas others can implemented by mobilising engagement within the municipality and involving partners in innovative ways. The time lines envisaged within the programmes of action already reflect a first set of priorities. Often, however, several measures are planned for launch within a relatively short time frame. The two partners should therefore agree the level of priority and time frame within which these activities can be realised, in order to avoid either side becoming overstretched.

The high-quality proposals for increasing renewable energy use and energy efficiency, the preventive measures to avert or mitigate the impacts of climate change, and the education projects, all of which were developed with considerable expertise and documented in the programmes of action, provide an excellent platform on which to apply for financial support from public and non-governmental funding bodies. They are based on a joint analysis, a profile of strengths and weaknesses, and specific joint objectives. The Service Agency and LAG 21 NRW will be glad to continue supporting the climate partnerships in their search for ways of funding the implementation of their activities in the future. The two agencies will also continue to provide the climate partnerships with professional and methodological support for implementing the programmes of action, albeit with less intensity than hitherto. Based on the model adopted in the previous phases of the project, a regular network meeting of the German municipalities has already been agreed. Furthermore, through many other relevant programmes the Service Agency (as Germany's competence centre for municipal development cooperation) and Engagement Global will continue to offer municipalities and civil society actors a range of advisory and other support services that they can use to further develop their municipal climate partnerships. The Service Agency's instruments for financial and human resources support were presented to the municipalities step-by-step at the network meetings in Germany.

Over the next few years the 'Municipal Climate Partnerships' project will be further expanded and institutionalised for the participating municipalities through advisory service offerings. The ninth project phase will begin in autumn 2022, and once again will facilitate and support around ten municipal climate partnerships during the two-year project cycle. Interested municipalities are welcome to approach the Service Agency Communities in One World and the North Rhine-Westphalian Working Party on Agenda 21 at any time to find out more about opportunities for joining the project in the future.

PUBLICATIONS OF THE SERVICE AGENCY COMMUNITIES IN ONE WORLD

All publications and information leaflets of the Service Agency Communities in One World can be ordered free of charge (if not yet out of print) or downloaded from our website: https://skew.engagement-global.de/publications-en.html.

Please find below the list of publications available in English.

Dialog Global-Series:

- No. 57: Financial Support for Municipal Partnerships - Watching others at work – Learning from their experience. Bonn, March 2021
- No. 53: Municipal Climate Partnerships. Documentation of the fifth phase of the project. Bonn, June 2019
- No. 43: Network Meeting Migration and Development at the Local Level. 9-10 November 2015 in Cologne. Report. Bonn, October 2016

Material-Series:

- No. 107: Fourth Conference of Municipal Partnerships with Africa. Hanover, 9 to 11 September 2019. Bonn, May 2020
- No. 106: 'Building Bridges', Report of the fourth German-Palestinian Municipal Partnership Conference, 24 to 27 September 2019 in Brühl, Germany. Bonn, May 2020
- No. 105: International Kick-off workshop for the seventh phase of the project 'Municipal Climate Partnerships'. 14 to 16 May 2019 in Bonn. Bonn, March 2020
- No. 98: Third European Network Meeting 'Migration and development at the local level: Sharing experiences and creating ideas'. 28 to 29. November 2017 in Cologne. Bonn, September 2018
- No. 96: First conference on Municipal partnerships with Eastern Europe. 23 to 25 October 2017 in Esslingen. Bonn, March 2018
- No. 95: Second Conference on Municipal Partnerships with Asia, 19 to 21 June 2017 in Bonn. Bonn, November 2017
- No. 90: Second European Network Meeting Migration & Development at the Local Level: Linking Actors and Policies. 29th -30th November 2016 in Cologne. Report. Bonn, August 2017
- No. 86: International Kick-off Workshop, 5. Phase '50 Municipal Climate Partnerships by 2015'. 12th-14th July 2016 Science City of Munoz, Philippines. Documentation. Bonn, March 2017
- No. 85: Third Conference on Municipal Partnerships with Africa - Sustainable Partnerships on Equal Terms, 19 to 21 October in Erfurt, Documentation. Bonn, March 2017
- No. 80: German-Latin American/Caribbean Mayors' Conference – 'Urbanisation in Germany', Hamburg, 30 to 31 May 2016. Bonn, November 2016
- No. 77: Second Conference of German-Palestinian Municipal Partnerships. 10 to 13 November 2015 in Jena. Bonn, July 2016

Other publications:

- About us. Bonn, September 2018
- The services we offer. Bonn, January 2019
- Municipalities for Global Sustainability and the 17 SDGs. The 2030 Agenda for Sustainable Development. Bonn, July 2018

Supporters and cooperating partners - The shareholding structure of the Service Agency

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The programme advisory board

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Rat der Gemeinden und Regionen Europas Deutsche Sektion

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