Corporate Unit Evaluation Central Project Evaluation

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Central Project Evaluation

Adapting to climate change in Lake Chad Basin
PN 2012.9751.4

Evaluation Report

On behalf of GIZ by Dr Hanna Schmuck (Konsortium) on behalf of GIZ

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Evaluators:
Dr Hanna Schmuck & Dr Remadji Hoinathy
Dr Andreas Pölking (backstopping and inception phase)

Author of the evaluation report:
Dr Hanna Schmuck

Consulting firm:
Konsortium
Dr Andreas Pölking
Reichsstr. 1
38300 Wolfenbüttel
E: info@konsortium.de

Concept, coordination and management
Claudia Kornahrens, Head of section
Benjamin Bräuer, specialist
GIZ Corporate Unit Evaluation
Central Project Evaluation Section

Responsible:
Dr Ricardo Gomez, Director
GIZ Corporate Unit Evaluation

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Registered offices:
Bonn and Eschborn

Friedrich-Ebert-Allee 36 + 40
53113 Bonn, Germany
T +49 228 4460-0
F +49 228 4460 - 1766

E evaluierung@giz.de
I www.giz.de/evaluierung
www.youtube.com/user/GIZonlineTV
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Abbreviations

AHT	AHT-GROUP AG (**A**grar- und **H**ydro**t**echnik, a German consultancy implementing Output B)
ANADER	Agence National d'appui au développement rural
APR	Association Pour l'autopromotion Rurale (partner NGO implementing Output B)
AV	Officer responsible for the commission
BGR	German Federal Institute for Geosciences and Natural Resources
BMZ	German Federal Ministry for Economic Cooperation and Development
EKF	(BMZ) Energy and Climate Fund
EU	European Union
FFS	Farmer Field School
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
LCBC	Lake Chad Basin Commission
LNOB	
MINADER	Ministère de l'Agriculture et du Développement Rural (of Cameroon)
PANA	Programme d'Action National de l'Adaptation aux Changements Climatiques (National Plan of Action for Climate Change Adaptation)
RTN	Radio Terre Nouvelle
ToC	Theory of Change
TC	Technical cooperation
UN	United Nations
UNFCCC	United Nations' Framework Convention on Climate Change

The Project at Glance

Republic of Chad, Central Africa: Adapting to Climate Change in Lake Chad Basin

Project number	2012.9751.4
CRS purpose code	31140
Project objective	Agriculture in the Lake Chad Basin is better equipped to adapt to climate change.
Project term	1 September 2013 – 31 May 2018
Project volume	EUR 3,000,000
Commissioning body	German Federal Ministry for Economic Cooperation and Development (BMZ)
Implementing organisation	GIZ
Executing agencies (in the partner country)	GIZ and AHT Group
Other development organisations involved	NGOs (Espoir, APR, Sana Logone)
Target groups	LCBC staff, government extension services, farmers, NGO staff;
Organisational units within GIZ	1400/0820
Officer responsible for the commission	Dr Anja Stache
Evaluators	Dr Hanna Schmuck & Dr Remadji Hoinathy; Dr Andreas Pölking (inception phase and backstopping)
Company	Konsortium

Summary

The evaluation is one of the first final evaluations in the pilot phase of GIZ's new central project evaluation system. The assignment concerns Module 2 Adapting to Climate Change in Lake Chad Basin (PN 2012.9751.4), which is part of the development cooperation programme Sustainable Water Resources Management in the Lake Chad Basin, implemented by GIZ and the Federal Institute for Geosciences and Natural Resources (Bundesanstalt für Geowissenschaften und Rohstoffe, BGR). The overall term of Module 2 runs from September 2013 to May 2018 with funding of EUR 3,000,000 provided through BMZ's Energy and Climate Fund (EKF). However, this is not, strictly speaking, an end-of-project evaluation. In November 2017 a considerable part of the interventions were extended until June 2019 through integration into the ongoing module Organisational Advisory Services for the Lake Chad Basin Commission (which is part of the development cooperation programme Sustainable Water Resources Management in the Lake Chad Basin). The results of this evaluation and the recommendations made can thus be used for the implementation of Output C of that programme (component on adaptation to climate change) and similar projects which are planned or at the initial stage in other countries where conditions are comparable to those in Chad.

The overall programme objective is: LCBC is competently performing its statutory duties in projects with transboundary effects. The module objective is: Agriculture in the Lake Chad Basin is better equipped to adapt to climate change. The two outputs had substantially different approaches and target groups. Output A was to enhance strategic knowledge on adaptation to climate change by providing capacity building services for the Lake Chad Basin Commission (LCBC), while Output B tested and introduced climate-smart farming techniques in a transboundary pilot zone of Chad and Cameroon. The target group of Output A were LCBC staff at its Executive Secretariat in Chad's capital N'Djaména and the LCBC's focal points in the other member countries (Cameroon, Central African Republic, Niger, Nigeria and Libya). The target group of Output B comprised farmers in an area covering around 50,000 km^2 with a population of around 2.5 million. The project worked with 86 farmers in total, on the premise that these pilot farmers would further disseminate the techniques and share improved seeds introduced by the project. While Output A was implemented by GIZ, Output B was implemented by the AHT Group through local NGOs and government extension services. Since staff of the NGOs and extension services were also trained, they are also considered as target groups.

The evaluation consisted of three phases between early February and end of May 2018: Phase I was the inception phase, which included a comprehensive literature review, collection of additional information from project staff (GIZ and AHT), the preparation of an inception report and the planning of the field mission. Phase II consisted of a 11-day visit to Chad in the first two weeks of May for the collection of empirical data. The mission was conducted by a two-member team – an international and a local consultant – and was facilitated by GIZ project staff. Phase III involved the analysis of the empirical data and the preparation of the final report (this document).

The project was assessed in line with the OECD/DAC evaluation criteria: relevance, effectiveness, impact, efficiency and sustainability. The analysis questions laid out in GIZ's standard evaluation matrix were also used to ensure comparability. The evaluation also covers the additional criteria laid down by BMZ for German bilateral cooperation (coherence, complementarity and coordination), BMZ markers and contributions to achieving the SDGs/the 2030 Agenda. A contribution analysis was carried out for key hypotheses of the Theory of Change (ToC) for the criteria 'efficiency' and 'impact'. The evaluators collected empirical data using several participatory and qualitative methods, which ensured a triangulation of information then used to rate the different dimensions.

The volatile security situation in Chad in general and in the pilot region placed serious constraints on the evaluation process; several field visits had to be cancelled at short notice and mobility in the communities

visited was severely restricted. Nevertheless, the evaluation team were able to consult around 25% of the target group for Output B through interviews and focus group discussions.

Overall, the evaluation rates the project as ‘successful’ (81 points of a possible total of 100). The rating takes into account the extremely difficult prevailing conditions: a) the drastic deterioration of the security situation during implementation both in the pilot zone (Output B) and throughout the region of LCBC member states (Output A), b) the limited financial and human resources for a project of this sort in this context, c) the low educational level of target groups which contrasts with a highly ambitious results model and matrix, and d) factors concerning the complexity of LCBC (target group of Output A), which are beyond the project’s control. Overall, the underlying success factor of the project is the high relevance of its overall focus (adaptation to climate change) in conjunction with the high level of commitment and pronounced technical skills of the project team.

Relevance (100 points of a possible total of 100): The project is fully aligned with the relevant strategic reference frameworks and all national and international strategies on climate change adaptation as well as The BMZ’s Africa Policy. It is equally well aligned with all national, regional and international strategies and policies, as it makes adaptation to climate change its goal and targets regional and local government services at strategic level and farmers at local level. By focussing on developing sustainable agricultural techniques with an emphasis on women and the efficient use of water to combat climate change and mitigate the impact thereof, the project contributes to achieving SDGs 2 (zero hunger), 5 (gender equality), 13 (climate action), 15 (life on land) and 16 (peace, justice and strong institutions). The approach and the interventions were very appropriate, as the project targeted groups at different levels (government institutions, civil society organisations and members of farming communities). Without exception, the chosen measures correspond to the needs and interests of all target groups. The project adapted very well to changes thanks to its flexible and creative approach. Budget constraints were compensated for by making increased use of national personnel; limited access to a part of the pilot zone due to the deteriorating security situation was resolved by remote monitoring and inviting farmers from Cameroon to Chad for training and seminars.

Effectiveness (80 points of a possible total of 100): Four of the six indicators were achieved by the end of the project, with the target value exceeded in three cases. This is a great achievement considering the complex and difficult conditions in which the project and its staff had to operate. The non-achievement of two indicators resulted from funding and human resources constraints experienced since 2017, as well as the limited technical capacities of the partner (LCBC). An analysis of contributions revealed that the interventions have made a significant contribution to achieving the module objective, thus enhancing the foundations for agriculture in the Lake Chad Basin to adapt to climate change. External factors have facilitated the success of the interventions. However, the project had a fairly limited outreach in Output B where it worked with only 86 pilot farmers in a region with an estimated population of around 3 million people. When piloting new farming techniques, it is obviously not possible to address the entire target group. The project proposal was overly ambitious, with plans to reach between 2,000 and 3,000 direct beneficiaries. It is not entirely certain to what extent the training and seminars for LCBC staff and other stakeholders have helped enhance the foundations for agriculture to adapt to climate change, as the internal capacities of LCBC are still weak and subject to political dynamics and internal funding. The project has produced several unintended benefits. The most important ones are an increase in the awareness of and knowledge about climate change on the part of the partner (LCBC) and pro-active initiatives to reduce the vulnerability of especially disadvantaged groups around Lake Chad through an Emergency Plan. In terms of agricultural methods, the project has managed to convince farmers to combine new farming techniques with traditional ones. While the evaluation did not identify any unintended negative results of the interventions, the conflicts of interests (sometimes also leading to violence) between farmers and pastoralists should have been addressed. Although this was known to be an important issue throughout project implementation, no steps were taken to address the matter. The project should also have explored more possibilities of adopting ecologically friendly techniques to combat plant pests and diseases jointly with the pilot farmers. And thirdly, the project should have worked more on

increasing the knowledge and awareness of the target groups of Output B of the impact of climate change and its consequences for farming. This would have enhanced the understanding of local services providers (NGOs and government extension services) of the importance of the results of the project for future generations, and enhanced their commitment to conserving and disseminating the improved seeds.

Impact (75 points of a possible total of 100): Though the project contributes to five SDGs (2/zero hunger, 5/gender equality, 13/climate action, 15/life on land and 16/peace, justice and strong institutions), the fragile political context and the highly volatile security situation stand in the way of achieving long-term results. Most of the regions bordering the Lake Chad Basin are not currently accessible, and there is little prospect of the situation improving. It is also unlikely that LCBC will initiate adaptation to climate change projects due to its limited technical and financial capacities. The political situation in most member countries and the lack of law and order make it questionable to what extent the results of the project can have tangible, long-term impacts on the most vulnerable groups. The project itself has not reached marginalised groups, such as very poor households, the elderly, children and disabled individuals, since the project design did not take sufficient account of these groups. However, the contribution analysis demonstrates that the project has made a significant contribution to enhancing the ability of LCBC to perform its mandate more competently, especially in the field of adaptation to climate change. Organisational development and practical application through targeted farmers are helping mitigate the impact of climate change at various levels. The outreach, and hence the longer-term impact of the project for a wider section of the population, is fairly limited, due to the small number of direct beneficiaries and the security situation. But it must be noted that the project's services did not cause any negative results at economic, social or environmental level. Nor has it been responsible for any tensions among these three dimensions, as no external technology was introduced (such as artificial irrigation or working with local political elites). On the environmental level, positive impacts include the protection of natural resources, and an increase in biodiversity thanks to climate-smart farming techniques which have been introduced without abandoning traditional ways of farming.

Efficiency (75 points of a possible total of 100): Under the given circumstances (security issues, weak capacities of the partners and target groups and limited financial and human resources for implementation), the project has used resources reasonably efficiently in terms of its outputs. Output A has accounted for 41% of spending and Output B for 59%. This is positive, since it reflects the fact that the project prioritised population groups directly affected and threatened by the impacts of climate change over those affected only indirectly (officials of LCBC - the main target group of Output A). However, two of the six indicators were not achieved, partly due to the lack of financial planning in the initial stage of the project and donor regulations. GIZ could have communicated more actively to BMZ the limitations thus placed on implementation or alternatively could have sought additional sources of funding. In 2017 and 2018, no farming methods could be implemented, which is a considerable challenge for the sustainability of the activities. The security measures taken were also very cost-intensive and not sufficiently taken into account at the project planning and budgeting stage. Apart from that, the number of direct beneficiaries under Output B (at 86) is low. The cost per beneficiary ratio is around EUR 12,630 per pilot farmer. Although the costs seem very high per direct beneficiary compared to other projects, the aim was to test interventions in this specific context for future multiplication and replication. A pilot approach tests and compares different activities and modes of delivery, which results in higher investment. At outcome level the project used resources more effectively; only one of the four module indicators was not achieved. This was due to the lack of qualified national personnel and the failure of the main partner (LCBC) to meet its obligations by paying the salary for this position. The project took a creative and flexible approach, making use of national staff from another GIZ project.

Sustainability (75 points of a possible total of 100): The results of the project are fully anchored in the partner structures as interventions were carried out jointly and adjusted to the local socio-cultural context. The project has worked hard on capacity building and has enhanced ownership with the help of a participatory approach and internal feedback mechanisms. However, it is by no means certain that the results will have a longer-term impact. Though some factors are beyond the project’s control (political developments and the security

situation), the project could have worked more on establishing mechanisms and capacities to reproduce and disseminate the improved seed varieties within the farming communities. Also, the project design and implementation failed to make provision for farmers having access to agricultural tools after the project ends. Under the present circumstances it seems unlikely that the farmers will be able to continue to use the new farming techniques without external support. A longer project duration and more funds for the agricultural component of the project would have been useful to enhance durability. However, since the activities have been integrated into another project, there is a chance that this aspect will be addressed over the coming months. During the coming months, the project should also explore possibilities to produce and use environmentally friendly pesticides and fertilisers.

During the extension period, the project should also focus on consolidating local mechanisms to reproduce seeds and the farming techniques introduced. To raise awareness of the importance of the new methods, awareness campaigns on the impact of climate change and adaptation measures should be conducted in the target communities with the participation of the partner NGOs and government extension services. At the strategic level, the project should push for the further development of the LCBC's climate change adaptation strategy and enhance mechanisms to disseminate this strategy among member states.

Overall, GIZ and BMZ should consider that projects in political contexts and insecure regions such as the Sahel, and particularly in Chad, require comparatively more financial and human resources to ensure appropriate working conditions for the staff implementing them.

Criterion	**Score**	**Rating**
Relevance	*100*	*very successful*
Effectiveness	*80*	*rather successful*
Impact	*75*	*rather successful*
Efficiency	*75*	*rather successful*
Sustainability	*75*	*rather successful*
Overall score and rating for all criteria	*81* *(out of 100)*	*successful*

100-point scale	6-level scale (rating)
92-100	Level 1 = very successful
81-91	Level 2 = successful
67-80	Level 3 = rather successful
50-66	Level 4 = rather unsatisfactory
30-49	Level 5 = unsatisfactory
0-29	Level 6 = very unsatisfactory

1 Evaluation objectives and questions

1.1 Objectives of the evaluation

Reason for the evaluation and use of results

The mission is one of the first final evaluations conducted during the pilot phase of GIZ's new central project evaluation system. This was not one of the random sample of evaluations selected by the Evaluation Unit. It was a consequence of GIZ Management Board's decision that all remaining decentral final project evaluations in 2018 should become new central project evaluations. The decision aimed to accelerate the switch to the new system and to provide experience with final evaluations during the pilot phase.

This is an end-of-project evaluation of Module 2 Adapting to Climate Change in Lake Chad Basin, which is part of the development cooperation programme Sustainable Water Resources Management in the Lake Chad Basin, implemented by GIZ and the Federal Institute for Geosciences and Natural Resources (Bundesanstalt für Geowissenschaften und Rohstoffe, BGR). The overall term of Module 2 runs from September 2013 to May 2018 with funding of EUR 3,000,000 provided through BMZ's Energy and Climate Fund (EKF).

In November 2017, activities of the module under evaluation (ACC) were integrated into the ongoing module Organisational Advisory Services for the Lake Chad Basin Commission as Output C, effectively extending them until June 2019. This is thus not strictly speaking an end-of-project evaluation. The results of this evaluation and the recommendations made can thus be used for the implementation of Output C of that module and similar projects which are planned or at the initial stage in other countries where conditions are comparable to those in Chad.

Main stakeholder groups and interests

The following table gives an overview over the most important stakeholder groups of the evaluation and their interests in the project.

Table 1: Stakeholder groups and interests

No.	Stakeholders	Interests
1.	GIZ and AHT (Agrar- und Hydrotechnik) -GROUP	- Smooth and effective project implementation - Good and reliable collaboration with partners - Project success and sustainability - Lessons learned and good practices for future projects
2.	BMZ	- Effective and efficient use of funds - Visibility of their engagement - Project success and sustainability - Lessons learned and good practices for future projects
3.	Farmers in the pilot zone	- Stable or increased agricultural production despite climate change which allows them to continue living in the area
4.	Lake Chad Basin Commission (LCBC) : - Executive Secretariat in Chad - Focal points/offices in the 6 member states	- Sufficient budget to allow offices to operate effectively - Adequate commitment on the part of member countries, which also reliably meet these commitments - Success of the measures and replicability - Visibility of their involvement
5.	National governmental extension services offices in key sectors (natural resources, agriculture, fishing, livestock, etc.)	- Acceptance of their measures and activities by other stakeholders - Acceptance of their services by the target groups (farmers, pastoralists, fishers, etc.).

No.	Stakeholders	Interests
		- Sufficient budget (equipment, salary, vehicles) for operation
6.	NGOs implementing the project in the pilot zone (Espoir, Sana Logone, Association Pour l'autopromotion Rurale)	- Acceptance of the role of NGO in the project - Cooperation by the target groups in implementation
7.	Local radio station (Radio Terre Nouvelle)	- Dissemination of improved farming techniques - Income for running costs of radio station
8.	Governments of the 6 countries around the Lake Chad Basin	- Safe and secure living conditions in transboundary regions around Lake Chad - De-escalation of conflicts in Lake Chad Basin - Proper management of natural resources - Adequate livelihoods for people living in the Lake Chad Basin

External and internal factors which influenced the evaluation and how they were addressed

Chad is a high-risk country with an unpredictable and volatile security situation in the capital N'Djaména and in rural areas, including the pilot zone, which is a transboundary region covering 50,000 km^2 belonging to Chad and Cameroon. This had a great impact on the evaluation, as mobility was limited and the evaluation suffered from a permanent lack of security. For example, just two weeks before the mission took place, a vehicle carrying GIZ staff from another project was ambushed. The passengers were finally abandoned somewhere in the bush and the vehicle stolen. The same happened during the evaluation, again affecting another project. It was left to GIZ staff to manage the situation, especially the officer responsible for the commission for the project under evaluation, who was responsible for security for the whole country as well as being acting head of the antenna/portfolio office.

Apart from that, frequent power cuts and breakdowns of telecommunications and internet are part of daily life in Chad. The field mission for the evaluation was carried out during the hottest part of the year with day-time temperatures of up to 47 degrees Celsius. This made it very difficult for project staff to operate normally and impacted adversely on the availability of project beneficiaries for meetings or interviews.

The project team had prepared a detailed mission programme, but one day before the field mission began some field visits had to be cancelled due to the above mentioned ambushing of a GIZ vehicle. The evaluators had anticipated the constraints during the inception phase and devised ways of dealing with them (see Table 2 in the inception report). The table below gives an updated overview of external and internal factors, their impact on the evaluation and how the evaluation team dealt with them.

Table 2: Factors influencing the evaluation and how they were addressed

Factors	Impact on evaluation	How they were addressed
External factors		
Volatile security situation due to political instability and terrorist groups (Boko Haram, etc.)	1. Visits to two target areas (Linia and Dourbali) had to be cancelled. 2. Mobility in N'Djaména was limited. 3. Project staff, especially the officer responsible for the commission, could not commit full time to the evaluation.	1. Representatives of the target groups (farmers and staff of NGO and extension services) were invited to N'Djaména and interviews conducted and seasonal calendar established at the GIZ office. 2. In line with GIZ security regulations, the international evaluator travelled only in GIZ vehicles in areas in which travel is permitted by GIZ. 3. Discussions of observations and findings were carried on outside

Factors	Impact on evaluation	How they were addressed
		office hours.
Lack of functional infrastructure and basic services required (power cuts, interruption of internet, etc.)	Project staff in general cannot concentrate to required extent on project implementation; in general, multi-tasking of staff limits their availability and makes it difficult to focus on standards set by GIZ.	Ad hoc meetings with project staff and discussions were mainly conducted outside normal working hours which was very exhausting for everyone involved.
Target group of Output B is scattered and lives in remote villages	Only selected represented of target group could be met; results are not quantifiable.	The project management gathered direct beneficiaries at central locations for interviews and focus group discussions. Additional beneficiaries were selected on random basis during transect walks.
Evaluation took place during the hottest month of the year[1] at the end of the dry season	No results of the farming techniques could be seen, as no crops can grow at the end of the dry season (last crops are harvested in January). The hot climate restricted movement in target communities and compounded the already extremely difficult conditions for this evaluation.	A mix of participatory methods using oral and visual tools was adopted to estimate the effectiveness, impact and sustainability of project interventions.
Diverse target group of Output B with different languages	None	A local consultant was contracted to interpret from local languages into French.
Internal factors		
Diverse project structure with different modules, different target groups and different implementing agencies (GIZ, AHT, NGOs, BGR).	It was difficult to differentiate between different modules.	Differences between modules and projects were clarified with the project team.
Limited period for evaluation, especially field visits (as determined by ToR/GIZ Evaluation Unit)	Only snapshots could be recorded of the project's effectiveness, impact and chances for sustainability.	A mix of evaluation methods and triangulation of information were used.
Several implementing agencies (GIZ, AHT and local NGOs)	The large number of project documents and reports in different formats and 3 languages (German, French and English) made it difficult and time-consuming to identify information relevant for the evaluation.	Responsibility for collecting and reading the documents allocated within evaluation team; efforts to focus on the essence of the data and on its relevance; prioritisation of data directly collected from target groups and stakeholders
Relatively long project period (6 years) with internal changes of programme structure and staff amongst GIZ and AHT	It was difficult to trace institutional knowledge and any gaps in stringent implementation.	In-depth conversations and discussions were held with current project staff on history of the project and underlying reasons for some decisions.

[1] This could also be considered an internal factor, as GIZ could have changed the timing of the evaluation.

1.2 Evaluation questions

The project was assessed using standard evaluation criteria and questions to ensure comparability. These were based on the OECD/DAC criteria (relevance, effectiveness, impact, efficiency and sustainability) and the additional criteria for German bilateral cooperation (coherence, coherence and complementarity).

Specific evaluation dimensions and analytical questions were derived from the GIZ framework, which is the basis for all GIZ central project evaluations and can be found in the evaluation matrix (see Annex). The BMZ markers and SDGs/2030 Agenda are taken into consideration.

The evaluation team presented its additional evaluation questions and hypotheses for the contribution analysis in the inception report which was revised three times to incorporate the comments and questions of GIZ Head Office and of the project concerning knowledge, interests and factual correctness. These additional questions can be found in the sections on Effectiveness and Impact.

2. Object of the evaluation

2.1 Definition of the evaluation object

Timeframe

The object evaluated here is Module 2 Adapting to Climate Change in Lake Chad Basin, which has an overall term from September 2013 to May 2018. This module is part of the development cooperation programme Sustainable Water Resources Management in the Lake Chad Basin, implemented by GIZ and BGR since 2011. The programme consists of three modules: Module 1 Organisational Development Support (GIZ), Module 2 Adaptation to Climate Change in the Lake Chad Basin (GIZ and AHT Group) and Module 3 Groundwater Management (BGR).

Module 2 has no direct predecessor module, but a content-related predecessor. From 2005 to 2014, GIZ implemented a cooperation programme with two modules. Organisational Support of the Lake Chad Basin Commission was implemented by GIZ while Groundwater Management was implemented by BGR.
In 2013, as part of the ongoing programme, a third module was launched: Adapting to Climate Change in Lake Chad Basin, which is evaluated here.

In November 2017, the module was integrated into the module Organisational Advisory Services to the Lake Chad Basin Commission and thus extended until June 2019 to ensure the consolidation and completion of some outstanding activities. As will be explained in the section on Effectiveness, cost-intensive security measures had to be taken during half the term of the project, which reduced the budget available for activities in the field.

Funding

The financial frame for Module 2 totals EUR 3,000,000, all of which is financed by the German Government, through BMZ’s Energy and Climate Fund.

Geographical location

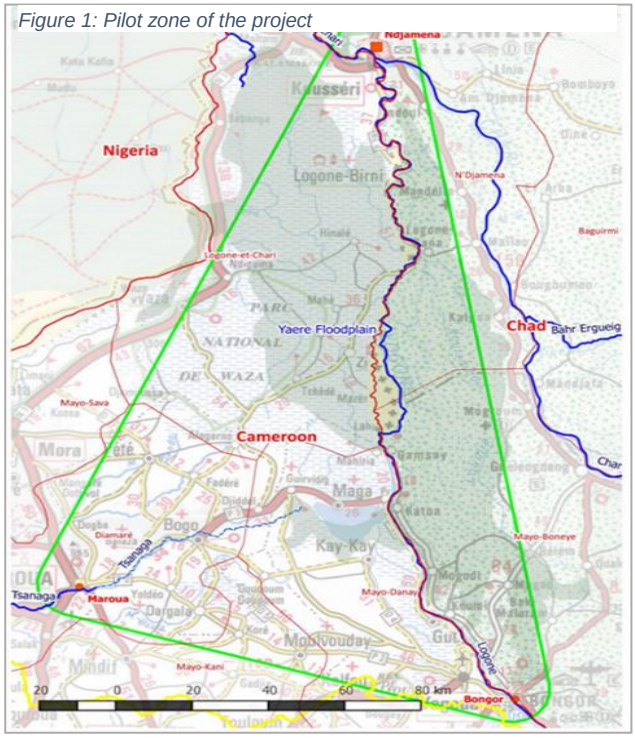


Figure 1: Pilot zone of the project

The project is based in Chad's capital N'Djaména where the LCBC Secretariat is located. In principle, the wider project region is the whole Lake Chad Basin with its 6 member states Chad, Cameroon, Central African Republic, Nigeria, Niger and Libya. All these countries have representatives in the LCBC Secretariat and focal points in their home countries. Core activities of Output A (Relevant information on climate change adaptation for agriculture in the Lake Chad Basin is available) are however, implemented with LCBC in N'Djaména.

The pilot region for the module in terms of Output B is the transboundary pilot zone of Chad and Cameroon (see map). The estimated population of the pilot zone is 520,000 in Chad and 2.3 million in Cameroon. 3 'départements' (municipal administrations) are involved in Chad (Chari-Baguirmi, Mayo Lemié, and Mayo Bonneye) and 4 in Cameroon (Logone-et-Chari, Mayo Danay, Mayo Kani, and Diamaré).

The table below gives an overview of the target groups and implementing partners. According to the project proposal, between 2,000 and 3,000 people were to benefit directly from the project.[2] Note that the local NGOs are considered to be both (direct) target groups and implementing partners, since they were commissioned to carry out activities in the pilot region but have also received training.

Table 3: Target groups and implementing partners

Name	Location	Implementation partners
Direct target groups		
Staff of the LCBC Secretariat	N'Djaména (capital of Chad)	GIZ
LCBC focal points in member countries	capitals of the 6 member states	GIZ
Government extension services in the pilot region	pilot region	GIZ, AHT
NGO staff in the pilot region	pilot region	AHT
Farmers and cattle breeders in the pilot region	pilot region	AHT, NGOs, government extension services, research institutes for seed production, local radio station (for dissemination)
Indirect target groups		
Inhabitants of the pilot region	pilot region	GIZ, AHT, NGOs, radio station
Inhabitants of the Lake Chad Basin	Lake Chad transboundary regions	GIZ, BGR

[2] The number of direct beneficiaries of the pilot measures are put at between 2,000 and 3,000 (project proposal 2012: 9)." More details on the target group will be provided in the sections on Impact and Efficiency.

The context and framework conditions

The Lake Chad Basin covers parts of Chad, the Central African Republic, Cameroon, Nigeria, Niger and Libya and includes several border-crossing rivers and groundwater systems. Due to the climatic conditions the resources of the surface water regime fluctuate. The overall surface of the Lake Chad has shrunk dramatically since 1967, from 25,000 km^2 to only 2,500 km^2. This has a serious impact on the livelihoods of the people and often triggers conflicts over already scarce resources (cropland, fish, water etc.) (Borchers 2017, SDC 2016).

Due to climate change, extreme weather events including longer droughts or heavy rainfall are becoming more frequent. Combined with an increasing population in the Lake Chad Basin, excessive use of water in irrigated farming, the increasing use of the area for energy harvesting by the neighbouring countries, decreasing fishing feasibility, and many more factors, this is dramatically worsening food insecurity in the region, leading to impoverishment, out-migration and conflicts (Borchers 2017, SDC 2016).

The political context and the security situation

It is estimated that around 2.3 million refugees live in the Lake Chad Basin having fled from Boko Haram terrorist groups in Nigeria, Niger, Cameroon, and Chad itself (Borchers, 2017). Most of them live not in camps, but in informal settlements. This leads to tensions with the local population, who are also threatened by food supply uncertainty (SDC, 2016).

Overall, the political context in all 6 Lake Chad Basin member countries is highly complex and unstable, which has a serious impact on project implementation. The security situation has worsened dramatically since the project began in 2013, with Boko Haram and other terrorist groups attacking villages and hijacking vehicles. The situation in Chad in particular has affected project implementation significantly. It has restricted the movement of project staff to such an extent that field visits were not possible over some time and the project office had to be relocated from LCBC to a safer place. At the project's mid-term, the project had to stop direct supervision in Cameroon and was only able to operate from the Chadian side. Overall, this situation significantly complicated the project's daily work and increased running costs (especially concerning logistics). Both international staff and local staff worked under extreme conditions and stress.

The sectoral context

The objective of Module 2 is: Agriculture in the Lake Chad Basin is better equipped to adapt to climate change. The module concentrates on developing the capacities of the Lake Chad Basin Commission (LCBC) through Output A (Relevant information on climate change adaptation is available for agriculture in the Lake Chad Basin) and adapting the farming techniques used by small farmers to the impact of climate change through Output B (The target group in the project's cross-border pilot zone has enhanced capacities and agricultural techniques enabling them to adapt to climate change).

Agriculture is particularly badly affected by climate change. Greater fluctuation in precipitation immediately leads to losses and induces pressure for changes. A lack of rain sees crops wither in the fields, while heavy rainfall results in serious floods and erosion. The traditional form of livestock production in the project region is pastoralism, with the owners or guardians of livestock moving from one pasture to another to meet the needs of the animals for fodder and water. Because shepherding in the Sahel zone of Africa is typically men's work, the women are responsible for the farms and families. This, in turn, means that women are particularly affected by the changing climate.

The position and role within the partner/stakeholder structure

Photo 1: The LCBC head office in Chad's capital N'Djaména

The lead executing agency is the LCBC Executive Secretary (GIZ 2012b: 9). This corresponds to the international agreement of the Paris Declaration ('partner in the driver's seat'). Therefore, LCBC is formally both the project patron and the beneficiary of the project. The lack of funding of the LCBC offices in the 6 member states was identified as a risk in the project proposal. It was felt that this could potentially impact adversely on smooth implementation (GIZ 2012b).

The levels of intervention

The levels of intervention correspond to the multi-level approach:

At regional level, the project aimed to improve cooperation and exchange between the member states of the Lake Chad Basin Commission (LCBC) through the focal points in these countries.

At national level, the project intended to enhance the capacity of LCBC's Executive Secretariat in Chad's capital N'Djaména by introducing strategic planning tools, enhancing knowledge on adaptation to climate change, especially in the field of agriculture, and improving coordination and cooperation among the 6 member states (Chad, Cameroon, the Central African Republic, Nigeria, Niger and Libya).

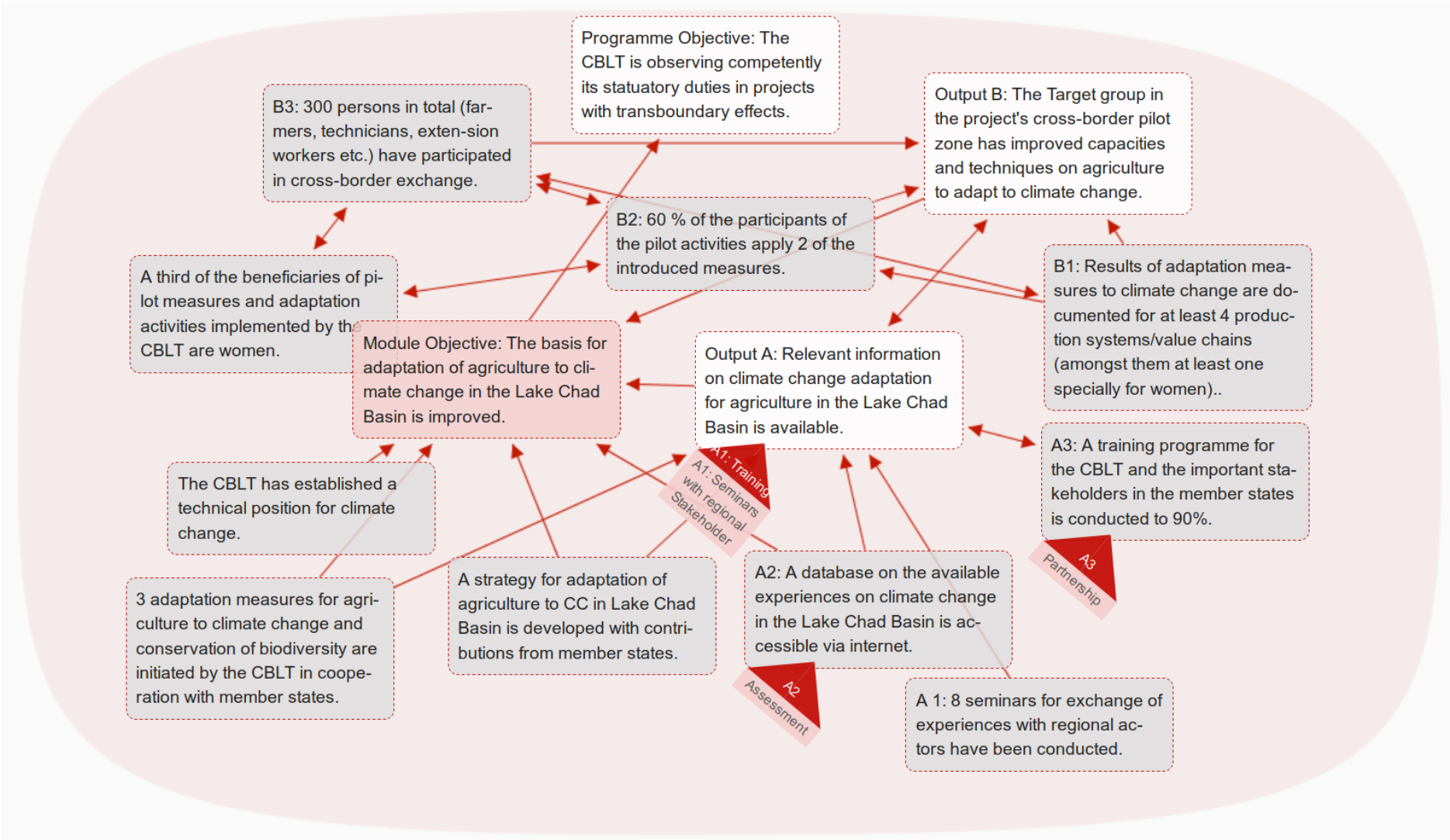
At local level, the project worked in a transboundary pilot zone with Cameroon, which is home to 520,000 people in Chad and 2.3 million in Cameroon. The project tested and introduced climate-smart farming techniques through the Farmer Field School (FFS) approach, in cooperation with NGOs, government extension services and agricultural research institutes.

2.2 Results model including hypotheses

The results model

As discussed in the inception report, the project only used the results model during the initial stage. The online results monitor was updated until mid-2016. Since then an Excel-spreadsheet-based monitoring system has been in use. The evaluators thus drew up the results model retrospectively (see diagram overleaf).

Figure 2: Results model (drawn up retrospectively by Konsortium, 2018)



The following table shows the module objective (outcome), outputs und sub-outputs as laid out in the results matrix and translated by the evaluators from German into English:[3]

Module objective (outcome): Agriculture in the Lake Chad Basin is better equipped to adapt to climate change.
1. Module indicator: LCBC has established a technical position for climate change.* Baseline value: 0 Target value: 1
2. Module indicator: An adaptation to climate change strategy is developed for the agriculture sector with contributions from member states. Baseline value: 0 Target value: 1
3. Module indicator: 3 measures to help agriculture adapt to climate change and to preserve biodiversity are initiated by LCBC in cooperation with member states. Baseline value: 0 Target value: 3
4. Module indicator: One third of the beneficiaries of the pilot measures and adaptation activities implemented by LCBC are women. Baseline value: 0 Target value: 33%
Output A: Relevant information on climate change adaptation is available for agriculture in the Lake Chad Basin .
A1: 8 seminars have been held to share experiences with regional actors. Baseline value: 0 Target value: 8
A2: A database of lessons learned in the field of climate change in the Lake Chad Basin is available online. Baseline value: 0 Target value: 1
A3: 90% of a training programme for LCBC and important stakeholders in member states has been conducted. Baseline value: 0 Target value: 90%
Output B: The target group in the project's cross-border pilot zone has enhanced capacities and agricultural techniques enabling them to adapt to climate change.
B1: Results of adaptation to climate change measures are documented for at least 4 production systems/value chains (including at least one specifically for women). Baseline value: 0 Target value: 4
B2: 60% of the participants in pilot activities apply 2 of the measures introduced. Baseline value: 0 Target value: 60%, 2 measures
B3: 300 persons in total (farmers, technicians, extension workers etc.) have participated in cross-border exchange. Baseline value: 0 Target value: 300

The Theory of Change (ToC)

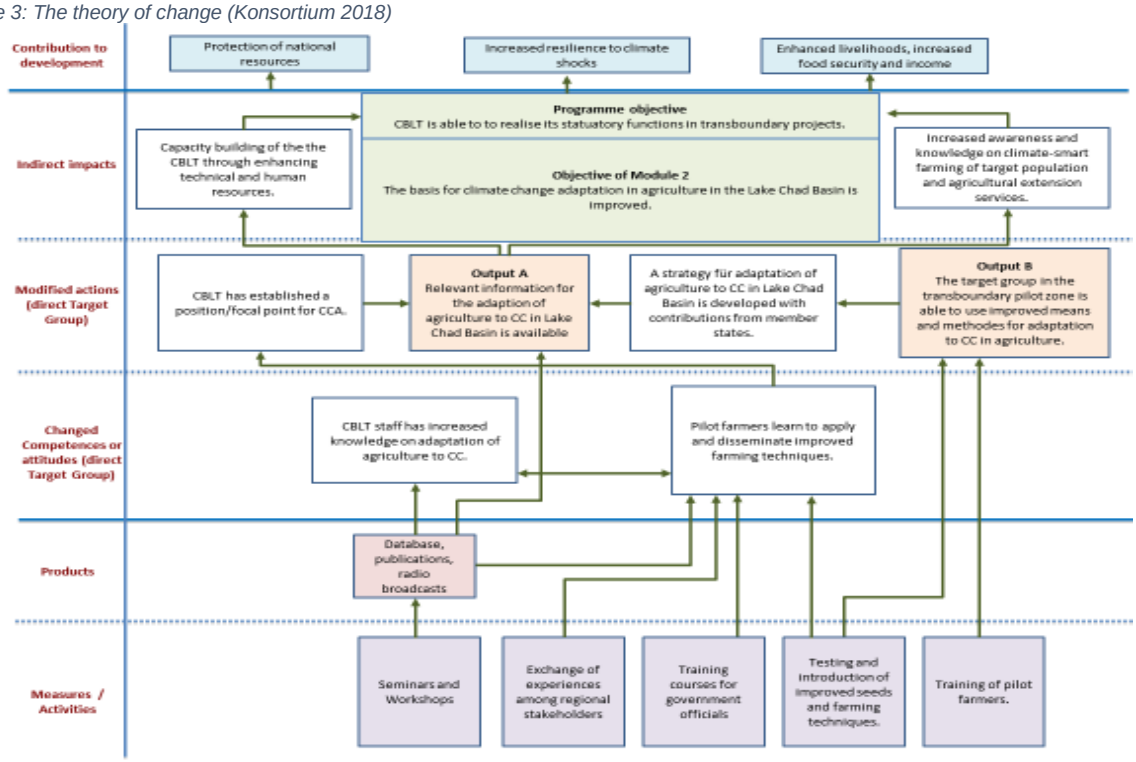
The concept of the ToC is illustrated in the figure below. The project approach is based on the finding that the Lake Chad Basin Commission (LCBC) is not effectively performing its statutory duties in projects with transboundary effects, and that climate change is having a very negative impact on the inhabitants of member states. In module 2 the aim is thus to improve LCBC's capacities. The underlying assumption is that if the profile of LCBC is improved, the institution will be better able to perform its role.

[3] Some indicators vary in different documents over the 6 years of the intervention, possibly due to errors in the translation of the original German version into English and French.

The package of measures is intended to improve adaptation to climate change. Since agriculture is a key livelihood in the Lake Chad Basin activities focus on this sector. The aim is to increase resilience through improved livelihoods in the Lake Chad Basin.

As the project focuses on a pilot region (Chad and Cameroon), the goal is that improvements can be replicated in other regions with similar conditions under the aegis of LCBC.

Figure 3: The theory of change (Konsortium 2018)



Definition of the system boundary

The fundamental system boundary lies in the ToC itself between the module objective and the programme objective. The project can influence the capacities of the LCBC. The project cannot, however, influence the way LCBC uses these capacities. Nor can it affect whether or not LCBC's work has an impact.

The system boundaries of the project are based on the assumption that improvements can be achieved with the affected population and relevant stakeholders over a certain period. This, however, is only partly feasible due to the insecure and volatile political situation of the countries around Lake Chad. Firstly, terrorist groups (e.g. Boko Haram) create extreme insecurity and trigger migration, which seriously complicates continuous work with the target groups. Secondly, livestock production traditionally involves transhumance, which also complicates continuous work with the target group. The project has responded to these problems by establishing Farmer Field Schools that provide continuous consultation.

Another system boundary is related to the fact that governance is weak in the target region, or is perceived as unreliable by the population. The governments cannot protect residents from terrorist activities and are unable to alleviate their distress. As the project addresses governmental institutions directly, especially LCBC, it is difficult to (re)gain the trust of the target population.

3. Evaluability and evaluation process

3.1 Evaluability: data availability and quality

The project has produced an impressive number of documents and it was difficult to grasp their relevance for this evaluation, although GIZ did provide them to the team. The large number of documents of different types primarily reflects the fact that the evaluation covered a six-year period, and that the project consists of two different types of outputs (capacity building at national and regional level and testing and implementing agricultural measures at local level). An additional factor that complicated the literature review was that some documents are in German, some in English and some in French. The table below provides an overview of the documents used for this evaluation. Additional relevant documents used are listed in the Bibliography (Annex).

Table 4: Overview of availability and quality of basic documents for the evaluation

Basic documents	Available (Yes/No)	Estimation of topicality and quality	Relevance for OECD/DAC criteria
Project proposal	Yes	Since the proposal dates back to 2012, some information and facts are no longer relevant	Relevance, effectiveness, impact, sustainability
Contextual analyses, political and economic analyses, capacity assessments to explain the social context	Only for Output A (LCBC); contextual analysis performed in 2013 and updated in 2017; no assessments of social context	Of limited use for this evaluation, as documents appear to be based on public sources/ information and do not contain information on the pilot region (Output B)	n/a
Peace and conflict assessment (PCA matrix), gender analyses, environmental and climate assessments, Safeguards + Gender, etc.	Some available	PCA matrix not available; gender analysis available (performed in 2012 and updated in 2017); Environment and climate assessment (UKP) for 2012 and 2017; Safeguards + Gender assessment not available	Relevance, effectiveness, impact
Annual project progress reports and, if embedded, also programme reporting	Yes	Provide accurate and useful information	Relevance, effectiveness, impact, sustainability
Evaluation reports	No	n/a (does not exist)	n/a
Country strategy BMZ	No	n/a (does not exist)	n/a
National strategies	Yes	Provide accurate and useful information	Relevance
Sectoral/technical documents from the AHT-Group: inventory of agricultural production systems, identification and implementation of adaptation measures in production systems;	Yes	Provide very accurate and useful information; based on a comprehensive baseline in pilot region	Relevance, effectiveness, impact, sustainability

Basic documents	Available (Yes/No)	Estimation of topicality and quality	Relevance for OECD/DAC criteria
dissemination strategy; annual reports of implementing NGOs;			
Results matrix	Yes	Medium quality as a) none of the indicators meets the SMART criteria, b) has been translated into English and French and translations does not appear to accurately mirror the German (German, English and French, sometimes mixed in same document); updated matrix from progress reports 2017 was used for the evaluation	Relevance, impact, effectiveness, efficiency, sustainability;
Results model(s), possibly with comments if no longer up-to-date	No	Was not used by the project; only hard-copy with hand-written comments available; was updated by the evaluators during the evaluation process	n/a
Data of the results-based monitoring system (results-based monitoring) (Qsil)	Some available	Used and updated until mid-2016, but lacks consistency and is in three languages; after mid-2016, plan of operations (Excel spreadsheets) in French	Impact, effectiveness, sustainability
Capacity development strategy/overall strategy	Yes	Overall strategy in project proposal	Effectiveness, impact, sustainability
Plan of operations	Yes	Updated regularly in French;	Effectiveness, Impact
Cost data (at least current cost unit commitment report), if available data with costs attributed to outputs	Yes	Used in Effizienztool	Efficiency
Excel spreadsheet attributes working-months of staff to outputs	Yes	Used in Effizienztool	Efficiency

3.2 Evaluation process

Stakeholders in the evaluation and participation of partners and target groups

A list of stakeholders can be found in Table 1 in Chapter 1. Table 5, below, lists the partners and target groups involved in the evaluation. See also Table 6 for the 21 farmers (direct beneficiaries) who were consulted through interviews, focus group discussions or the establishment of the seasonal calendar. The numbers of farmers is equivalent to 24.4% of the total of 86 direct beneficiaries. This is a high level of coverage considering that the security situation seriously limited movement and little time could be spent in the target communities.

Table 5: List of partners and target groups involved in the evaluation

Surname	First name	Function	Institution	Participation in the evaluation
GIZ project team				
Langeheine	Rico	Head of antenna/portfolio office in Chad	GIZ	Introductory meeting
Dr Stache	Anja	Officer responsible for the commission	GIZ	Provided information about the project; arranged field visit and meetings in N'Djaména
Dr Boukar	Chetima	Regional expert on climate change	GIZ	Provided information on the project; arrangements for field visit and meetings in N'Djaména; accompanied evaluators during the field visit
Representatives of the partner organisations				
Rolker	Dirk	Agricultural expert on mission from Germany	AHT	Provided information about Output B (agriculture)
Kahre	Charlotte	Communication expert on mission from Germany	AHT	Provided information on issues related to management and dissemination of information about project results
Boubakari	Maina	Technical director	LCBC	Participated in briefing and debriefing meeting; was interviewed and thereby provided information on the project
Nadjingar	Titdjebaye	Administration and finance director	LCBC	Participated in briefing and debriefing meeting
Na-andi	Mamane Tahir	Fishery expert from Niger based at LCBC Exec. Sec.	LCBC	Was interviewed
Aniyere	Fatimé	Gender and social development expert from Chad based at LCBC Exec. Sec.	LCBC	As above
Moutade	Eric Consolé	Monitoring and evaluation expert from Central African Republic based at LCBC Exec. Sec.	LCBC	As above
Target group representatives				
Tidjem	Nadjeth	Coordinator	APR	Was interviewed
Allatan	Didier	Field supervisor	APR	As above
Gousso	Cheik Boubou	Coordinator	Espoir	As above
Oumar	Déhié Awada	Trainer	Espoir	As above
Laouane	Djibrine	Trainer	Espoir	As above
Djabsia	Robert	Coordinator	Sana Logone	As above
	Antonio	Director	RTN	As above
Kabekagne	Désiré	Head of South-East Region Branch	ANADER	As above
Timbi	Yambeye	Regional Trainer South-East Region Branch	ANADER	As above

Ningatoloum	Baneta	Head of Guelendeng Sub-section	ANADER	As above
Général Tirgo	Oumar Haroun	Governor of Mayo Kebbi Est	Governance	Courtesy meeting
Marana	Gilbert	Head of Departmental Branch in Yagoua, Cameroon	MINADER	Was interviewed
GIZ Evaluation Unit				
Bräuer	Benjamin	Corporate Unit Evaluation	GIZ	Steering and quality management
GIZ Sectoral and Regional Units				
Hansen	Nils	Country manager	GIZ	Was interviewed
Dr Sommer	Jan-Philipp	Country desk officer	BMZ	Was interviewed
Evaluation team				
Dr Schmuck	Hanna	Internat. consultant	Konsortium	International consultant
Dr Hoinathy	Remadji	Local consultant	Konsortium	Local consultant
Dr Pölking	Andreas	Internat. consultant	Konsortium	Backstopping and inception phase

Table 6: List of pilot farmers (direct beneficiaries) interviewed

	Surname	First name	Function	Village	Gender
1.	Kitinga	Mahamat	Student - farmer	Moulkou	M
2.	Biskina	Soumaida	Pilot farmer-trainer	Moulkou	F
3.	Foula	Cecile	Student - farmer	Moulkou	F
4.	Bolo	Djimet	Student - farmer	Moulkou	M
5.	Abba	Achta	Student - farmer	Moulkou	F
6.	Mekongar	Michel	Pilot farmer-trainer	Gournaida	M
7.	Madjiadoumbaye	Robert	Student - farmer	Gournaida	M
8.	Ahmed	Francois	Student - farmer	Gournaida	M
9.	Ratoloum	Benoit	Pilot farmer-trainer	Guelendeng	M
10.	Ganda	Wali	Pilot farmer-trainer	Domo	M
11.	Ousman	Soussa	Student - farmer	Domo	M
12.	Faki	Adam	Student - farmer	Domo	M
13.	Issa	Khalié	Student – farmer	Domo	F
14.	Abba Kaka	Moussa	Student - farmer	Domo	M
15.	Djaouro	Oumar	Pilot farmer-trainer	Mafata	M
16.	Mahamat	Adjidé	Pilot farmer-trainer	Mafata	F
17.	Mahamat Hissein	Almaye	Student – farmer	Gonori	M
18.	Adoum	Ahmat	Pastoralist	Mafata	M
19.	Hassane	Doungoussié	Pilot farmer-trainer	Linia	F
20.	Vournata	Justine	Pilot farmer-trainer	Yagoua (Cameroon)	F
21.	Djaoussou	Jules	Pilot farmer-trainer	Yagoua (Cameroon)	M

The role of the local evaluator and triangulation of findings

The whole field mission was conducted with the support of a local evaluator, who was formally recruited for this evaluation by Konsortium, in line with GIZ rules and regulations. He accompanied the lead consultant throughout the period. His main tasks were to provide input to the guiding questions used during interviews, to interpret from local languages into French, to explain local government structures and capacities to the international consultant, to provide information on the socio-political context, to document interview content and results, and to advise the lead consultant on an appropriate approach and behaviour in the specific socio-cultural setting.

The international and local evaluator conducted most of the interviews jointly, with one asking the questions and the other taking notes. A few interviews were conducted individually because of pressure of time. At the end of each day, the two evaluators compared their notes and observations, and analysed the findings. Steps for the next day and interviews were discussed and agreed upon.

Knowledge transfer to partners, other stakeholders and other GIZ units (e.g. sectoral unit)

The evaluation team tried to ensure a transparent, useful and fair evaluation process during the inception phase and field mission. An in-depth exchange of information took place with the AHT Group, which is the partner implementing Output B. Two AHT staff from Germany were in Chad during the field mission, which was extremely helpful, and allowed the team to cross-check information and obtain more details on specific issues.

As LCBC is the main partner (and at the same time a direct target group), a briefing and debriefing meeting was held. During the debriefing meeting, the evaluation team presented its main findings, with a PowerPoint presentation, followed by an open discussion.

4. Assessment of the project according to OECD/DAC criteria

The evaluation basis

The evaluation basis was Module 2: Adapting to Climate Change in Lake Chad Basin, with an overall term from September 2013 to May 2018 according to the ToR. However, in November 2017 some of the activities were incorporated into the ongoing module Organisational Advisory Services for the Lake Chad Basin Commission (which is part of the development cooperation programme Sustainable Water Resources Management in the Lake Chad Basin) and thereby extended until June 2019.

The objective of the module is: Agriculture in the Lake Chad Basin is better equipped to adapt to climate change. It has two outputs: The objective of Output A is: Relevant information on climate change adaptation is available for agriculture in the Lake Chad Basin. The objective of Output B: The target group in the project's cross-border pilot zone has enhanced capacities and agricultural techniques enabling them to adapt to climate change. Whilst Output A focussed on enhancing the strategic knowledge and capacities of LCBC, Output B introduced improved, climate-resilient farming techniques in a cross-border pilot zone of Chad and Cameroon covering around 50,000 km². Four départements are targeted in the province of Extrême-Nord in Cameroon and two départements in the provinces Chari-Baguirmi and Mayo-Kebbi-Est in Chad. The

population is estimated at 1.6 million people (1.2 million on the Cameroonian side and 400,000 on the Chadian side). Between 2,000 and 3,000 people were initially considered direct beneficiaries (GIZ 2012b: 9).

The evaluation covered both outputs. The target group of Output A (LCBC staff) is based in Chad's capital N'Djaména, so less time was required compared to Output B (pilot farmers, residents of communities, staff of extension services and NGOs), which covers a relatively large area up to six hours drive from N'Djaména. Due to increasing security problems, the project had to discontinue direct technical support and monitoring provided by GIZ staff in Cameroon. Instead of suspending activities, and to ensure a continuation, NGO staff and direct beneficiaries (pilot farmers) crossed the border river to Chad for exchange of experiences, planning and review meetings, training etc.

Methodological approach and sources of information

The evaluation was carried out by an international consultant who was supported and accompanied by a local consultant. The evaluation used participatory and qualitative methods to interact with target groups and collect information which was backed-up by secondary data collection through study of project documents, national and international strategies and frameworks, and government statistics. Several methods (described below in more detail) were combined to enable triangulation (see Figure 4) to compensate for weaknesses of the individual tools.

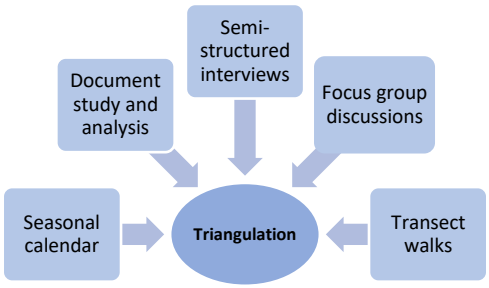


Figure 4: Triangulation of data using multiple methods

The following key methods were applied for the evaluation for all OECD/DAC criteria and assessment dimensions:

1. Document study and analysis: During the inception phase, a comprehensive desk study was conducted, and missing information was obtained during the field mission. An overview of the documents studied is provided in Table 4 (Chapter 3.1) and in the Bibliography in the Annex.

2. Semi-structured interviews using guiding questions based on the OECD/DAC criteria, BMZ markers and project indicators with:

- government officials at national and local level (LCBC and government offices for rural development),
- partners in the pilot zone (NGOs and radio station),
- direct beneficiaries: individuals and groups directly targeted by the project through agricultural input and technical support,
- indirect beneficiaries: other members of the communities benefiting from the project, mainly neighbours and relatives of the pilot farmers, and
- staff of GIZ and AHT.

2. Focus group discussions with project beneficiaries on key issues relevant for the evaluation (impact of climate change on their livelihoods, especially agriculture, impact of the project on these sectors, especially concerning sustainability of project interventions, etc.).

3. Establishment of a **seasonal calendar** with pilot farmers recording the annual cycle of key factors affecting their livelihoods and well-being (months of availability of labour, diseases, availability of water, price hikes, etc.). This also made it possible to assess whether the new farming techniques were well integrated and suited to the traditional way of life. This holistic approach provided a broader view of the effectiveness, impact and potential sustainability of the project interventions at local level while also providing detailed information on the relevance of the new farming techniques for the household economy.

4. Transect walks with physical observation: After the semi-structured interviews with direct beneficiaries, the evaluators literally walked through the community and the fields for more informal access to the community, which enabled them to ask questions and discuss issues. The tool also revealed the actual outreach of interventions – whether only a small section of the community participated in the project or whether it reached a wider population. These walks allowed the evaluators to cross-check and complement information gathered through the interviews and focus group discussions.

Table 7 below provides an overview of the sources of information for each evaluation criteria.

Table 7: Overview of sources of information for evaluation criteria and assessment dimensions

Criterion	Assessment dimension	Sources of information (methodology and target group)			
		DOC	INT Gov.	INT NGOs	INT Farmers
Relevance	1. The project is in line with the relevant strategic reference frameworks.	x	x	x	
	2. Suitability of the concept to respond to core problems/needs of the target group(s).	x	x	x	x
	3. The design of the project is suited to achieving the objective.	x			
	4. The project adapted to changes in line with requirements and re-adapted where appropriate.	x	x	x	
Effectiveness	1. The project achieves the objective on time in accordance with the project objective indicators.	x	x	x	x
	2. The services implemented help achieve the project objective.	x	x	x	x
	3. The occurrence of additional (not formally agreed) positive results has been monitored and additional opportunities for further positive results have been seized. No project-related negative results have occurred – and if any negative results occurred the project responded appropriately.	x	x	x	x
Impact	1. The intended overarching development results have occurred or are foreseen (should be plausibly explained).		x	x	x
	2. **The project contributed to achieving the intended overarching long-term results.**		x	x	x
	3. The occurrence of additional (not formally agreed) positive results at impact level has been monitored and additional opportunities for further positive results have been seized.	x	x	x	x

	No project-related negative results at impact level have occurred – and if any negative results occurred the project responded ap**propriately**.				
Efficiency	1. The project's use of resources is appropriate with regard to the outputs achieved. [production efficiency]	x			
	2. The project's use of resources is appropriate with regard to achieving the outcome. [allocation efficiency]	x			
Sustainability	1. Prerequisite for ensuring the long-term success of the project - results are anchored in (partner) structures.	x	x		
	2 Forecast of durability: results of the project are permanent, stable and resilient in the long term.		x	x	x
	3. Are the results of the project **environmentally**, socially and economically balanced?	x	x	x	x

Advantages and disadvantages of the selected approach, and limitations

Because of the security situation, the remoteness of the project region, the characteristics of the target population (mainly farmers with minimal or no literacy skills), and the limited time and human resources available, there was no intention to conduct a comprehensive data collection using standard questionnaires. This would not have been feasible. Interviews via Skype (an option in the ToR) were not considered a realistic option, since the target groups do not have access to the technology and facilities required (computers, electricity, internet). Even in the capital access is very limited.

The overall advantages of the proposed participatory and qualitative methods were that the project beneficiaries participated directly in the evaluation and freely shared their opinions and concerns, which is not the case in a standardised questionnaire or other paper-based evaluation methods. Participatory methods also allowed the evaluators to obtain a greater insight into the beneficiaries' daily struggle for survival, the relative importance of the project activities, and the level of satisfaction with project interventions and stakeholders. They also gave room for suggestions of ways to improve project activities, which is very limited if quantitative methods of data collection are used. The combination of semi-structured interviews, focus group discussions, seasonal calendars and transect walks allowed the evaluators to triangulate information (see above figure). As the evaluation team consisted of an international and local evaluator they were also able to check one another.

Use of the contribution analysis for analysing the information

The contribution analysis was used to assess whether the project interventions have achieved the intended results and which project-related and external factors contributed to this. The following steps were followed:

Step 1: Guiding questions (see below) were used to assess how the interventions have helped achieve the intended results.

Step 2: Since the project did not use a results model and ToC, the analysis was carried out in view of a) the results model and ToC developed by the consultants/authors of this report (see Figures 2 and 3), b) OECD/DAC criteria and c) the markers laid out in the project proposal (GIZ 2012b) and the last progress report dated June 2017. The hypothesis in the sections on Effectiveness and Impact were formulated during the inception phase. They are based on statements made in the last progress report, which is considered to be an internal evaluation of achievements until June 2017. The evaluators assessed whether and to which

degree these hypotheses have been confirmed, and thus whether the project has achieved the intended results.

Step 3: Empirical evidence was collected through the mix of methods already described, and triangulated to compare the hypotheses with the actual results. Here, factors which might not have been influenced by the project were also considered and described.

Step 4: The 'contribution story' is based on the information collected during the field phase.

The lack of time and resources meant that Steps 5 and 6 of the contribution analysis could not be conducted during this evaluation.

Basis for selecting respondents and documents

As already described, the evaluators were somewhat restricted in the selection of respondents due to the security situation, the remoteness of the target population, and the very limited time allowed for the field mission in the ToR (11 days in total). Due to the volatile security situation in the pilot zone, GIZ in Chad has very strict (but appropriate) security regulations which required the evaluation team to use a GIZ driver and vehicle; project staff accompanied the evaluators.

The GIZ project office in N'Djaména had prepared a detailed schedule with meetings and sites to be visited during the inception phase, but as a GIZ vehicle from another project was ambushed at gunpoint a few days before the field mission, part of the field visit had to be cancelled. To accommodate for this change, the GIZ office invited the representatives of the target group to its office in N'Djaména for interviews and focus group discussions.

Considering these circumstances, the evaluators collected information from the key target groups by random sampling. This was quite successful thanks to the excellent support provided by the GIZ project team. A total of 21 (around 24%) of the 86 pilot farmers could be interviewed.

Documents were selected on the basis of their availability and their relevance for this evaluation. As described above, GIZ and AHT made available a large number of documents and the evaluators complemented them with online research.

Coordination of selected data collection methods with the stakeholders' knowledge-related interests, and with the financial, personnel and temporal resources and the framework conditions within the context of the country

The methods described above were proposed in the offer (bid) submitted by the consultants/evaluators to GIZ, and were accepted without any requests for changes. This reflects the fact that they matched the knowledge-related interests of GIZ. The methods were selected on the basis of the financial, personnel and temporal resources available and the prevailing conditions in Chad, as explained above. The knowledge-related interests of the project team (GIZ and AHT) were discussed during the inception phase and upon arrival of the international consultant, but they did not differ from the hypotheses elaborated in the inception report.

Overview of sources of information and methodology used to assess evaluation criteria

Before presenting the findings of the evaluation, the table below provides an overview of the sources of information and methodology. Please note that 'DOC' stand for 'documents' and 'INT' stands for 'interviews', which include also focus group discussions and the establishment of the seasonal calendar.

The following chapters will describe the key findings relating to the guiding questions and the hypotheses which were elaborated during the inception phase.

4.1 Relevance

Evaluation basis and design for assessing relevance

Evaluation basis: National, regional and international policies, strategies and framework documents

Definition of target groups

- Staff of the LCBC Executive Secretariat: LCBC officially has a staff of 70 in N'Djaména, but the project worked directly with around 15 of them, especially within the framework of the development of a regional strategy on adaptation to climate change (module indicator 2) and training programmes (output indicator A3).
- Focal points of the LCBC in its member states: LCBC has a representative (focal point) in each member state. The project interventions targeted all of them (through output indicators A1 and A3).
- Staff of government extension services in the transboundary pilot region of Chad and Cameroon: Local government offices for rural development and agriculture exist in the pilot region.
- Staff of NGOs implementing the adaptation measures for agriculture in the pilot region: The project worked with 3 NGOs. The community workers of these NGOs were directly involved and targeted, as they conducted the baseline assessments on farming techniques, were responsible for community mobilisation, provided technical advice on the new farming techniques as well as undertaking dissemination, monitoring and reporting to AHT and GIZ.
- Farmers and cattle breeders in the pilot region: The project directly targeted 86 individuals. More information regarding these target groups is provided in the sections on Effectiveness and Impact.

The evaluation design for relevance consisted of a document study and interviews using empirical methods as described above.

Analysis and assessment regarding relevance

Assessment dimension 1: The project is in line with the relevant strategic reference frameworks

The guiding questions for this dimension were

- The questions in the evaluation matrix:

Which prevailing conditions or guidelines exist for the project?

- To what extent does the project contribute to the implementation of the underlying strategies (if available, especially the strategies of the partner countries)?
- To what extent does the TC measure fit into the programme and the BMZ country strategy (if applicable)?
- How was the country's implementation strategy accountability for the 2030 Agenda set up and what support needs were identified?
- Is there a prioritisation of the objectives of the 2030 Agenda within the country context? To which SDGs does the project contribute? To what extent is the contribution of the intervention to the national/global SDGs reflected in the ToC?
- Cross-sectoral change strategies, etc. Where has work been carried out on a supra-sectoral basis and where have such approaches been used to reinforce results/avoid negative results?
- To what extent are the interactions (synergies/trade-offs) of the intervention with other sectors reflected in the design and ToC – also regarding the sustainability dimensions (environmental, economic and social)?

- The key question summarising the key essence for this dimension (see inception report):
  - Is the project's overall objective in line with national and international frameworks and strategies on adaptation to climate change?

Findings

The project fits in well and is aligned with all national, regional and international strategies and frameworks, as it makes adaptation to climate change its overall goal and targets regional and local government services at strategic level and farmers at local level. It is thus fully in line with the relevant strategic reference frameworks and corresponds to national and international strategies on adaptation to climate change and to the BMZ strategy paper The BMZ's Africa Policy (there is no country strategy due to the lack of bilateral cooperation with Chad).

The project covers SDGs 2 (zero hunger), 5 (gender equality), 13 (climate action), 15 (life on land) and 16 (peace, justice and strong institutions), which are indirectly, but not explicitly reflected in the ToC. Interactions and synergies with other sectors are reflected in the ToC, especially on organisational development and adaptation to climate change. The project is thus highly relevant, and the theme and overall goal will continue to be so in the coming decades. Climate change will not stop having an impact soon, but is rather set to increase vulnerabilities for the coming generations.

In its strategy paper The BMZ's Africa Policy, BMZ outlines the importance of removing causes of out-migration by creating 'new prospects', such as improved farming techniques on which the project focusses (BMZ 2016).[4] At institutional level, the strategy strives to support improved information technology by collecting and disseminating relevant data, which the project supports by establishing a database on agricultural techniques for LCBC.

<u>At global level</u>

Overall, the project is well positioned at global level since it addresses the root causes of poverty and the consequences thereof. By focussing on developing sustainable agricultural techniques that make efficient use of water as a way of combating climate change and the impacts of change, the project helps achieve the Sustainable Development Goals (SDGs 2, 6, 13 and 16) (see https://www.un.org/sustainabledevelopment/sustainable-development-goals/, accessed on 16/06/2018).

One of the key factors in increased vulnerability is the change in climatic conditions and weather patterns to which Chad's rural population must adapt. According to the World Risk Index, which is established annually by a consortium of development institutes and organisations, in 2017 Chad was ranked first on 'highest vulnerability', third on 'greatest lack of coping strategies' and fifth on 'greatest lack of adaptive capacities' (Bündnis Entwicklung Hilft 2017: 17). The project is striving to address these findings, and to reduce vulnerability and enhance coping strategies and adaptive capacities through agricultural production, which is one of Chad's key sectors.

The project is also in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 of the United Nations Office for Disaster Risk Reduction (UNISDR) which, under Priority 1 (Understanding disaster risk), points to the importance of promoting the collection, analysis, management and use of data and practical information on climate change adaptation and ensuring its dissemination, as well as building the knowledge of government officials, civil society and communities. The project also works on the Sendai Framework's Priority 2 (Strengthening disaster risk governance to manage disaster risk) by fostering collaboration across global and regional mechanisms and institutions for the implementation and coherence of instruments and tools relevant to disaster risk reduction (adaptive measures for agriculture). Concerning the framework's Priority 3 (Investing in disaster risk reduction for resilience), the project promotes cooperation between academic, scientific and research entities and networks to develop new products and services to help reduce disaster risk.

[4] So far, the BMZ has not developed a country strategy for Chad but intends to step up bilateral cooperation in the coming years.

At regional and national level

The project is in line with national plans and strategies to address climate change, as they include actions aimed to introduce and disseminate climate-smart farming techniques and protect natural resources.

In 2010, the government of Chad developed a National Plan of Action for Climate Change Adaptation (PANA), which pinpoints agriculture and strengthening government bodies as key areas of action (Republic of Chad 2010: 48). Apart from that, objective 3 of Chad's National Development Plan (NDP) from 2017 to 2021 includes the development of the agricultural sector. The NDP is part of Chad's longer-term Vision 2030, which stipulates, as the overall objective for axis 4 'To improve the population's living conditions and reduce social inequality preserving natural resources and adapting to climate change' (Republic of Chad 2017: 8).

In 2015, LCBC developed a Plan de Développement et d'Adaptation au Changement Climatique du Lac Tchad (Lake Chad Development and Climate Resilience Action Plan) (LCBC 2015) with the support of the World Bank and the French development agency (AFD). This comprehensive document analyses the impact of climate change and outlines actions to maintain and improve agricultural production.

Although the project is in line with these strategies and plans, the results matrix does not explicitly mention these targets, such as alleviating poverty by increasing food security and resilience to the impact of climate change. The project proposal and progress reports do refer to the BMZ markers when considering the intended or occurred overall impacts and results. These are Socioeconomic impacts/ Poverty orientation (AO-1), Gender equality (GG-1), Participatory development/Good governance (PD/GG-1), Environmental protection and resource conservation (UR-1), Combating desertification (DES-1), Adaptation to climate change (KLA-2), Biodiversity Convention (BTR-1), Rural development and food security (LE-2).

The project also works at local level in a pilot zone. It is highly relevant to local inhabitants. This will be explained in the following section.

Assessment dimension 2: Suitability of the project concept to respond to core problems/needs of the target groups

The guiding questions for this dimension were

1. The questions in the evaluation matrix:

- To what extent was the concept designed to reach particularly disadvantaged groups (LNOB principle)? Which prerequisites were addressed for the concept and used as a basis?
- How are the different perspectives, needs and concerns of women and men represented in the change process and how are the objectives represented (Safeguard + Gender)?
- To what extent is the objective of the TC measure geared to the core problems/needs of the target group?

2. Key questions summarising the key essence for this dimension and focussing more on the project under evaluation (see inception report):

- What are the greatest problems facing inhabitants of the pilot region? Are they related to agricultural production and do proposed project activities contribute to solving these problems?
- Is farming the main livelihood of the population of the pilot region? Is the project addressing the most relevant income source of farmers or should it have addressed others as well?
- Was climate change the main factor in declining agricultural production before project intervention or were other factors equally or even more responsible for this?

Findings

Overall, the TC measure was geared to the core problems and needs of all target groups the project worked with.

For Output A: The project not only introduced LCBC staff to the issue of climate change and the need for adaptation (target group of Output A), but also made adaptation to climate change a priority for action for the whole institution (INT and DOC).

Concerning Output B, the project responded well to the needs of the target groups in the pilot zone. Results have confirmed that agriculture is the main livelihood in the pilot region and yields had been declining due to climate change in the past years (INT). To secure harvest yields in future, the project took the only appropriate step: it developed, tested and introduced climate-smart farming techniques to the vulnerable population. But it ignored conflicts of interests between farmers and pastoralists. Goats, cattle and camels are a big problem for cropping, as they are often not properly watched by the owners or care-takers, and most farmers do not have the financial resources for fencing.

With exception of women, the most vulnerable population groups (the elderly, youth, ethnic minorities, persons with disabilities, etc.) are not directly targeted by the project, although they do benefit indirectly from stable or even higher yields, and are likely to continue benefiting to an increasing degree, provided that the farming techniques are continued after the completion of the project (see section on Sustainability). No disadvantaged groups apart from women were directly targeted because the concept of the project is to experiment with new farming techniques. Disabled and elderly individuals, for example, would not be the appropriate kind of people to work in fields within the scope of a development project. The project thus selected experienced and well-to-do farmers as target group. Vulnerable groups usually do not meet these criteria – they cannot risk a failed harvest for the sake of an experiment. Hence, the LNOB criteria has not been directly fulfilled (the project would not have been feasible if this had been a priority), but disadvantaged groups are expected to benefit indirectly in the longer term, once the farming techniques have been institutionalised and are used more widely.

For both outputs, the different perspective, needs and concerns of men and women have been taken into account through

- incorporation of the gender aspect in the LCBC strategy (INT, DOC),
- involvement of a gender expert in the LCBC climate change working group (INT, DOC),
- focussing on the participation of women in the pilot measures for agriculture (INT, DOC), and
- in general, increasing gender awareness among project stakeholders (INT).

Assessment dimension 3: The design of the project is suited to achieving the objective

- Questions from the evaluation matrix guiding the assessment of this dimension:
- Results logic as a basis for monitoring and evaluability (Theory of Change)
  o Are the hypotheses plausible?
  o Are the risks presented plausibly?
- Is the strategic reference framework well anchored in the concept?
- To what extent does the strategic orientation of the project address changes in prevailing conditions?
- How is/was the complexity of the framework conditions and guidelines handled? How is/was any possible overloading dealt with and strategically focused?

- The key question summarising the key essence for this dimension (see inception report):
- Are the project components, indicators and activities suited to achieving the overall objective of the project?

The design of the project is suited to achieving the objective (Agriculture in the Lake Chad Basin is better equipped to adapt to climate change) for the following reasons: (1) LCBC is the key institution for the countries which have borders with the Lake Chad Basin and hence the appropriate partner and beneficiary for a project of this sort (DOC). (2) The transboundary pilot zone chosen by the project is well suited for testing and introducing climate-smart farming techniques, as similar climatic and geophysical conditions exist in other regions of the Lake Chad Basin meaning that the techniques could be replicated there (DOC, INT).

The quality of the concept (results logic) shows that the results of interventions of the pilot zone in particular are a good basis for replicating and expanding climate-smart farming methods in regions with similar conditions. Through a transparent, flexible and culture-sensitive attitude, the project team (GIZ and AHT) has managed to get LCBC to develop a sense of ownership for the interventions. LCBC staff, for example, explained that the farming techniques tested are very suitable for replication (INT). Ownership is likely to be further enhanced once the regional strategy has been finalised and disseminated within the member states (INT).

As the results model was not used by the project (see Chapter 2.2), hypotheses of the Theory of Change (ToC) were not designed on paper. Nevertheless, the results matrix presents the risks appropriately and plausibly. Overall, however, the results logic is weak, as none of the indicators meet SMART criteria and the results matrix does not include aspects concerning the overarching, longer-term objective of the project: to ensure food and nutrition security and minimise conflicts over natural resources through adaptation to climate change. The project limited itself to very simple results, such as 'training conducted', without including any concept regarding the use and impact of training for participants. The same applies to indicators under Output B: The mere introduction of farming techniques does not ensure any decline in vulnerability. Nor does it guarantee that most vulnerable groups benefit (INT). Overall, the results model focused more on quantity, but ignored the aspect of quality of the interventions.

The strategic reference framework was anchored in the project, but the security situation, especially in transboundary regions deteriorated during the term of the project making it significantly more difficult to follow the concept. During the development of the concept, security advisors and documents on risk assessments were apparently not sufficiently consulted or taken into account, although the project adapted well to the changes (see next section).

Overall, there were no changes in the prevailing conditions. The complexity of these conditions was well handled. Activities and products to be achieved were simple and realistic within the given time-frame and budget. Making trial and error and flexibility part of the project approach was the right decision in such an environment and context. At the same time, the project did not deviate from achieving its overall goal.

Any risk of overloading the project was avoided and strategically addressed through:

- Output A: focussing on very achievable products, such as the creation of a technical post in the organisation chart, development of a strategy and training course, and
- Output B: focussing on selected beneficiaries in one pilot area, and testing and introducing farming techniques jointly with them (INT, DOC).

Assessment dimension 4: The project adapted to changes in line with requirements and re-adapted where applicable

The guiding questions from the evaluation matrix for this dimension were:

- What changes have occurred?
- How were the changes dealt with?

There were four changes during the six years of project duration, with which the project dealt well:

- the deteriorating security situation in the border zone of Cameroon, which meant that national and international project staff were no longer able to access parts of the pilot region,
- budget constraints in 2017,
- integration of key project components into another programme in November 2017 (and thereby extension until 2019), and
- changes of the internal structure (organisation chart) of the LCBC.

The most important change was caused by the deteriorating security situation in the transboundary pilot zone in Cameroon. Boko Haram and other terrorist groups became prevalent to such a degree that local and international project staff could no longer visit the area. The project addressed the situation in a very intelligent manner, indeed in the only possible way. Rather than suspending activities, the target groups and project partners (farmers, NGO and local government staff) crossed the border to Chad for training, exchange meetings and other kind of events. They continued implementing activities on the Cameroonian side of the border (INT, DOC).

Budget constraints in 2017 were caused by overspending during the first two years and the increased costs of ensuring the security of staff and project assets (INT). After violent attacks and bombs in N'Djaména in 2015, the office had to move from the LCBC premises to the GIZ antenna office, as all government buildings were considered a potential future target for such attacks. This relocation entailed costs. Apart from that, the CTO regulations were introduced with a rest and relaxation period every three months for international personal, which incurred additional costs and human resource shortages. Finally, security measures were taken to protect GIZ/project assets (including vehicles). These expenses meant that the project could not continue testing farming methods, which would require the procurement of seeds and tools. The project thus adapted its approach for Output B and focussed on technical support for farmers already using the new methods, and on disseminating these methods. Activities for Output A continued, as they involved less expense. It was also in 2017 that a mission from GIZ Germany visited Chad and together with the project team developed a plan for Output B for 2018/2019 through integration into another project. Most of the activities planned under Output B are now continuing until 2019, including the testing and introduction of farming methods for the dry season (INT, DOC).

In early 2017 it became clear that not all activities would be implemented before the end of the project, especially in the case of Output B. The 4th production system under B1 was still outstanding. The project management thus ensured that these interventions were integrated into another programme and extended until 2019 (INT, DOC).

The changes in the LCBC organisation chart are part of GIZ's organisational development programme. They had a limited impact on the project as the project mainly worked with the Executive Director and the working group on climate change (INT).

Overall assessment of relevance

Assessment dimension 1: The project is in line with the relevant strategic reference frameworks (40 out of 40 points): The project is fully in line with the relevant strategic reference frameworks and corresponds to all national and international strategies on climate change adaptation and the BMZ strategy paper The BMZ's Africa Policy. It is very well aligned with all national, regional and international strategies and frameworks as it makes adaptation to climate change its overall goal and targets regional and local government services at strategic level and farmers at local level. By focussing on developing sustainable agricultural techniques with 48a focus on women and making efficient use of water to combat climate change and the impact thereof, the project helps achieve SDGs 2 (zero hunger), 5 (gender equality), 13 (climate action), 15 (life on land) and 16 (peace, justice and strong institutions).

Assessment dimension 2: Suitability of the project concept to respond to core problems/needs of the target group(s) (25 out of 30 points): The approach and the interventions were all appropriate, as they addressed

different kinds of target groups: government institutions, civil society organisations and members of farming communities. The chosen measures did then fully respond to the needs and interests of all target groups. The project could, however, have addressed more conflicts of interests between farmers and pastoralists, which were not caused by the project, but neither were they resolved.

Assessment dimension 3: The design of the project is suited to achieving the objective (20 out of 20 points): The design of the project is suited to achieving the objective (Agriculture in the Lake Chad Basin is better equipped to adapt to climate change). In Output A it worked with the key institution for countries which have borders with the Lake Chad Basin (LCBC) and hence with the appropriate partner and beneficiary for climate change adaptation at institutional and strategic level. In Output B the project worked with farmers affected by the impact of climate change and successfully tested and introduced climate-smart cultivation techniques.

Assessment dimension 4: The project adapted to changes in line with requirements and re-adapted where applicable (10 out of 10 points): The project adapted very well to changes through a flexible and creative approach. Budget constraints were offset by making increased use of local staff. Limitations on access to a part of the pilot zone due to the deteriorating security situation was resolved by remote monitoring and ensuring the target groups' participation in training in secure areas.

Table 8: Score for relevance

Criterion	Assessment dimension	Score
Relevance	The project is in line with the relevant strategic reference frameworks	*40 (out of 40)*
	Suitability of the concept to respond to core problems/needs of the target group(s)	*30 (out of 30)*
	The design of the project is suited to achieving the objective	*20 (out of 20)*
	The project adapted to changes in line with requirements and re-adapted where applicable	*10 (out of 10)*
Overall rating for relevance		*100 of 100 points*

4.2 Effectiveness

Evaluation basis and design for assessing effectiveness

Evaluation basis: This chapter analyses the achievements of the project and the effectiveness of its individual interventions in view of a) the indicators, b) the analytical questions of the evaluation matrix, c) the hypotheses selected for the contribution analysis.

The evaluation design and methods adopted to assess effectiveness were described in the introduction to Chapter 4.

As elaborated in the previous chapter, the results logic of the project is weak, as none of the indicators meets the SMART criteria. The officer responsible for the commission agreed with this observation, stating that the project concept was developed before she took up the post. Other sources also said that BMZ has not requested that any changes be made to the indicators (INT). The table below provides an overview of the indicators and the recommended rewording. There is no reason to reword them at this stage, as the project has been concluded, but this could be considered in future projects of a similar nature.

In general, some indicators and some of the activities are not consistent in project documents. This may be due to translation errors from German, English and French, as documents are in these three languages, or to changing project staff, or because the results matrix was unofficially changed over time.

Overall, the results matrix lacks cohesion and logic, as it does not refer to the impact of climate change on the target population, such as food insecurity and its consequences for nutrition, health and social cohesion. The mere availability of information and introduction of improved farming techniques do not result in adaption to climate change per se. It is striking that increased resilience, food security or livelihoods are not mentioned in any output or indicator. Making information available and introducing new farming techniques cannot be ends in themselves, but should a means to the end of improving the livelihoods, nutrition and health of the population in the pilot zone. It may also be argued that focussing on improved farming techniques instead of diversifying livelihoods and income sources might in fact increase the target population's vulnerability to climate change.

Table 9: Assessed and adjusted module indicators

Project indicators according to the offer ***level of achievement in May 2018 (at the time of the evaluation)***	**Possible adjustments**
***Module objective:* Agriculture in the Lake Chad Basin is better equipped to adapt to climate change**	
Module indicator 1: LCBC has established a technical position for climate change. Baseline value: 0 Target value: 1 *Status: Achieved; position for focal point has been created and successful candidate will start work on 1 June 2018*	1. Adaptation to climate change has become a key area of the LCBC thanks to the creation of a technical position in its organisation chart by December 2017.
Module indicator 2: An adaptation to climate change strategy is developed for the agriculture sector with contributions from member states. Baseline value: 0 Target value: 1 *Status: Draft strategy exists, but will be further developed within the framework of the new project*	2. An adaptation to climate change strategy is developed for the agriculture sector with the participation of member states by May 2018.
Module indicator 3: 3 measures to help agriculture adapt to climate change and to preserve biodiversity are initiated by LCBC in cooperation with member states. Baseline value: 0 Target value: 3 *Status: 1 Achieved: measures implemented in one transboundary pilot zone, but not yet in 2 other zones*	3. LCBC has identified 3 regions in which the adaptation measures for agriculture developed by the project are suitable by May 2018.
Module indicator 4: One third of the beneficiaries of the pilot measures and adaptation activities implemented by LCBC are women. Baseline value: 0 Target value: 33% *Status: More than achieved (40% of direct beneficiaries are women)*	4. 33% of participants in agricultural methods introduced by the projects are women, by May 2018
Output A: Relevant information on climate change adaptation is available for agriculture in the Lake Chad Basin	
A1: 8 seminars have been held to share experiences with regional actors. Baseline value: 0 Target value: 8 *Status: Achieved;*	A1: 50% of the participants of workshops on climate change adaptation organised by the project have used what they have learned in their duties by

	December 2017.
A2: A database of lessons learned in the field of climate change in the Lake Chad Basin is available online. Baseline value: 0 Target value: 1 *Status: Work in progress; the database is being established, but still needs to be completed and made accessible online.*	A2: A database on climate-smart farming techniques has been established by May 2018.
A3: 90% of a training programme for LCBC and important stakeholders in member states has been conducted. Baseline value: 0 Target value: 90% *Status: More than achieved (3 international training events conducted)*	A3: A training module for LCBC staff on climate change adaptation has been developed in English and French and been shared with all 6 members countries by December 2017.
Output B: The target group in the project's cross-border pilot zone has enhanced capacities and agricultural techniques enabling them to adapt to climate change.	
B1: Results of adaptation to climate change measures are documented for at least 4 production systems/value chains (including at least one specifically for women). Baseline value: 0 Target value: 4 *Status: 3 were tested, 1 outstanding (vegetables)*	B1: Three climate-smart agricultural methods have been introduced by December 2017.
B2: 60% of the participants in pilot activities apply 2 of the measures introduced. Baseline value: 0 Target value: 60%, 2 measures *Status: More than achieved (167%)*	B2: 70% of the pilot farmers can describe how to apply at least one of the new farming methods by December 2017.
B3: 300 persons in total (farmers, technicians, extension workers etc.) have participated in cross-border exchange. Baseline value: 0 Target value: 300 *Status: More than achieved (450 instead of 300 participated; hence 150% achieved)*	B3: For each farming technique at least one exchange visit with selected pilot farmers has been conducted by December 2017.

Analysis and assessment regarding effectiveness

Assessment dimension 1: The project achieves the objective on time in accordance with the project objective indicators

The guiding questions for this dimension from the evaluation matrix were

- To what extent had the objective of the TC measure already been achieved at the time of evaluation, measured against the indicators?
- To what extent is it foreseeable that unachieved objectives will be achieved during the current project term?

This section describes the achievement of the indicators. Overall, most of the objectives have been accomplished, with some achievements even outstripping the target values. This is a very big achievement, especially considering the complex and difficult conditions on the ground, the working environment in the country and the volatile security situation. The table in the previous section provides a general overview and summary of the status of achievement, which can be also found in a table and narrative in the chapter on Efficiency.

Module indicator 1: LCBC has established a technical position for climate change.

This has been achieved. Recruitment has been completed and the successful candidate will take up his duties on 1 June 2018. He will have key responsibility for promoting the issue of climate change, providing technical advice to LCBC and member states, coordinating activities and liaising with government, national and international institutions and agencies (INT).

Module indicator 2: An adaptation to climate change strategy is developed for the agriculture sector with contributions from member states.

The strategy is available, but still needs fine-tuning (INT). It was developed by a committee especially set-up for the process, consisting of LCBC technical staff from the member states. The committee meets regularly to develop this strategy and includes a gender expert. The document will be further developed within the framework of the GIZ programme on organisational development at LCBC, and then disseminated.

At present, the strategy has the following components: (I) Analysis of the National Adaptation Plans / present situation regarding climate change and vulnerability, (II) Analysis of policies on adaptation to climate change in member states, (III) Objectives and intervention axis (activity plan) of the strategy and actors and donors involved in implementation and (IV) M&E of the strategy.

Module indicator 3: 3 measures to help agriculture adapt to climate change and to preserve biodiversity are initiated by LCBC in cooperation with member states.

This could be achieved for 33% of the target value, as the pilot zone of the project is currently the only region where adaptation measures are being implemented (DOC). However, another region has been identified and more concrete planning will be required in the coming months (INT). It is evident that LCBC will need technical and financial support for the process.

Module indicator 4: One third of the beneficiaries of the pilot measures and adaptation activities implemented by LCBC are women.

The project had a strong gender focus and the target value for this indicator was more than achieved (DOC, INT). According to project statistics, 40% of the pilot farmers are female. The strong participation of women was also confirmed by the participatory methods of the evaluation and even men mentioned the advantages the project has for women. Women themselves expressed their opinion that the project has made them more self-confident and autonomous thanks to increased harvest yields, as their husbands are often away for extended periods to find work or herding (INT). For more details see the contribution analysis.

Output indicator A1: 8 seminars have been held to share experiences with regional actors.

This indicator has also been achieved. The seminars were conducted with participants from LCBC member states and were considered very useful, as they were the only opportunity so far to find out more about the cause and impact of climate change for the Lake Chad Basin. Through the seminars, participants also could establish a network and share information and experience beyond the actual seminars. Another indirect effect of the seminars was to hone LCBC's profile (INT).

Output indicator A2: A database of lessons learned in the field of climate change in the Lake Chad Basin is available online.

This has not been fully achieved yet. The database is not yet complete and not been uploaded into the LCBC's knowledge sharing system LIS (Lake Chad Information System). This activity has now been integrated into another project and it is expected that the indicator the indicator can be achieved by mid-2019. GIZ will continue to provide intense technical support to ensure this (INT).

Output indicator A3: 90% of a training programme for LCBC and important stakeholders in member states has been conducted.

The wording of this indicator is unclear, but it is deemed to have been achieved through 3 international training events (INT). Like the seminars, the training sessions introduced participants to the issue of climate change, the impact on key sectors (groundwater resources, agriculture, fisheries, biodiversity, farmers, pastoralists etc.) and possible mitigation measures (INT).

B1: Results of adaptation to climate change measures are documented for at least 4 production systems/value chains (including at least one specifically for women).

This has been achieved to a level of 80% of the target value. One production system could not be introduced or documented due to budget constraints in 2017 (see section on Relevance). But through the integration of this activity in another programme, this outstanding production system, vegetable production during the dry season, will be implemented between November 2018 and March 2019 (INT, DOC). The table below provides information on the adaptation measures taken by the project:

Table 10: Overview of adaptation measures broken down by production system and year

Production system	Activities	Adaptation measure*		
		2015	2016	2017
Rainfed farming	• Farmer training • Provision of seeds and inputs (sorghum: Zouaye, Damougarie, CS 54; maize: TZEE, EVDT-99m CMS 9015; niébé: Fekem) • Support to farmers during preparation, seeding, and harvest • Organising and supporting FFS	x	x, d	d
Flood recession	• Farmer training • Provision of seeds and inputs (sorghum: red Djiresse, yellow Djiresse, white Djiresse; melon: Cantaloup Sweet; water melon: Charantais) • Support to farmers during preparation, seeding, and harvest • Organising and supporting FFS	x	x, d	d
Rainfed farming	• Farmer training • Provision of seeds and inputs (sorghum: CS 61; niébé: TN5-78) • Support to farmers during preparation, seeding, and harvest		x	d
Animal husbandry	• Farmer training • Provision of seeds and inputs (sorghum: CS 61; niébé: TN5-78) • Support to farmers during preparation, seeding, and harvest		x	d
Rainfed farming	• Farmer training • Provision of seeds and inputs (sorghum: CS 54; niébé: Fekem) • Support to farmers during preparation, seeding, and harvest • Organising and supporting FFS	x	x, d	d

Source: AHT

Output indicator B2: 60% of the participants of the pilot activities apply 2 of the introduced measures.

This has been more than achieved, as according to project statistics and results from the participatory measures the pilot farmers have reproduced the improved seeds provided by the project and shared them with relatives, neighbours and friends (DOC, INT). This proves that the process used by the project to select direct beneficiaries was highly effective. Though it was not explicitly incorporated in the ToC of the project (or the results model), the project has genuinely managed to disseminate the new practices. The high achievement of this indicator is excellent evidence of the effectiveness of interventions under Output B. More details of the success of this intervention in terms of impact and sustainability will be set out below.

Output indicator B3: 300 persons in total (farmers, technicians, extension workers etc.) have participated in cross-border exchange.

This indicator is also more than achieved. 450 individuals participated in cross-border exchange activities. The project organised several seminars, workshops and learning exercises especially in the project area, thus ensuring that all target groups of Output B attended (local extension officers, NGO staff, farmers and pastoralists). Representatives of other government institutions not directly involved in the project also attended (DOC, INT). The high level of participation in and the success of these events reflect the relevance

of the adaptation methods and the interest demonstrated by people in the pilot area in finding out more about them.

Assessment dimension 2: The services implemented help achieve the project objective

The guiding questions for this dimension from the evaluation matrix were:

- What concrete contribution does the project make to the achievement of the objective, measured in terms of the indicators?
- Which factors in implementation help achieve the objectives?
- What other contributory factors were responsible for the objective being achieved or not achieved?
- Are core, support and management processes designed in such a way that they contribute to the achievement of the objective?
- To what extent were risks (see also Safeguards + Gender) and assumptions of the Theory of Change addressed in the implementation and steering of the project?

Having looked at the achievement of the indicators above, the key questions for this section are at the level of Outcome and Output A (strategic knowledge and capacity building of LCBC):

- How and to which degree did the project contribute to improving the capacities of LCBC to function as a focal point and driver for climate change adaptation in the field of agriculture?
- To what degree does testing and documenting improved farming techniques enhance the profile and capacity of LCBC?

At the level of Output B:

- Is the number and type of beneficiaries selected to test and disseminate farming techniques suited to bringing about tangible changes?

During the inception phase, 3 hypotheses were drawn up for the contribution analysis regarding the effectiveness of the project.[5] The table below provides a summary of the results of the analysis:

Table 11: Summary of results from the contribution analysis concerning the effectiveness of the project

Hypothesis	Reference indicators from results	Data material	Match with theory
I: The project has considerably enhanced the capacities of LCBC through testing and documenting climate-smart farming techniques.	1, 2, 3; A1, A2, A3, B1, B3	Documents, interviews	Confirmed
II: Seminars and training involving LCBC and other key stakeholders on adaptation to climate change enhance the role and activities of LCBC in the field of	2, A1, A3, B3	Documents, interviews	Confirmed
III: The type and number of direct beneficiaries (pilot farmers) are suited to introducing and disseminating new farming techniques.	4, B1, B2, B3	Documents, interviews, focus group discussions, transect walks	In part (type: yes, number: no)

Concrete contribution of the project to the achievement of the objective, measured in terms of the indicators

[5] The contribution analysis covers the questions and hypotheses below. As the implementation of farming methods only covered two annual cycles, it was not possible to compare the pre-project situation with the current situation, as this would require a longer-term intervention. Changes in agriculture can be immediate, but their impact on the target population are of a longer-term nature.

The module objective is ‘Agriculture in the Lake Chad Basin is better equipped to adapt to climate change’. The outputs have contributed to this objective through Output A: making relevant information on adaptation to climate change available via seminars and training sessions and a database on climate-smart farming techniques. Within the framework of Output B, the project has laid the foundations for improved capacities and techniques for adapting to climate change in agriculture by testing, introducing and disseminating new farming techniques. The achievements at output levels substantiate the module indicators.

Factors in implementation which helped achieve objectives

Contribution analysis for hypotheses I and II:

The project has considerably enhanced the capacities of LCBC through testing and documenting climate-smart farming techniques.

Seminars and training involving LCBC and other key stakeholders on adaptation to climate change enhance the role and activities of LCBC in the field of climate change.

The hypotheses were confirmed by data collected using the evaluation methods and by the triangulation of information.

Evidence that the hypotheses were confirmed

Overall, the project has enhanced LCBC’s profile through a very practical intervention – testing of climate-smart farming techniques in a specific region. The most prominent evidence that the hypothesis is confirmed is that, with the exception of indicator A2, all other indicators in the results model referring to this hypothesis have been achieved. This reflects the fact that the project has chosen appropriate activities and implemented them in an effective way, and that the target population has cooperated positively in the interventions. Special mention should be made here of the last factor in particular – the cooperation of the target groups – as this is not only a result of the relevance and appropriateness of activities, but to a considerable degree is thanks to the management of the project in the field. The following key products and evidence confirm the hypothesis:

- Adaptation to climate change has become a priority for LCBC.
- A working group on adaptation to climate change has been established within LCBC.
- A regional strategy has been devised.
- LCBC staff have been trained, resulting in the integration of aspects of climate change aspects into other sectors of LCBC’s work (climate proofing).
- A climate-smart farming techniques database has been established.
- LCBC staff have made reference to farming techniques at national and international seminars.

Factors in achieving this objective caused or triggered by the project

- The project and the objectives respond to the needs and interest of target groups (see details in section on Relevance).
- The target groups were well defined (see details in section on Relevance).
- The selected partners (NGOs, AHT Group) are competent and reliable. This means that GIZ has taken the right decisions in the identification and selection process. During implementation, the local project leadership managed the partnership in an efficient and professional way.
- The set of objectives of the project is reasonable – achievable, simple and based on quantity (easy to achieve and measure) and not quality (difficult to achieve and measure).

- The project team is functioning well and is highly committed, especially at leadership level.
- Activities were socially and culturally appropriate for the target groups.
- Synergies with other GIZ projects were established and used.
- The project team managed in a professional way to raise the feeling of ownership for project interventions on the part of target groups.

External factors contributing to the achievement of the objective

- Adaptation to climate change has increasingly become a priority at national, regional and international levels.
- Agriculture has become an increasingly important source of subsistence and income in the pilot region.
- Local research institutes existed for improved seed production with which the project could cooperate.
- No other similar interventions were implemented by other partners (which could compete with the project).

The proportion of external factors as compared to those triggered by the project cannot be assessed within the framework of this evaluation. The external factors are a precondition for the project working well and achieving most of its indictors. This means that a project of this sort would be less successful or relevant if other organisations were already conducting similar activities, if climate change were not a priority and if agriculture were a less relevant source of subsistence and income. At the same time, the project would not have been so successful if the project approach had been different, or if the project staff had not been so professional and committed. External and internal factors contributing to success are interlinked and complemented each other.

Contribution analysis for hypothesis III:

> The type and number of direct beneficiaries (pilot farmers) are suited to introducing and disseminating new farming techniques.

The hypothesis has been partly confirmed by the data collected using the evaluation methods and by triangulating information. While the type of beneficiaries is appropriate, as they have a proven track record as successful farmers (before the project started) and the level of education required to participate in training sessions provided by the project, and are thus suited to testing new farming techniques (and shouldering the risks of a failed harvest), there are too few of them to achieve larger-scale dissemination. The table below provides information about the direct beneficiaries targeted by the project:

Table 12: Number of pilot farmers (direct beneficiaries) covered by the project

Agricultural production system	Country	Implementing NGO	No. of pilot farmers[6]	No. of teacher farmers [7]	No. of student farmers[8]
	2015				
Rainfed	Cameroon	Sana Logone	2		
Rainfed	Chad	APR	09		
Flood recession	Chad	Espoir	14		
No. of beneficiaries in 2015			25		
	2016				
Rainfed	Cameroon	Sana Logone		2	10
Rainfed	Chad	APR		4	16
Rainfed	Chad	Espoir	8		
Flood recession	Chad	Espoir		6	20
Animal husbandry	Chad	Espoir	7		
No. of beneficiaries in 2016			15	12	46
No. of beneficiaries in 2015 and 2016			40	12	46
Total no. of beneficiaries			86		

As can be seen, the project had a total of 86 direct beneficiaries This is a very low number, considering that the total number of inhabitants of the target regions is estimated at 520,000 in Chad and 2.3 million in Cameroon, and that and the project proposal states that the project will have between 2,000 and 3,000 direct beneficiaries (see GIZ 2012b: 9). However, with the concept and set-up of the project – including the budget – it would not have been possible to embrace a larger number of pilot farmers under the given circumstances and prevailing conditions. The number of indirect beneficiaries is certainly higher, as the pilot farmers have shared seeds and techniques with relatives, neighbours and friends. This will be elaborated in the section on Impact.

Evidence that the hypothesis regarding type of beneficiaries is confirmed

- The testing and introduction of farming techniques could be done without any major interruption, as the selected farmers were experienced, motivated and had a certain level of education and status within their communities (INT).

- The yields were higher than expected, leading to other farmers asking for seeds and learning the techniques (INT).

- The pilot farmers shared seeds and knowledge with their neighbours, relatives and friends (see photo; more details are also in section on Impact) (INT, DOC).

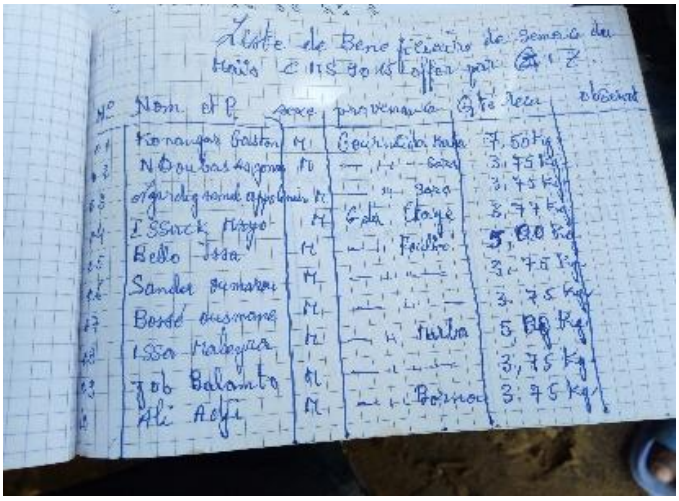


Photo 2: List of a pilot farmer on seeds shared with others

Factors in achieving this objective caused or triggered by the project

- A comprehensive agricultural inventory/baseline was conducted in the project region using a participatory approach (DOC).

[6] Beneficiaries who participated for the 1st time.
[7] Beneficiaries who participated for the 2nd time and taught other beneficiaries.
[8] Beneficiaries who participated for the 1st time and are supervised by teacher farmers.

- The project selected appropriate crops for the tests, as they are based on local food habits and marketing potentials (INT, DOC).
- The project and the objectives respond to the needs and interest of target groups (see details in section on Relevance)
- The target groups were well defined (see details in section on Relevance).
- The selected partners (NGOs, AHT Group) are competent and reliable. This means that GIZ has taken the right decisions in the identification and selection process. During implementation, the local project leadership managed the partnership in an efficient and professional way.
- The set of objectives of the project is reasonable – achievable, simple and based on quantity (easy to achieve and measure) and not quality (difficult to achieve and measure).
- The project team is functioning well and is highly committed, especially at leadership level.
- Activities were socially and culturally appropriate for the target groups.
- Synergies with other GIZ projects were established and used.
- The project team managed in a professional way to raise the feeling of ownership for project interventions on the part of target groups.

External factors contributing to the achievement of the objective

- The changing climate itself and its adverse impact on farmers is a favourable factor for the achievement of the objectives. Farmers have suffered severe harvest losses in the past years, which they ascribe to climatic conditions. They feel that their traditional methods are no longer appropriate (INT).
- The high poverty rates in the pilot region and the fact that agriculture is a key source of subsistence have ensured the interest and cooperation of the target groups (INT, DOC).
- No other organisation is working in the pilot region on climate-smart farming, so there is no competition with other projects (INT, DOC).
- In general, very few organisations are working in the target region due to the remoteness and insecurity. Pilot farmers are not distracted by the activities of other organisations and can fully commit to the project (INT).

The relationship/proportion of external factors as compared to project-triggered factors is difficult to assess. The combination of the destructive impact of climate change on harvest yields, the high poverty rates in the pilot region, the lack of support from other organisations on climate-smart farming and overall weak services available to the target group have facilitated the success of the project. At the same time, the project would not have been so successful with a different approach, less competent implementing agencies and a less committed project team.

Contribution of the design of core, support and management processes to the achievement of the objective

As elaborated in the inception report, the project only used the standard GIZ results model during the first few months of implementation. The project developed a model (provided on the DMS platform as '15_Wirkungsgefüge ACC' and presented in the inception report), this was neither digitised nor updated. Concomitantly, the project did not use the results-based monitoring system (RBM) consistently during its first three years and stopped using it completely in June 2016. The last data entry is from June 2016 and the name of the officer responsible for the commission has not yet been corrected/updated in the system. Apart from that, the entries are in three languages (German, English and French), which makes it very difficult to extract and analyse information. The project used Excel spreadsheets to monitor results and progress, which was given as an alternative (INT, DOC).

The project team has in fact worked in an effective way, as most GIZ standard tools require a good internet connection, which is not available in Chad. On some days, the project office has no access to internet at all and on others the connection is too slow (INT and own experience).

The contribution of management processes to the achievement of the objectives has been already listed in the contribution analysis. It is surprising to note the high degree to which the indicators were achieved, because the project was severely under-staffed. Most administrative procedures were carried out by the officer responsible for the commission, as local staff are not available or busy ensuring the basic functioning of office facilities. Due to the extreme climate, with temperatures of up to 47 degrees Celsius and regular sand-storms, electronic equipment needs to be repaired frequently. This is an important factor hampering the smooth running of a project. Overall, the high commitment of project staff and partners implementing the project and their expertise made it possible to overcome the difficult conditions and achieve most of the objectives.

The extent to which assumptions laid out in the Theory of Change were addressed in project implementation and steering

The risks identified at the project planning stage were a) that the security situation could hamper the implementation of some activities, b) LCBC member states could fail to get sufficiently involved in the development of the strategy, c) conflicts between farmers and pastoralists and disputed access to land could hamper project activities, d) a lack of cooperation could hamper exchange between key stakeholders, and e) transboundary exchanges could be hampered as a result of administrative bottlenecks at the borders (see GIZ 2012 and results matrix). All risks and assumptions were addressed in project implementation and steering. As the deterioration of the security situation was underestimated at the project planning stage, a risk factor was added to the results matrix in 2016 in the result matrix: ‘Through the increased security risks (attacks by Boko Haram) in the pilot region, project activities can only be implemented to a limited degree.’

Assessment dimension 3: The occurrence of additional (not formally agreed) positive results was monitored and additional opportunities for further positive results have been seized

No project-related negative results have occurred – and if any negative results occurred the project responded appropriately.

The guiding questions for this dimension from the evaluation matrix were:

- To what extent have the project’s benefits produced results that were unintended?
- Which positive or negative unintended results (economic, social, environmental) has the project generated? Is there any identifiable tension between the environmental, economic and social dimensions?
- How were negative unintended results and interactions counteracted and synergies exploited?

Extent of unintended project results

The project has generated several benefits which were not intended. This has been stated and confirmed by the target groups and are as follows:

- An awareness of climate change has increased considerably within LCBC (INT).
- Due to the technical advice and support it was given on conducting assessments and planning procedures, and thanks to the increased awareness of the vulnerabilities of disadvantaged groups generated by the project, LCBC has developed an Emergency Plan for population groups around the Lake Chad (INT, DOC).

- Farmers in the pilot zone even are still applying some of the techniques learned through the project to their traditional ways of farming (INT).

Positive or negative unintended results (economic, social, ecological) produced by the project produce and identifiable tension between the ecological, economic and social dimensions

No negative unintended results were identified by the evaluation. The only possible tension, which is however not produced by the project and was existing before, is between farmers and pastoralists. The project could have worked more on this aspect through awareness raising of different interests between the groups and joint activities, provided it had more funds, staffing and time.

Overall assessment of effectiveness

Assessment dimension 1: The project achieves the objective on time in accordance with the project objective indicators (35 out of 40 points): Most of the objectives were accomplished by the end of the project, with some results exceeding the planned target values. This is a major achievement, especially considering the complex and difficult prevailing conditions. Only two indicators were not achieved. This was the result of funding and human resources constraints since 2017 and of the limited technical capacities on the partner side (LCBC).

Assessment dimension 2: The services implemented help achieve the project objective (20 out of 30 points): The contribution analysis revealed that the interventions have ensured that agriculture is better equipped to adapt to climate change in the Lake Chad Basin through both Outputs. External factors have facilitated the success of the interventions. However, the project's outreach in Output B was limited as it worked with only 86 pilot farmers in a region with an estimated population of around 3 million. Although the concept of piloting new farming techniques means that comprehensive targeting was not feasible, the project proposal was too ambitious, planning as it did to reach between 2,000 and 3,000 direct beneficiaries. It is not certain to which degree the training and seminars for LCBC staff and other stakeholders have helped equip agriculture to adapt to climate change since the internal capacities of LCBC continue to be weak and subject to political dynamics as well as being dependent on external funding.

Assessment dimension 3: The occurrence of additional (not formally agreed) positive results was monitored and additional opportunities for further positive results have been seized; no project-related negative results have occurred – and if any negative results occurred the project responded appropriately (25 out of 30 points): The project has produced several unintended benefits. The most important of these are the increase in the awareness of and knowledge about climate change on the part of the partner (LCBC) and pro-active initiatives taken by LCBC to reduce the vulnerability of especially disadvantaged groups around Lake Chad in the form of an Emergency Plan. Concerning agricultural methods, the project has convinced farmers to combine new farming techniques with traditional ones. While the evaluation did not identify unintended negative results of the interventions, the conflicts of interests between farmers and pastoralists (sometimes spawning violence) should have been addressed. Though this was known to be an important issue throughout project implementation, no steps were taken to address the issue.

Table 13: Score for effectiveness

Criterion	Assessment dimension	Score
Effectiveness	The project achieves the objective on time in accordance with the project objective indicators	*35 (out of 40)*
	The services implemented help achieve the project objective	*20 (out of 30)*
	The occurrence of additional (not formally agreed) positive results was monitored and additional opportunities for further positive results have been seized No project-related negative results have occurred – and if any negative results occurred the project responded appropriately	*25 (out of 30)*
Overall rating for effectiveness		*80 of 100 points*

4.3 Impact

Evaluation basis and design for assessing impact

Evaluation basis: The evaluation of the impact assessed to which degree the overarching long-term development results and the programme objective have been achieved and which factors contributed to this. The programme objective is: LCBC is competently performing its statutory duties in projects with transboundary effects.

Overall, the assessment of the project impact was guided by a) the analysis questions laid out in the evaluation matrix, b) hypotheses derived from the results matrix and c) hypotheses based on the markers laid out in the project proposal (2012) and the last progress report (No. 4, July 2016 – June 2017). 3 hypotheses were selected during the inception phase for the contribution analysis with respect to impact.

Analysis and assessment regarding impact

Assessment dimension 1: The intended overarching development results have occurred or are foreseen

The guiding questions for this dimension from the evaluation matrix were:

- To which superordinate long-term results should the project contribute (cf. module and programme proposal, if no individual measure; indicators, identifiers, narrative)?
- To what extent will the project contribute to the implementation of the 2030 Agenda/SDGs?
- Which dimensions of sustainability (economic, environmental, social) does the project affect at impact level? Were there positive synergies on the three levels?
- 'Leave No One Behind': To what extent have targeted marginalised groups (such as women, children, young people, the elderly, people with disabilities, indigenous peoples, refugees, IDPs and migrants, people living with HIV/AIDS and the poorest of the poor) been reached and is there evidence of the results achieved at target group level?

Contribution to overarching long-term results

The table below provides an overview of all markers and hypotheses from these documents and highlights *in italics* which aspects the evaluators investigated and their findings. It should be stressed that the very short duration of the field mission did not allow for more detailed or more comprehensive data collection and that random sampling only allowed the team to gain a subjective feeling from the interviews.

Table 14: Summary of results of contribution analysis concerning markers

Marker	Hypothesis (based on project reports)	Evaluability and data material	Match with theory/addressed by the project
Socioeconomic impacts/poverty orientation (AO-1)	*Livelihoods of small scale farmers and their families have improved through increased food security and income.*	*Limited evaluability, as this is a longer-term impact; however, 'subjective feeling' of target population was assessed through interviews, focus group discussions and transect walks*	*confirmed/yes*
	The local economy of the pilot region has improved.	Not evaluable at this stage, as this is a longer-term impact	n/a
Gender equality (GG-1)	*The gender balance in agricultural production has improved through direct targeting and involvement of women as trainers, producers and multipliers.*	*Interviews, focus group discussions, transect walks*	*confirmed/yes*
	The economic situation of women has improved through direct targeting as pilot farmers.	*Limited evaluability, as this is a longer-term impact; however, 'subjective feeling' of target population was assessed through interviews, focus group discussions and transect walks*	*confirmed/yes*
	The awareness of gender has increased through the project's approach and development of a regional strategy.	Not available as a baseline on gender awareness has not been conducted	n/a
Participatory development/Good governance (PD/GG-1)	National and regional strategies are harmonised and implemented through transboundary pilot measures.	Not evaluable at this stage, as longer-term impact	n/a.
	Producer groups and decentralised government services and civil society organisations (NGOS) are supported through participatory approaches.	*Interviews, focus group discussions; project documents*	*confirmed/yes*
Environmental protection and resource conservation (UR-1)	Natural resources in the pilot zone are protected through soil protection measures and sustainable and water-saving farming methods.	Not evaluable, as scientific soil testing and related assessment techniques would be required	n/a
Combating desertification (UR-1)	Further degradation of soil is prevented, and soil fertility increased.	Not evaluable, as scientific soil testing and related assessment techniques would be required	n/a

Marker	Hypothesis (based on project reports)	Evaluability and data material	Match with theory/addressed by the project
	Pressure on soils has decreased and impact of droughts has been mitigated through sustainable irrigation and farming methods.	Not evaluable, as this is a longer-term impact and needs several droughts to confirm	n/a
Adaptation to climate change (KLA-2)	*The project has mitigated the impact of climate change and enhanced resilience of the population in the pilot region through new farming methods.*	*Limited evaluability, as this is a longer-term impact; however, 'subjective feeling' of target population was assessed through interviews, focus group discussions and seasonal calendar*	*confirmed/yes*
Biodiversity Convention (BTR-1).	*The agricultural production systems have diversified through the introduction of improved seed varieties.*	*as above*	*confirmed/yes*
	Natural resources (water) are used more efficiently through tested and introduced farming techniques.	Not evaluable, as this would require scientific testing and measurements	n/a
Rural development and food security (LE-2)	*The food security situation of the target population has improved through increased harvest yields from new farming techniques.*	*Interviews, focus group discussions, seasonal calendar*	*confirmed/yes*
	Rural development has been enhanced through better storage capacities and improved seed varieties.	Not evaluable at this stage, as this is a longer-term impact	n/a

Contribution to implementing the SDGs/the 2030 Agenda

The project contributes to 5 SDGs: 2, 5, 13, 15 and 16:

SDG 2, Zero Hunger: The longer-term objective of the project and its expected impact is to ensure food security and nutrition through climate-smart, sustainable farming techniques. Indicators 2, 3, B1 and B2 are directly designed to contribute to this and, with the exception of indicator 3, all of them have been achieved (INT, DOC).

SDG 5, Gender Equality: The project has pro-actively and explicitly promoted gender equality and the empowerment of women through indicators 4 and B1. Both have been more than achieved. The project has also included the gender aspect in indicator 2 by involving a gender expert in the development of LCBC's strategy and including the gender aspect in the strategy itself (INT, DOC).

SDG 13, Climate Action: All project indicators are ultimately designed to combat the impact of climate change at several levels: At regional level by strengthening LCBC and its focal points in the member states, at national level by enhancing the operational capacity of LCBC's Executive Secretariat and at local level by testing, introducing and disseminating climate-smart farming techniques (INT, DOC).

SDG 15, Life on Land: The protection and promotion of sustainable ecosystems and reversion of land degradation is addressed through indicators 2, A1, A2, A3, B1, B2 and B3. All have been achieved by the project (DOC).

SDG 16, Peace, Justice and Strong Institutions: Output A is designed to deliver comprehensive capacity building services to LCBC, which has a key role to play in promoting peace and justice at regional and

national level in the Lake Chad Basin. This is a key mandate of the institution and project interventions have made a significant contribution to enabling it to better execute its mandate (INT).

Dimensions of sustainability (economic, environmental, social) affected by the project/ positive synergies on the three levels

The project affects all three dimensions and synergies were positive at all three levels:

- economic: the new farming techniques are likely to increase the income of the rural population if disseminated and applied properly (INT),
- environmental: natural resources are protected through the use of rain and river water (INT DOC), and
- social: through exchange visits and working with farmer groups, the project enhanced social cohesion in the target region (INT).

Extent to which marginalised groups have been reached ('Leave No One Behind')

As elaborated above, the project explicitly targeted women, but was not designed to reach other marginalised groups during implementation. This can, however, be considered a longer-term perspective. In view of its budget, term and available human resources, the project selected appropriate target groups. In the longer term, marginalised groups, such as very poor farmers and their families and marginalised ethnic groups are likely to benefit as well, provided the farming methods continue to be successful and the required inputs are accessible and affordable. If more funding had been available, the project could have added activities addressing marginalised groups, to ensure that they would also benefit from the project's outcomes.

Assessment dimension 2: The project contributed to achieving the intended overarching long-term results

The guiding questions for this dimension from the evaluation matrix were:

- To what extent is it plausible that the results of the project on the output and outcome levels (project objective) contribute to achieving the overarching results? (contribution-analysis approach)
- What are the alternative explanations/reasons for the results observed? (e.g. the activities of other stakeholders)
- To what extent do changes in the prevailing conditions influence overarching long-term results?
- To what extent is the effectiveness of the development measures positively or negatively influenced by other policy areas, strategies or interests (German ministries, bilateral and multilateral development partners)? What are the consequences of the project?
- To what extent has the project made an active and systematic contribution to achieving a broad impact? (4 dimensions: relevance, quality, quantity, sustainability; scaling-up approaches: vertical, horizontal, functional or combined)? If not, could there have been potential? Why was the potential not exploited?
- Referring to the three dimensions of sustainability (economic, environmental, social): How was it ensured that synergies were exploited in the three dimensions? What measures were taken? (-> discussion of interactions in the sense of trade-offs below for unintended results)

The central hypotheses of the project are that a) making relevant information on adaptation of agriculture to climate change available and b) enhancing local capacities will result in improved adaptation of agriculture to climate change in the Lake Chad Basin. Hence, the organisational development of government institutions and practical application through targeted farmers should result in mitigation of the impact of climate change. The underlying assumption is that agriculture is a key component for the survival of the target population and that by addressing this livelihood sector their resilience will be enhanced.

The evaluation found that these hypotheses were confirmed, through the data material collected (empirical evidence):

Table15: Results from the contribution analysis on impact

Hypothesis	Reference indicators from the results matrix	Data material	Match with theory
I: The project's interventions have considerably enhanced the capacity of LCBC to execute its statutory mandate in transboundary projects.	1, 2, 3; A1, A2, A3, B1;	DOC, INT	confirmed
II: The project has mitigated the impact of climate change and enhanced the resilience of the population in the pilot region through new farming methods.	2, 3, 4, B1, B2, B3	DOC, INT	not confirmed
III: The project has enhanced the food security situation of the target population through climate-smart farming techniques.	2, 3, 4, B1, B2, B3	DOC, INT, transect walks	confirmed

Contribution analysis for hypothesis I:

The programme objective to which the module contributes is: LCBC is competently performing its statutory duties in projects with transboundary effects. The following hypothesis was thus chosen for the contribution analysis:

> The project's interventions have considerably enhanced the capacity of LCBC to execute its statutory mandate in transboundary projects.

The hypothesis has been confirmed by the data collected using the evaluation methods and by triangulating information.

Evidence that the hypothesis was confirmed

LCBC has achieved major milestones during the project term and is regaining an improved image and profile in the region (INT, DOC):

- LCBC has developed an emergency response plan for vulnerable population groups affected by climate change and violent attacks in transboundary areas of the Lake Chad Basin (INT, DOC).
- Knowledge about climate change and its impact, and the awareness among staff of the need for action has increased as a result of a climate study, seminars, training and workshops (INT, DOC).
- Adaptation to climate change has become a priority for LCBC, as evidenced by the establishment of a working group and the development of a regional strategy on adaptation to climate change (INT, DOC).
- A database is under development, which is to document successful climate-smart farming techniques and is to be accessible online (INT, DOC).
- The increasing readiness of donors to provide technical and financial support to LCBC in the coming years with a focus on adaptation to climate change (INT).

Factors in achieving this objective caused or triggered by the project

- The project and the objectives are aligned to the overall mandate of LCBC (DOC, INT).
- The project approach and activities were suitable for helping achieve the overarching longer-term results as they focus on building the adaptation to climate change capacity of LCBC in the field of agriculture (DOC, INT).
- The project filled gaps in terms of the support needed by LCBC to enable it to execute its overall mandate (INT).
- The set of objectives of the project is reasonable – achievable, simple and based on quantity (easy to achieve and measure) and not quality (difficult to achieve and measure) (DOC).
- The project team is highly competent in the required sectors and was thus able to communicate knowledge and skills to LCBC (INT).
- The diversity of staff within LCBC was perceived and taken into account when implementing the activities (in a socio-culturally appropriate manner) by using two languages (English and French), providing an inter-active and flexible approach and methods during training sessions and meetings, and ensuring generally culturally-sensitive and respectful behaviour on the part of project staff (INT).
- The project established and used synergies with other GIZ projects working in the same sectors, especially organisational development and agriculture (INT, DOC).
- The project team managed in a professional way to raise the feeling of ownership for project interventions and their results (INT).

External factors contributing to the achievement of the objective

- The existence of LCBC and its mandate, with which project outcomes and outputs are aligned (DOC INT).
- The devastating impact of climate change on the inhabitants and ecosystem of the Lake Chad Basin (DOC, INT).
- The LCBC's low and fragile status at the beginning of the project made it more likely that planned interventions would be well received and that there would be a readiness to cooperate (DOC).
- Adaptation to climate change has increasingly become a priority at top political level, and among all stakeholders in development cooperation at national, regional and international level (DOC, INT).
- The vulnerability of the population in the Lake Chad Basin has increased considerably in the past years due to climate change and terrorist groups, with the result that the need for a strong LCBC has become apparent (DOC).
- Few other organisations are yet supporting LCBC in the field of adaptation to climate change, meaning that the project has found a niche and is not competing with other donors (INT).
- The organisational set-up of LCBC has changed, making it more effective and efficient and ensuring that LCBC's interventions deliver quality outputs thanks to staff reduction and the introduction of a monitoring system (INT).

Contribution analysis for hypothesis II:

> The project has mitigated the impact of climate change and enhanced the resilience of the population in the pilot region through new farming methods.

This hypothesis was not confirmed for the following reasons:

- The interventions relating to farming methods directly targeted only 86 pilot farmers. This is a very low number in view of an estimated population of around 2.4 million in the pilot zone (DOC, INT).
- The new farming methods are still at the initial stage of development. The project had only two cultivation cycles for testing and introducing them, which is far too short to institutionalise and disseminate them over a wider region (INT).
- The greater part of the pilot area was no longer accessible after the first year of implementation for security reasons, meaning that activities could only be implemented and monitored from a distance (from Chad) (DOC, INT).
- Adaptation to climate changes requires a more holistic approach involving raising awareness of the impact, diversifying livelihoods and targeting most vulnerable groups. These activities were neither planned nor implemented by the project (INT).

Contribution analysis for hypothesis III

> The project has enhanced the food security situation of the target population through climate-smart farming techniques.

This hypothesis was confirmed. The test results of the farming techniques were very positive, leading to a very good harvest.

Evidence that the hypothesis was confirmed (INT, seasonal calendar and transect walks)

- The harvest yields were used by famers' households and enriched their diet (especially water melons) (INT).
- Part of the harvest could be sold on local markets and increased the income of pilot farmers (INT).
- Women in particular mentioned that they improved their housing conditions (household assets, furniture etc.) (INT).
- Family members were able to seek medical treatment when they needed it (which they could not previously afford) (INT).
- Children are now sent to school who could not previously afford the expenses related to schooling (school fees, stationary, books) (INT).
- Additional seeds for the next planning season were procured and stored (INT).
- Women in particular said that the income enhanced their social status and increased their autonomy (INT).
- Donations are made to poor and vulnerable community members in line with the Muslim custom (INT).

Factors in achieving this objective caused or triggered by the project

- The project has conducted the activities in a participatory way (DOC INT).
- The content and quality of technical support provided was very good through training, demonstration fields and overall guidance on the sequence of activities (see photo 3) (INT).
- The NGOs and AHT were technically qualified and suited to implementing the activities (INT).
- The new agricultural production systems introduced by the project are compatible overall with the traditional production cycles and provide new profit-generating opportunities (see seasonal calendar below) (INT).

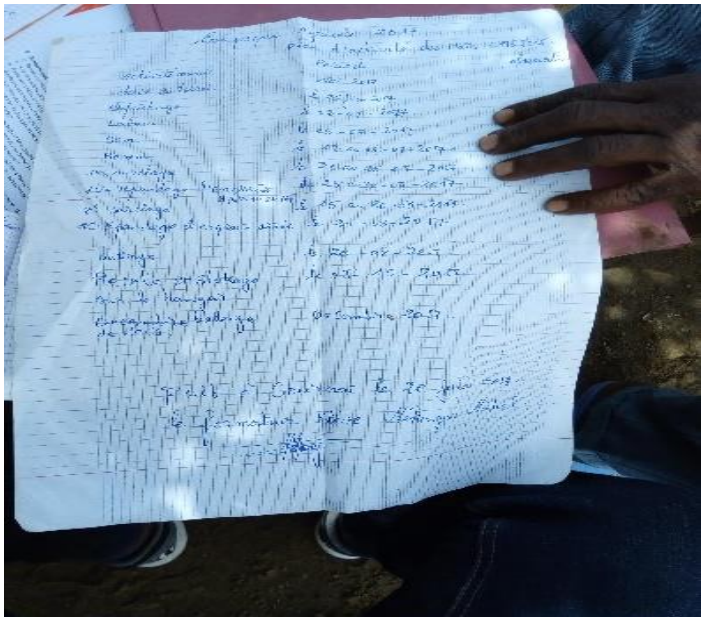


Photo 17: Schedule of agricultural activities noted down by a beneficiary

- The farming methods and seeds chosen for testing were appropriate and suited to local needs and conditions (see seasonal calendar below) (INT, DOC).

External factors contributing to the achievement of the objective

- the severe impact of climate change on harvest yields in the pilot zone and thus the felt need and interest of the target group in new agricultural techniques,
- the lack of properly functioning government extension services in the pilot zone,
- the lack of other organisations working on climate-smart farming in the pilot zone,
- the acceptance of the NGOs by the target groups, and
- the existence of institutions to produce the new seed varieties and the readiness of these institutions to cooperate with the project.

Table 16: Seasonal calendar for the region around Dourbali

1. Agricultural production	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Rainfall												
Floods												
Planting of crops						peanut						
						millet						
								beans				
Harvest of crops										peanut, beans		
											millet	
Planting of vegetables					eggplant	tomato						
Harvest of vegetables									eggplant	tomato		
Planting of *berberé*												
Harvest of *berberé*												
Planting of new varieties							beans	millet,				

								water melon				
Harvest of new varieties										beans, millet	water melon	
Pests	rats									rats		
	birds									birds		
										monkeys		
Plant diseases												
2. Factors for livelihood	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Food shortages												
Water shortages												
Pasture shortage												
High income												
Low income												
High prices												
Low prices												
Many expenses												
Labour shortage												
Temporary out migration												
Temporary in-migration												
3. Health and well-being	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Urinary problems												
Malaria												
Diarrheal diseases												
Influenza												

Extent of influence of the prevailing conditions on the overarching long-term results

The highly volatile security situation has a major influence on the long-term results, as most of the Lake Chad Basin boundary region is not currently accessible and projects can only be implemented on a very limited scale. Secondly, the political situation in most member countries and the lack of law and order make it questionable when and to what extent the project can have tangible, longer-term impacts for the most vulnerable groups. The project has done very well to continue working despite these limiting factors, as from the humanitarian perspective there is a duty to assist.

Extent of any positive or negative influence on the effectiveness of the development measures from other policy areas, strategies or interests (German ministries, bilateral and multilateral development partners), and consequences for the project

Other policy areas, strategies and interests have only a positive influence on the effectiveness of the measure, as adaptation to climate change is increasingly becoming a key area for support and intervention. Unfortunately, however, Chad and LCBC member states overall are not priority countries for most development partners due to the difficult conditions on the ground. Yet, the overall interest of European countries (including Germany) is to prevent migration caused by war and/or natural disasters which highlights the relevance of the project objective of adapting to climate change. Future projects with similar objectives should integrate adaptation to climate change in their ToC and focus on increasing the resilience of the most vulnerable population groups.

Extent of the project's active and systematic contribution to achieving a broad impact

The project's contribution to achieving a broad impact is fairly limited due to the conditions in place (above all the security situation in the region), the lack of properly functioning government institutions and the very limited human and financial resources at its disposal. The project has done everything possible within the given timeframe, using the available human and financial resources, to strive for a broader impact. There is no other potential which could have been exploited under the present conditions, especially considering the security situation and working conditions. The project has contributed to a potential regional impact for the LCBC's 6 member states (Output A). For Output B, the project has the potential for scaling-up by introducing farming techniques in the project area. A dissemination strategy has been developed and will be implemented in the coming months. The farming techniques could be replicated in other regions of the Lake Chad Basin, but LCBC still does not have the capacity to do so and the security situation make it very difficult or even impossible for external organisations to operate there. Fortunately, aspects of the objectives and some of the activities of the module have been extended by integrating them into another GIZ module. This came about thanks to the initiative of the project team, which realised the importance and relevance of the results achieved so far and the need to consolidate these.

Photo 4: Pilot farmer with his reproduced seeds

If a broad impact is understood in rather limited dimension, interviews and transect walks confirmed that the pilot farmers have reproduced the seeds and shared them with relatives, neighbours and friends as well as demonstrating the farming techniques (INT, DOCs). The tables below provide detailed information on this finding.

Table 17: Summary of the number of people with whom pilot farmers have shared improved seeds

Production system	**No. of people with whom improved seeds have been shared**		
	Men	Women	Total
Rainfed	96	32	128
Recession	1	0	1
Livestock	20	3	23
Total	117	35	152

Source: AHT

Table 18: Number of people with whom pilot farmers have shared improved seeds in their own and other villages

Production system	**Season**	**No. of people with whom improved seeds have been shared**					
		Other villages			Same village		
		men	women	total	men	women	total
Rainfed	2015	15	2	17	32	18	50
	2016	19	5	24	30	7	37
	total	34	7	41	62	25	87

Recession	2015	0	0	0	1	0	1
	2016	0	0	0	0	0	0
	total	0	0	0	1	0	1
Livestock	2016	0	0	0	20	3	23
Total		**34**	**7**	**41**	**83**	**28**	**111**

Source: AHT

Exploitation of synergies in the three dimensions of sustainability (economic, environmental, social) and measures

By working through local NGOs and involving government extension services, the project exploited synergies in all three dimensions (DOC, INT). The project took all three dimensions into account in its interventions through in-depth literature reviews on organisational set-up of existing institutions and their dynamics, poverty statistics and root causes, geophysical conditions, assessments of traditional farming methods in the pilot zone, migration patterns and interactive events (DOC, INT). Exchange visits between representatives of government institutions and pilot farmers were a key component of the project (DOC, INT).

Assessment dimension 3: The occurrence of additional (not formally agreed) positive results at impact level has been monitored and additional opportunities for further positive results have been seized

No project-related negative results at impact level have occurred – and if any negative results occurred the project responded appropriately.

The guiding questions for this dimension from the evaluation matrix were:

- To what extent is the (positive or negative) contribution of the project plausible?
- What are the alternative explanations/reasons for the results observed? (e.g. the activities of other stakeholders)
- Have negative results occurred?
- Was there a corresponding risk assessment in the project proposal? How was the influenceability of these risks originally assessed?
- To what extent have the project's services caused negative (unintended) results (economic, social, environmental)? Is there any identifiable tension between the environmental, economic and social dimensions?
  - Economic: Impairment of competitiveness, employability, etc.
  - Social: How should the impact be assessed in terms of distributive results, non-discrimination and universal access to social services and social security systems? To what extent can particularly disadvantaged population groups benefit from the results or have negative results for particularly disadvantaged population groups been created?
  - Environmental: What are the positive or negative environmental impacts of the project?
- What measures have been taken by the project to counter the risks/negative interactions?
- To what extent have prevailing conditions been responsible for negative results? How did the project respond to this?

Plausibility of the extent of the (positive or negative) contribution of the project

See contribution analysis above. Overall, the contribution of the project is very plausible, as without the project the key achievements would not have been attained. All results are due to the project. No other stakeholders are active in the field.

Alternative explanations/reasons for the results observed (e.g. the activities of other stakeholders)

See contribution analysis above. Since no other stakeholders are working in the same field and project area, there are no alternative explanations for the observed results.

Occurrence of negative results

No negative results were found or observed by the evaluators.

Extent of identification and assessment of the risks of negative, unintended, overarching results

Not applicable, as no negative results have been observed.

Corresponding risk assessment in the project proposal and influenceability of the risks originally identified

The risks in the proposal relate to security, the political complexity of LCBC and conflicts of interests between farmers and pastoralists. Relevant risks were regularly identified and discussed, and considered appropriately (INT, DOC). However, they were outside the control of the project, which had no way of influencing them.

Negative (unintended) results caused by the project's services (economic, social, environmental) and any identifiable tension between the environmental, economic and social dimensions

The project's services did not cause any negative results at economic, social or environmental levels. Neither is there any tension between the three dimensions, as no external technology was introduced (such as artificial irrigation or working with local political elites). At environmental level, the positive impacts are that natural resources are being protected and biodiversity is increasing through the introduction of climate-smart farming techniques without abandoning traditional ways of farming.

Measures taken by the project to counter the risks/negative interactions

The project was realistic in terms of its capacity to influence and address risks and took the appropriate decisions. The risks identified in the proposal relate to security, the political complexity of LCBC and conflicts of interests between farmers and pastoralists (DOC). The risks were regularly discussed and considered appropriately (INT, DOC). However, as they were outside the project's control, the project could not take any measures to mitigate them. The project adopted an alternative solution to address the security risk in the project region in Cameroon by regularly inviting target groups to the Chadian side of the border (INT, DOC).

Extent of the role played by prevailing conditions for the negative results, and project response

Not applicable, as no negative results have been observed.

Overall assessment of impact

Assessment dimension 1: The intended overarching development results have occurred or are foreseen (20 out of 40 points): The project contributes to five SDGs: 2 (zero hunger), 5 (gender equality), 13 (climate action), 15 (life on land) and 16 (peace, justice and strong institutions). However, the fragile political context and the highly volatile security situation severely impede the achievement of the long-term results. Most of the Lake Chad Basin boundary regions are not currently accessible and there is little chance of improvement. It also seems unlikely that LCBC will initiate climate change adaptation projects due to its weak technical and financial capacities. The political situation of most member countries and the lack of law and order make it

questionable when and to which degree the results of the project can have tangible and longer-term impacts for the most vulnerable groups. The project itself has not reached marginalised groups, such as very poor households, the elderly, children and disabled persons, as the coverage of these groups was not sufficiently considered in the design of the project.

Assessment dimension 2: The project contributed to achieving the intended overarching long-term results (25 out of 30 points): As the contribution analysis illustrates, the project has made a major contribution to enabling LCBC to execute its mandate more competently especially in the field of adaptation to climate change. Interventions in the field of organisational development and practical application through targeted farmers are helping mitigate the impact of climate change at various levels. However, the outreach and coverage are limited, and thus the longer-term impact for a wider population, as the number of beneficiaries for both outputs are comparatively low, and the security situation and other external factors pose major challenges.

Assessment dimension 3: The occurrence of additional (not formally agreed) positive results at impact level has been monitored and additional opportunities for further positive results have been seized. No project-related negative results have occurred at impact level – and if any negative results did occur the project responded appropriately (30 out of 30 points): The project was unable to seize additional opportunities because of budgetary and human resources constraints, as well as the extremely difficult working conditions which were further exacerbated by security problems. However, the positive results were monitored, and the target groups encouraged to further explore them. The project services did not cause any negative results, at economic, social or environmental level. Neither is there any tension between the three dimensions, as no external technology was introduced (such as artificial irrigation or working with local political elites). On the environmental level, the positive impacts are that natural resources have been protected and biodiversity increased by introducing climate-smart farming techniques without abandoning traditional ways of farming.

Table 19: Score for impact

Criterion	Assessment dimension	Score
Impact	The intended overarching development results have occurred or are foreseen (should be plausibly explained).	*20 (out of 40)*
	The project contributed to achieving the intended overarching long-term results.	*25 (out of 30)*
	The occurrence of additional (not formally agreed) positive results at impact level has been monitored and additional opportunities for further positive results have been seized. **No project-related negative results have occurred at impact level – and if any negative results did occur the project responded appropriately**.	*30 (out of 30)*
Overall rating for impact		*75 of 100 points*

4.4 Efficiency

Evaluation basis and design for assessing efficiency

The efficiency of the project was analysed using the GIZ Efficiency Tool (sent as a separate file), as this was prescribed as standard by GIZ. The key question is whether the use of resources by the project was appropriate in terms of the outputs and outcome achieved (known as the 'follow the money' approach). It has to be noted that the project was devised well before June 2017 (in fact in 2012), as a result of which not all analysis questions can be answered, as the accounting and budgeting system used at that time did not yet include a comparison of planned and actual costs along with some other GIZ formats.

Analysis and assessment regarding efficiency

As shown in Figure 5, the break-down of expenses between Output A and B are 41% to 59% (EUR 743,163.05 as compared to EUR 1,086,064.14) which means that more funds have been used for the practical application of adaptation methods in agriculture with pilot farmers This is a positive result, as it reflects the fact that the project focussed on population groups directly affected by the impact of climate change (farmers) rather than groups affected only indirectly (LCBC officials - the main target group of Output A).

The table below summarises the results of the analysis using the Efficiency Tool. The project was fully financed by the BMZ through Energy and Climate Fund (EKF).

Table 20: Summary of results from the Efficiency Tool (Cockpit)

Module objective	Agriculture in the Lake Chad Basin is better equipped to adapt to climate change.				
Costs including commitment	EUR 1,829,227.19				
Cofinancing	none				
Partner contributions	none				
Total costs	**EUR 1,829,227.19**				
Module objective indicators	1. LCBC has established a technical position for adapting agriculture to climate change.	2. An adaptation to climate change strategy is developed for agriculture in the Lake Chad Basin, taking into account the need to preserve ecosystems and ecosystem services, with the cooperation of member states .	3. Three measures to help agriculture adapt to climate change and preserve ecosystem services have been initiated by the LCBC Secretariat in cooperation with member states.	4. One third of the beneficiaries of pilot measures and the adaptation measures conducted by LCBC are women.	0
Level of achievement	100%	100%	33%	121%	#DIV/0!

	Output A	**Output B**	**Output C**	**Output D**	**Output E**
Outputs	Relevant information on the adaptation of agriculture in the Lake Chad Basin to climate change is available.	The target group in the cross-border pilot region of the project has enhanced capabilities and agricultural techniques enabling them to adapt to climate change.	0	0	0
Costs including commitment	EUR 743,163.05	EUR 1,086,064.14	EUR 0	EUR 0	EUR 0
Cofinancing	EUR 0	EUR 0	EUR 0	EUR 0	EUR 0
Partner contributions	EUR 0	EUR 0	EUR 0	EUR 0	EUR 0
Total costs	**EUR 743,163.05**	**EUR 1,086,064.14**	EUR 0	EUR 0	EUR 0
Total costs as a percentage	**41%**	**59%**	**0%**	**0%**	**0%**

Planned costs	EUR 0	EUR 0	EUR 0	EUR 0	EUR 0

Output indicators	A1: Eight seminars have been held to share experiences with regional actors.	B 1: Results of adaptation of climate change measures are documented for at least 4 production systems/value chains (including one specifically for women).
Level of achievement	100%	88%

Output indicators	A2: A database of lessons learned in the field of climate change in the Lake Chad Basin is available online.	B 2: 60% of the participants in pilot activities apply 2 of the measures introduced.
Level of achievement	0%	167%

Output indicators	A3: 90% of a training programme for LCBC and important stakeholders in member states has been conducted.	B 3: 300 persons in total (farmers, technicians, extension workers, etc.) have participated in cross-border exchange.
Level of achievement	111%	150%

Assessment dimension 1: The project's use of resources is appropriate with regard to the outputs achieved

The guiding questions for this dimension from the evaluation matrix were:

- To what extent are there discrepancies between the planned costs and the actual costs? What are the reasons for these?
- To what extent could the outputs have been maximised using the same resources and under the same conditions, to achieve the same or better quality (maximum principle)?
- To what extent could outputs have been maximised by reallocating resources between the outputs?
- Were the output/resource ratio and alternatives carefully considered during the design and implementation process – and if so, how?

To what extent are there discrepancies between the planned costs and the actual costs? What are the reasons for these?

This question cannot be analysed on the basis of the figures, as the project was devised and largely implemented before this GIZ accounting and budgeting tool was introduced (in June 2017). The officer responsible for the commission has changed and the original incumbent was not available for an interview. However, according to the current project management, there was no major discrepancy.

To what extent could the outputs have been maximised using the same resources and under the same conditions, to achieve the same or better quality (maximum principle)?

The project used the available resources very appropriately in terms of the outputs achieved, as can be seen from the above table. At the level of Output A (LCBC), indicator A1 has been achieved in full (100%). Output A2 has not yet been achieved (although the process has been launched and will be completed by integrating this activity into another, still ongoing module), and Output A3 has been more than achieved (111%). This is quite a success, considering the weak capacities of the partner institution, the difficult working conditions, the complicated administrative procedures and the security constraints involved in organising and conducting training events and seminars at national and regional level.

In Output B (pilot farmers), the project was even more successful. Indicators B2 and B3 were more than fully achieved (167% and 150%), which compensates for the fact that indicator B1 was achieved only to 88%. This was a result of the lack of funds available for implementing farming techniques in 2017 and 2018, which in turn resulted from the additional expenditure for measures to ensure the security of project staff from 2016 onwards.

There was limited scope to maximise outputs using the same resources under the same prevailing conditions due to BMZ budget regulations. The project adapted to the circumstances and looked for alternative solutions. During the first three years, the costs for the officer responsible for the commission were charged only in part to the module and from September 2016 onwards not at all, as the costs were covered by another module (Organisational Development) which was already under implementation. Hence, when Module 2 was launched, the project could start work immediately and use the existing office facilities and set-up.

Outputs could, however, have been maximised if the planned costs had been taken into account from the outset with a full-time field staff position (or a 75% position with clearly defined missions during the overall project duration) with clearly defined technical and administrative responsibilities for both outputs. This field staff member should have been coordinating two national personnel posts, one for Output A and one for Output B. There were no provisions made for the latter, although a post was put in place using budget from the subcontractor in the organisational component. Apart from that, the regional expert (national GIZ personal) was originally to be on the payroll of LCBC. Due to political constraints, this did not materialise, and GIZ had to pay the costs of this post (until now).

To what extent could outputs have been maximised by reallocating resources between the outputs?

As elaborated above, donor regulations did not allow for any reallocation of resources, and outputs were maximised as well as possible. Outputs could have been maximised by allocating a national staff member from the outset to coordinate the administrative side of the technical work conducted by the subcontractor.

Were the output/resource ratio and alternatives carefully considered during the design and implementation process – and if so, how?

It is not possible to assess at this stage whether and to which degree the output/resources ratio and alternatives were considered during the design process: The project was planned seven years ago in 2012 and the staff responsible for devising the project and preparing the project proposal are not known to the evaluators and could not be consulted. The officer responsible for the commission changed in 2016 and the original incumbent was not available for consultation on whether these aspects were considered during implementation. However, the funding and human resources constraints on the implementation of farming techniques after 2016 as laid out above would appear to indicate that the output/resource ratio was not sufficiently considered during the design process. The officer responsible for the commission who took

charge in 2016 identified alternatives during implementation, that involved making use of national staff from another GIZ programme. Apart from that, project staff worked overtime throughout the project and thus compensated for shortages of human resources.

Assessment dimension 2: The project's use of resources is appropriate with regard to achieving the outcome

The guiding questions for this dimension from the evaluation matrix were:

- To what extent could the outcome have been maximised using the same resources to achieve the same or better quality (maximum principle)?
- Were the outcome-resources ratio and alternatives carefully considered during the design and implementation process – and if so, how? Were any scaling-up options considered?
- To what extent was a greater impact achieved by harnessing synergies and/or leveraging more resources, with the help of other bilateral and multilateral donors and organisations (e.g. cofinancing, multi-sector partnerships)? If so, was the relationship between costs and results appropriate?

Extent to which the outcome could have been maximised using the same resources to achieve the same or better quality (maximum principle)

As there were no additional resources for personnel from November 2016 onwards, the outcome was maximised using the same resources by giving the regional expert (national personnel) the additional responsibility for the technical and administrative coordination of Output B and for financial monitoring. This did not influence the outcome (module) objective per se (as evidenced by the high level of achievement of the indicators) but resulted in an additional workload for project staff.

Although measures were adopted to the actual circumstances after a few years, the outcome could have been maximised by adopting a better personnel concept and by recruiting more national GIZ personnel.

Were the outcome-resources ratio and alternatives carefully considered during the design and implementation process – and if so, how? Were any scaling-up options considered?

It is not possible to assess at this stage whether and to which degree the outcome-resources ratio and alternatives were considered at the design stage. The project was planned seven years ago in 2012 and the staff responsible for devising the project and preparing the project proposal are not known to the evaluators and could not be consulted. The officer responsible for the commission changed in 2016 and the original incumbent was not available for consultation on whether these aspects were considered during implementation. The current officer responsible for the commission (interviewed by the evaluators) explained that the project sought to identify efficient solutions, e.g. by using national staff from another GIZ programme (Organisational Development).

Scaling-up options were considered in the form of a communication and dissemination strategy for project outcomes, which was implemented in 2016 and 2017. The scaling up option was also taken into account in the form of cooperation with other projects operating in other areas (see below).

Extent to which a greater impact could have been achieved by harnessing synergies and/or leveraging more resources, with the help of other bilateral and multilateral donors and organisations (e.g. cofinancing, multi-stakeholder partnerships)

Synergies were generated through close collaboration with two other GIZ programmes: International Services (InS) Seed Production and the Humanitarian 'Transition' Aid project (Projet de Renforcement de la Résilience et de la Cohabitation Pacifique au Tchad (PRCPT)), which have considerable cofinancing (EU and Switzerland). Methodological and regional approaches were combined, thereby creating a win-win situation.

Overall assessment of efficiency

Assessment dimension 1: The project's use of resources is appropriate with regard to the outputs achieved (50 out of 70 points): Overall, under the given circumstances (security issues, weak capacities of the partners and target groups and limited financial and human resources for implementation), the project's use of resources is reasonably appropriate regarding the outputs. The break-down of expenses between Output A and Output B are 41% as compared to 59%, which is a positive result (see Table 20), as it reflects the fact that the project prioritised the population groups directly affected and threatened by the impact of climate change over those affected only indirectly (LCBC officials - the main target group of Output A). However, two of the six indicators were not achieved, partly due to a lack of financial planning at the initial stage of the project and partly due to BMZ regulations. The GIZ could have more actively communicated to BMZ the limitations that resulted for implementation, or could have explored the option of tapping other funding sources. In 2017 and 2018 no farming methods could be implemented, posing a considerable challenge to the sustainability of activities. The security measures taken were very cost-intensive and were not taken into account at the project planning and budgeting stage. Apart from that, the number of direct beneficiaries under Output B (86) is low. The cost per beneficiary is around EUR 12,630 per pilot farmer. Though the project concept was not designed for a wide outreach and coverage, this is a considerable investment per beneficiary.

Assessment dimension 2: The project's use of resources is appropriate with regard to achieving the outcome (25 out of 30): The project used the resources quite appropriately in terms of achieving the outcome, as illustrated in Table 20. Two of the four indictors were achieved in full (100%), one was partly achieved (33%) and one was more than fully achieved (121%). This is a good result, considering the extreme working conditions of the project team, the local socio-political context and the complex structure of LCBC. The underlying reason for not achieving one indicator was the failure to identify appropriate national personnel and LCBC's lack of capacity to pay the salary. The project followed a creative and flexible approach, making use of national staff of another GIZ project.

Table 21: Score for efficiency

Criterion	Assessment dimension	Score
Efficiency	The project's use of resources is appropriate with regard to the outputs achieved. production efficiency]	*50 (out of 70)*
	The project's use of resources is appropriate with regard to achieving the outcome. [allocation efficiency]	*25 (out of 30)*
Overall rating for efficiency		*75 of 100 points*

4.5 Sustainability

Evaluation basis and design for assessing sustainability

Preliminary conclusions on the durability of results and achievements of the interventions laid out in the sections on Effectiveness and Impact are based on statements made by the target groups on whether and how they will continue the activities and the results of the interventions, and on the observations of the evaluation team with respect to existing capacities and interests. The evaluators can only draw preliminary conclusions on the durability of the interventions as the field mission was carried out three weeks prior to the conclusion of the project. Potentials for sustainability were assessed on two levels:

- The degree of probability that government agencies which have been strengthened and involved will continue to play their assigned role regarding adaptation to climate change through improved farming techniques
- The probability of pilot farmers being interested in continuing to use the new techniques and of their having the knowledge and agricultural inputs required to apply the techniques and to disseminate them to other farmers.

All other analysis questions from the evaluation matrix on sustainability were addressed.

Analysis and assessment regarding sustainability

Assessment dimension 1: Prerequisites for ensuring the long-term success of the project: results are anchored in (partner) structures

The guiding questions for this dimension from the evaluation matrix were:

- What has the project done to ensure that the intended impact can be achieved in the medium to long term by the partners themselves?
- Which advisory contents, approaches, methods and concepts of the project are anchored/institutionalised in the (partner) system?
- To what extent are they continuously used and/or further developed by the target group and/or implementing partners?
- To what extent are (organisational, personnel, financial, economic) resources and capacities in the partner country available (in the longer term) to ensure the continuation of the results achieved?
- To what extent are national structures and accountability mechanisms in place to support the results achieved (e.g. for the implementation and review of the 2030 Agenda)?
    - o What is the project's exit strategy?
    - o How are lessons learned prepared and documented?

What has the project done to ensure that the intended impact can be achieved in the medium to long term by the partners themselves?

The project has worked hard on capacity building and on enhancing ownership with the help of a participatory approach and internal feedback mechanisms. Additionally, project results (achievements and challenges) were widely communicated at different levels, enhancing the feeling of responsibility of the target groups, as well as developing institutional knowledge and improving the potential for replication. In particular, the project has tried to ensure long-term success through the following approaches and interventions:

- The project approach (ToC) incorporated strong capacity building components in the form of training, seminars and exchange visits (DOC).
- The project objectives were anchored in the partner's structures and implemented through local organisations (NGOs and extension services) (DOC, INT).

- The project addressed the most relevant needs and interests of the target groups (INT).
- The project team has worked in a transparent and cooperative way with the partners and target groups (INT).
- The project has produced visible and tangible outputs (INT, DOC).
- The achievements of the project are being disseminated at local, national, regional and international level (DOC, INT).
- The project has conducted many training sessions for each of the two Outputs (DOC).

The various training sessions the project conducted for pilot farmers in particular is a key driver for potential sustainability. The table below provides information about the number of pilot farmers trained:

Table 22: Number of farmers trained by the project during implementation

Production system	No. of people who have taken part in trainings		
	Men	Women	Total
Rainfed	39	18	57
Recession	23	7	30
Livestock	13	3	16
Total	75	28	103

Source: AHT

Which advisory contents, approaches, methods and concepts of the project are anchored/institutionalised in the (partner) system? To what extent are they continuously used and/or further developed by the target group and/or implementing partners?

For Output A: Since GIZ has been supporting LCBC since 2005, certain approaches and methods have already been institutionalised and are being successfully used by the partner and are thus likely to be used in future as well. One key example is the monitoring system developed by LCBC on the basis of GIZ's approach (INT, DOC).

For Output B: The NGOs had been working in the agricultural sector in the pilot region for many years and the project successfully used these existing structures. These NGOs will continue to exist and serve as a centre of expertise for farmers and extension services.

This is less likely to happen with the government extension services, however. While the agencies in Cameroon seem to receive a degree of support from central government, this is not the case in Chad. Even the buildings are falling into disrepair (see photo), and the staff have not been paid for more than one year.

Photo 5: Premises of a government extension service in Bongor, Chad

Overall, the key question is whether and to which degree farmers will have access to the improved seed varieties developed by the project in view of widespread poverty and very weak extension services in the pilot region (INT).

To what extent are (organisational, personnel, financial, economic) resources and capacities in the partner country available (in the longer term) to ensure the continuation of the results achieved (e.g. multi-stakeholder partnerships)?

Overall, the partner country has very limited resources and capacities to ensure the continuation of the results.

For Output A: LCBC will continue to exist, meaning that results achieved are likely to be used. The chances are further improved by the fact that other partners are supporting organisational development at LCBC, including GIZ.

For Output B: Local resources and capacities at governmental level are extremely limited, especially in Chad, and the situation is unlikely to improve in the coming months and years. The degree to which NGOs can ensure continuation depends on external sources of funding.

To what extent are national structures and accountability mechanisms in place to support the results achieved?

Chad is one of the poorest countries in the world and the political system is weak. Chad is ranked 8th of 178 countries on the 2017 Fragile State Index (http://fundforpeace.org/fsi/, accessed on 16 June 2018). The security situation is highly volatile and is not expected to improve soon. Under these circumstances, one cannot expect the results achieved to be supported by the country's own structures and mechanisms. Continuous support will be required on the part of external partners.

Due to the political set-up and context, there are no accountability mechanisms and no functioning national structures are in place to support the results achieved. The project did not develop an exit strategy, as it has been integrated into another development measure. Lessons learned and best practices have, however, been prepared and documented in the form of a database on climate-smart farming techniques which will be made available online in the coming months.

Assessment dimension 2: Forecast of durability: results are permanent, stable and resilient in the long term

The guiding questions for this dimension from the evaluation matrix were:

- To what extent are the results of the project durable, stable and resilient in the longer term under the given conditions?
- What risks and potential are emerging for the long-term protection of the results and how likely are these factors to occur?
- What has the project done to reduce these risks and exploit potential?

To what extent are the results of the project durable, stable and resilient in the longer term under the given conditions?

Overall, the project has produced very relevant and valuable results, meaning that foundations for their durability have been laid, but their longer-term impact depends on factors beyond the project's control. The technical position for climate change is very likely to be maintained, as it is highly relevant and matches the needs and interests of LCBC (module objective indicator 1). However, the extent to which the incumbent performs the relevant duties competently will depends on their qualifications for this position, personal motivation, office facilities (availability of computer and office space), and on the support and cooperation provided by other LCBC staff and by supervisors. The regional strategy will definitely be further developed and used by LCBC, as it is considered very useful and is in line with the organisation's priorities (module objective indicator 2). The degree to which it will be followed and implemented still depends on external funding and technical support, as LCBC's own resources are very limited. Hence, the question as to whether

LCBC will initiate adaptation measures in other regions will depend on the availability of external support (module objective indicator 3). Overall, the extent to which the longer-term results are durable, stable and resilient depends very much on the security situation, the continuous support of partners and political will at higher levels.

At output level, the continuous availability of relevant information on climate change (objective of Output A) depends on whether the staff who have attended the seminars and training sessions continue to work for LCBC and apply what they have learned (output indicators A 1 and A 3). The database of lessons learned in the field of climate change initiated by the project is likely to be durable, as it will be further developed and digitalised within the framework of another module (output indicator A2). Concerning the results of Output B, the sustainability of the capacities and agricultural techniques (objective of Output B) generally depends on farmers having access to improved seeds and agricultural tools. However, the results of adaptation measures are being documented and will thus theoretically be available in future (output indicator B1). Whether or not pilot farmers continue to use the measures introduced will depend on their having access to seeds and tools. Durability is not then ensured (output indicator B2). Nevertheless, the lessons learned and the network established between stakeholders and participants through cross-border exchange programmes will continue to be used by the participants, since they now know each other and have found the information exchange to be very useful (output indicator B3).

What risks and potentials are emerging for the long-term protection of the results and how likely are these factors to occur? What has the project done to reduce these risks and exploit potential?

Most of the greatest risks are beyond the project's control, as they concern political developments in the region and the security situation. The project has tried its best to minimise their influence on the project results by strengthening capacities and enhancing knowledge about adaptation measures.

A longer project term and more funds for the agricultural component of the project would have been useful to enhance the likeliness that improved seeds are available to farmers in future. Since the activities have been integrated into another programme, it is recommended that this aspect be addressed over the coming months.

Assessment dimension 3: Are the results of the project environmentally, socially and economically balanced?

The guiding questions for this dimension from the evaluation matrix were:

- Evaluation of the outcome results with regard to interaction between the environmental, social and economic dimensions of sustainability
- Which positive or negative intended and unintended results (economic, social, environmental) does the project produce? (Assign intended and unintended results from the effectiveness evaluation to the three sustainability dimensions)
- Is there any identifiable tension between the environmental, economic and social dimensions?
    - Economic: Impairment of competitiveness, employability, etc
    - Social: How should the impact be assessed in terms of distributive results, non-discrimination and universal access to social services and social security systems? To what extent can particularly disadvantaged population groups benefit from the results or have negative results for particularly dis-advantaged population groups been created?
    - Environmental: What are the positive or negative environmental impacts of the project?
- If negative interactions have been avoided and synergies exploited, how was this ensured? What measures were taken?

Evaluation of the outcome results regarding interactions between the environmental, social and economic dimensions of sustainability

This project's approach ensured that all aspects of the three dimensions have been properly addressed and taken care of. Interactions between the environmental, social and economic dimensions were well balanced through working on different levels (regional, national and local) and involving different kinds of stakeholders (government agencies, NGOs, farmers).

Which positive or negative intended and unintended results (economic, social, environmental) does the project produce? (Assign intended and unintended results from the effectiveness evaluation to the three sustainability dimensions)

No negative results were observed. The positive effects were described in detail in the sections on Effectiveness and Impact. To sum up, the project generated the following positive results:

- Economic: The climate-smart farming measures result in stable or even increased harvest yields and therefore have the potential to drive economic growth in the target region and, if replicated, in other regions.
- Social: The project has implemented various activities which have resulted in the establishment of a network involving stakeholders at different levels, who engage in reciprocal learning and an exchange of experience.
- Environmental: The adaptation measures are environmentally sound, as no groundwater resources are exploited. No infrastructure measures were implemented which could have impacted adversely on biodiversity. However, too little attention was paid to the option of producing and using environmentally friendly pesticides and fertilisers.

If negative interactions have been avoided and synergies exploited, how was this ensured? What measures were taken?

This was ensured through a participatory approach, involving all interest groups and stakeholders. The project chose appropriate partners and target groups to prevent negative interactions and ensure synergies (INT).

Overall assessment of sustainability

Assessment dimension 1: Prerequisite for ensuring the long-term success of the project: results are anchored in (partner) structures (40 out of 40 points): The project has strongly worked on capacity building and enhancing the feeling of ownership through a participatory approach and internal feedback mechanisms. The results are fully anchored in the partner structures as interventions were carried out jointly and adjusted to the local socio-cultural context.

Assessment dimension 2: Forecast of durability: results are permanent, stable and resilient in the long term (10 out of 30 points): Overall, the project has produced relevant and valuable results and therefore the foundations have been laid for durability, but their longer-term impact is rather questionable. Some aspects depend on factors beyond the project's control as they concern political developments in the region and the security situation. However, the project could have done more to ensure the sustainability of the farming techniques introduced by establishing mechanisms to reproduce and disseminated the improved seed varieties. Also, the access to agricultural tools by farmers after the project end was not taken into sufficient account in the project design and in implementation. Under the present circumstances, it seems rather unlikely that the farmers will be able to continue the farming techniques without external support. A longer project term and more funds for the agricultural component of the project would have been useful to enhance

the likeliness that improved seeds are available to farmers in future. Since the activities have been integrated into another programme, there is a chance that this aspect will be addressed over the coming months.

Assessment dimension 3: Are the results of the project environmentally, socially and economically balanced?' (25 out of 30 points): The project's approach ensured that all aspects of the three dimensions were balanced through working on different levels (regional, national and local) and involving different kinds of stakeholders (government agencies, NGOs, farmers). However, too little attention was paid to the option of producing and using environmentally friendly pesticides and fertilisers.

Table 23: Score for sustainability

Criterion	Assessment dimension	Score
Sustainability	Prerequisite for ensuring the long-term success of the project: results are anchored in (partner) structures.	*40 (out of 40)*
	Forecast of durability: results of the project are permanent, stable and resilient in the long term.	*10 (out of 30)*
	Are the results of the project environmentally, socially and economically balanced?	*25 (out of 30)*
Overall rating for sustainability		*75 of 100 points*

4.6 Long-term results of predecessor measure(s)

Evaluation basis and design for assessing long-term results of the predecessor measure

The evaluation did not include previous projects, as the module had no direct predecessor. However, the project Output A interlinked with the development project Organisational Advisory Services for the Lake Chad Basin Commission (PN 2010.2273.0), which started in 2005, and the Consultation of the Lake Chad Basin Commission on Groundwater Management (PN 2010.2274.8), which started in 2011. Both projects are scheduled to run until June 2019. In November 2017, the project under evaluation was integrated into the module Organisational Advisory Services for the Lake Chad Basin Commission.

Additional evaluation questions in line with BMZ requirements were a) coordination, and b) coherence and complementarity. These could be examined only to a very limited extent, as the time for the field visit was very short and movement within N'Djaména was restricted due to the security situation. This made it impossible to visit other projects and their offices, so the findings below must be seen as fairly superficial observations.

Analysis and assessment of the long-term results of the predecessor measure

a) Coordination

There are very few partners and development interventions at present in Chad offering capacity building for LCBC or operating in the area of agricultural production. In fact, no other comparable project is currently implementing climate-smart farming in Chad. There is thus a limited need for coordination.

The project harnessed synergies through its close collaboration with two other GIZ projects: International Services InS Seed Production and Projet de Renforcement de la Résilience et de la Cohabitation Pacifique au Tchad (PRCPT) (transitional assistance), which have considerable cofinancing (PRCPT from the EU and InS from Switzerland). Project staff exchanged information and experience gained in the use of methodologies and approaches, which resulted in the harmonisation of approaches and benefited all sides.

Efforts were also made to coordinate with local government agencies responsible for rural development and agricultural extension, but those in the pilot area have either no staff in place or have very limited capacities. No local government plans have been developed in the past years due to financial and human resources constraints.

b) Coherence and complementarity

The alignment of the project with national and international frameworks and policies on adaptation to climate change and development is discussed extensively in the section on Relevance. Concerning complementarity, the project has complemented the efforts of the government, in particular LCBC through its member states. The main achievement in this sense is the development of a regional strategy for adaptation to climate change, which is described in previous chapters.

Summary

As very few development programmes are currently being implemented in the same sectors in Chad due to the volatile security situation, there was a limited need to coordinate. The project coordinated its interventions well with all relevant stakeholders and explored synergies with other GIZ projects. The project approach is well aligned with and complements national, regional and international strategies and frameworks.

4.7 Key results and overall rating

Key results regarding selected hypotheses

The key results of the selected hypotheses on effectiveness and impact from the contribution analysis are presented in the tables overleaf. More details can be found in the relevant chapters.

Table 24: Key results on effectiveness from contribution analysis

Hypothesis	Match with theory	Reference indicators from results matrix	Data material	Key evidence	Factors caused by the project	External contributing factors
I: The project has considerably enhanced capacities of LCBC through testing and documenting climate-smart farming techniques.	Confirmed	1, 2, 3; A1, A2, A3, B1, B3	DOC, INT	Adaptation to climate change has become a priority for LCBC LCBC staff applies what they learned during training LCBC working group on adaptation to climate change established Regional strategy on adaptation to climate change developed Database on climate-smart farming techniques under development	Project goal and objectives match target group's interests and needs Target groups were well defined, set outputs tangible and socio-culturally appropriate Appropriate selection and guidance of implementing partners Establishment of synergies with other programmes Ownership for intended results on the part of LCBC Competence of implementing partners and professional management by project team; project staff highly committed and technically qualified	Adaptation to climate change has increasingly become a priority at national, regional and international levels Agriculture has become an increasingly important source of subsistence and income in the pilot region Local research institutes for improved seed production existed, and were ready to cooperate with the project No other similar interventions implemented by other partners (could have competed with the project)
II: Seminars and training involving LCBC and other key stakeholders on adaptation to climate change enhance the role and activities of the LCBC in the field of climate change.	Confirmed	2, A1, A3, B3	DOC, INT			

Hypothesis	Match with theory	Reference indicators from results matrix	Data material	Key evidence	Factors caused by the project	External contributing factors
III: The type and number of direct beneficiaries (pilot farmers) are suited to introducing and disseminating new farming techniques.	In part (type: yes, number: no)	4, B1, B2, B3	DOC, INT; seasonal calendar	Smooth implementation of activities due to appropriate selection criteria and procedure for pilot farmers Successful harvest resulted in replication by other farmers Dissemination and sharing of seeds and knowledge with other farmers	Comprehensive agricultural inventory/baseline through a participatory approach Appropriate identification and selection of crops based on local food habits and marketing potentials All factors listed for hypothesis I and II above	Negative impact of climate change on yields of traditional crops in recent years High poverty rates in the pilot region and agriculture as a key source of subsistence ensured the interest and cooperation of the target groups No other organisation is working in the pilot region on climate-smart farming

Table 25: Key results on impact from contribution analysis

Hypothesis	Match with theory	Reference indicators from the results	Data material	Key evidence	Factors caused by the project	External contributing factors
I: The project's interventions have considerably enhanced the capacity of LCBC to execute its statutory mandate in transboundary projects.	Confirmed	1, 2, 3; A1, A2, A3, B1;	DOC, INT	LCBC has developed an emergency response plan for vulnerable population groups in transboundary regions of the Lake Chad Basin Adaptation to climate change has become a priority for LCBC LCBC staff have increased their knowledge about adaptation to climate change Working group on adaptation to climate change established and functioning Regional adaption to climate change strategy developed Database being developed Increased attraction of	The project goal and objectives are aligned to the overall mandate of LCBC. The project approach and activities are suited to achieving the overarching longer-term results. The project filled gaps in LCBC need for support to enable it to perform its mandate (climate study, regional strategy, training and seminars on adaptation to climate change etc.) Project team transferred knowledge and skills to LCBC. Socio-culturally appropriate approach given diversity of LCBC staff Establishment of synergies with other GIZ projects Establishment of ownership among LCBC staff	Existence of LCBC and its mandate Negative impact of climate change on the inhabitants and ecosystem of the Lake Chad Basin LCBC's low and fragile status at the beginning of the project Adaptation to climate change increasingly a priority at top political levels and among stakeholders in development cooperation Few other organisations supporting the LCBC on adaptation to climate change Change in LCBC's organisational set-up for greater effectiveness and efficiency

Hypothesis	Match with theory	Reference indicators from the results	Data material	Key evidence	Factors caused by the project	External contributing factors
II: The project has mitigated the impact of climate change and enhanced the resilience of the population in the pilot region through new farming methods.	Not confirmed	2, 3, 4, B1, B2, B3	DOC, INT	a) Only 86 persons directly targeted as pilot farmers – inadequate given population of 2.4 million in pilot region b) New farming methods still in initial stage of development; only tested for 2 cultivation cycles. c) Adaptation to climate change requires a more holistic approach (raising awareness of impacts, diversifying livelihoods and targeting most vulnerable groups); neither planned nor implemented by the project.	n/a	n/a

Hypothesis	Match with theory	Reference indicators from the results	Data material	Key evidence	Factors caused by the project	External contributing factors
III: The project has enhanced the food security situation of the target population through climate-smart farming techniques.	Confirmed	2, 3, 4, B1, B2, B3	DOC, INT, transect walks	Harvest yields were used by farmers' own households and enriched their diet. Part of the harvest was sold on local markets and increased the income of pilot farmers. Women in particular invested in improved housing conditions More people could afford medical treatment. More children could attend school Procurement of additional seeds Increase of autonomy and enhancement of socio-economic status of women Donations to poor and vulnerable community members	Participatory approach and methodology of the project High quality of technical support (training, guidance through learning-by-doing etc.) Implementing partners were suitable and capable (NGOs and AHT Group) New agricultural production systems coherent and compatible with traditional production system Farming methods and seeds chosen for testing appropriate for local needs and conditions	Negative impact of climate change on harvest yields in the pilot zone, need for and interest in new agricultural techniques on part of the target group lack of functioning government extension services in the pilot zone Lack of other organisations working on adaptation to climate change in the pilot zone NGOs accepted by the target group, Existence of institutions to produce the new seed varieties, and willingness to cooperate with the project

Table 26: Overall rating of the criteria

Criterion	Score	Rating
Relevance	*100*	*very successful*
Effectiveness	*80*	*successful*
Impact	*75*	*rather successful*
Efficiency	*75*	*rather successful*
Sustainability	*75*	*rather successful*
Overall score and rating for all criteria	*81* *(out of 100)*	*successful*

100-point scale (score)	6-level scale (rating)
92-100	Level 1 = very successful
81-91	Level 2 = successful
67-80	Level 3 = rather successful
50-66	Level 4 = rather unsatisfactory
30-49	Level 5 = unsatisfactory
0-29	Level 6 = very unsatisfactory

5 Conclusions and recommendations

5.1 Factors in the success or failure

External factors

Factors beyond the project's immediate scope and responsibility (political context or budget) are extensively discussed in the contribution analysis. Key factors standing in the way of implementation and impacting adversely on the degree to which some results were achieved include:

- The security situation, especially the fact that the project office had to be relocated several times from LCBC to a safer place. This made the daily work of the project team very difficult. At the implementation level of Output B (agricultural support), the situation in the project area in Cameroon deteriorated to such a degree that project staff could no longer visit the area and thereby directly supervise or monitor interventions as of 2015. Though this did not result in a suspension of activities, it increased the workload and costs, as representatives of the target groups needed to cross the border to Chad for training and to obtain other technical support.
- BMZ spending regulations restricted the implementation of farming techniques in 2017. Insufficient funds were available annually as of 2016, as in line with BMZ regulations the budget was not flexible, and a considerable part had to be (and was) spent in the first year of implementation. Overall, fewer activities than planned could then be carried out between 2017 and the conclusion of the project in May 2018.
- Gaps in terms of human resources (officer responsible for the commission and national/regional climate expert) between 2015 and 2017 resulted in the delay of some activities and a certain loss of institutional knowledge.
- The deteriorating security situation also impacted on the availability of funds for activities, as security measures taken to protect project facilities and staff were costly.

The management of the project (quality of implementation)

The overall managerial set-up (team composition and competencies, Head Office support) was inappropriate for a country like Chad, where the basic working conditions are instable or even dysfunctional. A far larger number of staff and more Head Office back-up would have been needed to support the staff in their functions and ensure a safe working environment. The fact that the internet connection is very fragile and sometimes simply does not work for a period of several days limits the practicality of using GIZ's online tools. The project thus took the right decision concerning the 'implementation of quality in line': to continue using Excel spreadsheets for monitoring. Overall, it appears that the realities of working in the field are not communicated sufficiently robustly to Head Office or are not properly understood in Germany. Serious security issues impacted not only on the time staff had to support the evaluation team (i.e. to work on and discuss the Efficiency Tool) but also resulted in psychological stress. Overtime and working late hours is part of the project team's daily life, which is unacceptable in the long term and will compromise the health of human resources and the quality of the interventions.

The cooperation management in line with Capacity WORKS (strategy, cooperation, steering, processes, learning and innovation) was weak overall, as project staff had undergone only basic training courses and the capacities and educational level of local partners and target groups was not concomitant with the use of the instruments and tools in line with standards established and developed by GIZ Head Office. This is partly because most tools are not available in French (the official language of Chad), but also because of the lack of

linkages between technical departments at GIZ Head Office and the field. Overall, the gap between the theory and the realities of working in the field is obvious in this project.

5.2 Conclusions and recommendations

The conclusions and recommendations presented here are mainly derived from the evaluation matrix, but also consider the integration of some interventions into the Organisational Advisory Services module, which means that they have effectively been extended until June 2019. Some of the recommendations may go beyond the actual evaluation questions, but the evaluators consider them important and useful for GIZ projects in similarly volatile political and socio-cultural contexts. As no negative impacts and results were identified, the recommendations below should be seen as ideas for similar interventions under more favourable conditions and not as any form of negligence or failure on the part of the project team.

1. Overall approach and design of the project

1.1. The overall objective of the module (Agriculture in the Lake Chad Basin is better equipped to adapt to climate change) is appropriate. However, the overarching and expected long-term result – 'increased resilience' or 'reduced vulnerability to the impact of climate change' - should either have been formulated explicitly or should at least have been incorporated in the module objective indicators. Capacity building services for LCBC and the introduction of climate-smart farming techniques are not an end in themselves but should have a clear benefit for vulnerable population groups.

1.2. None of the indicators of the project complies with the SMART criteria. They are formulated in terms of quantity instead of quality. This makes them easy to achieve but might mean that too little attention is paid to the outcome and usefulness of the interventions. The lack of the qualitative aspect also makes it difficult to evaluate the indicators in line with the standards set by GIZ.

1.3. Reaching more vulnerable groups or individuals was not a target of the project and was thus not explicitly included in the ToC. However, as the impact of climate change has particularly severe consequences for disadvantaged groups, such as children, single-headed households, or impoverished households, at least one result at Output level should have been aligned with the 'leave no one behind' principle.

1.4. Even though the impact of climate change has been observed and felt by the rural population, their awareness of and knowledge about the longer-term consequences for their livelihoods and hence the need to adapt is still limited. Future projects on adaptation to climate change should include activities to communicate and disseminate this knowledge using interactive and participatory methods.

1.5. The period of implementation for the farming techniques covered only two annual cycles and was thus far too short to ensure a robust test result, a proper introduction, institutionalisation and dissemination in the pilot region and beyond. Any project introducing new farming techniques should cover at least three annual cycles – ideally four or five, especially in a socio-cultural context where traditional farming techniques have been applied over generations and changes need time to eventually happen.

1.6. The security situation was the most determining factor in terms of working conditions, expenses and access to the field. At least 30% more staff, budget and time should be allocated to projects in such countries or regions.

2 Output A – Capacity building for LCBC

2.1. Some of the expected results did not take adequate account of the fact that their achievement was dependent to a considerable degree on external factors, such as the political situation, will and interest at higher levels, the internal dynamics of the project partner and – again – the security situation. The level of

achievement of an intervention should not be made dependent on the partner, especially in such a fragile and highly volatile environment.

2.2 The complex and highly theoretical approach adopted by GIZ with Capacity WORKS and the Efficiency Tool might be appropriate for countries and partners with medium or high educational levels and smoothly functioning facilities. If GIZ wants to build or enhance capacities and ensure the longer-term sustainability of efforts in this field, tools and instruments should be simplified and made available in the official language of the country (in French or Arabic in the case of Chad).

3 Output B – Farming methods

3.1 The awareness of and knowledge about the actual impact of climate change and its longer-term consequences for farming is a precondition, if the target group is to realise the importance of the new farming techniques for future generations. They need to better understand that they as pilot farmers play a crucial role in disseminating the techniques to other farmers and reproducing the new seed varieties. The fact that the project offered a unique opportunity for them, their families and entire communities to survive in the target region should be explained more explicitly. Interactive methods, particularly adapted to non-literate persons, should be used to enhance knowledge and awareness of the short- and long-term consequences of climate change for their livelihoods and natural resources.

3.2 As outlined above, two annual cycles are too short for testing, introducing and disseminating climate-smart farming techniques. At least three, ideally five, annual cycles should be planned for, to ensure that farmers institutionalise what they have learned and that the project can provide tailored support to bridge gaps identified, such as pest and disease control and local mechanisms and networks to reproduce seeds.

3.3 As part of the package, pest and disease control based on natural and locally available resources should be developed or introduced (such as exploring the use of the leaves of the neem tree). The same applies to fertilisers.

3.4 Though the project selected the appropriate target group representatives for its approach and concept, it should include interventions to cover more members of the target communities. In particular steps to bring the new farming techniques to more vulnerable or disadvantaged groups should be considered and integrated into the results matrix and project approach.

Annex

Annex 1: Evaluation matrix

	Evaluation Dimension	Analysis question	Evaluation indicator	Available data source	Other planned data collection projects	Evaluation strategy (evaluation design, method, procedure	Expected evidence strength	Results of Evaluation
	The project fits into the relevant strategic reference frameworks		Outcome: 1, 2 and 3; Output A: A2, A3; Output B: B1 and B2;	Sendai Framework, Agenda 2030; CHAD-Vision 2030; Worldbank 2015: Country Partnership Framework; BMZ-Papier 4, 2016 + 5, 14, PANA, NDP for Chad;		Triangulation of information from document study and interviews	very high	The project is well aligned with the relevant reference frameworks and hence is in line with national and international strategies on climate change adaptation. It covers SDGs goal 2, 5, 13, 15 and 16, which is indirectly, but not explecitely reflected in the ToC. Interactions and synergies with other sectors are reflected in the ToC, especially on organisational development and adaptation to climate change.
		To what extent does the project contribute to the implementation of the underlying strategies (if available, especially the strategies of the partner countries)?		(To what extent: Scale 1 to 10) - The project fits absolutely (10) to the Chad strategy (Chad-Vision 2030): Fifth challenge. - Country strategy of BMZ does not exist - SDGs: goal No 2, 13, 15; This is (indirectly) reflected in the ToC. - The project is a supra-country project involving 6 saharan countries.This regional approach serves also to SDG goal No 16. - The extent of the reflection of other sectors in ToC is not existing or low (on the Scale: 1).			very high	
		To what extent does the TC-measure fit into the programme and the BMZ country strategy (if adequate)?					n/a	
		How was the country's implementation and accountability for Agenda 2030 set up and what support needs were defined?					high	
		Sectors etc. Is there a prioritisation of the objectives of Agenda 2030 within a country context? To which SDGs does the project contribute? To what extent is the contribution of the intervention to the national/global SDGs reflected in the ToC?					high	
		Cross-sectoral change strategies, etc. Where has work been carried out on a supra-sectoral basis and where have such approaches been used to reinforce results/avoid negative results?					low	
		To what extent are the interactions (synergies/trade-offs) of the intervention with other sectors reflected in conception and ToC – also regarding the sustainability dimensions (ecological, economic and social)?					medium	
	Suitability of the the project concept to match core problems/needs of the target groups	To what extent was the concept designed to reach particularly disadvantaged groups (LNOB principle)? Which prerequisites were addressed for the concept and used as a basis?	Output B1 and B2	Documents; interviews; transect walks;		Triangulation of information from document study, interviews and transect walks	medium for Output B; none for Output A (as does not apply)	The concept was not designed to reach particularly disadvantaged groups, as this was not an objective of the project and also not feasable, as it is a pilot measure with successfull farmers (who are not particularly disadvantaged) and strengthening the capacity of an institution (the CBLT);

		How are the different perspectives, needs and concerns of women and men represented in the change process and how are the objectives represented (Safeguard & Gender)?					medium	Different perspectives, needs and concerns have well considered through a) involvement of the gender aspect in the strategy of the CBLT, b) involvment of a gender expert in the climate change working group of the CBLT, c) focussing on the participation of women in the pilot measures for agriculture, d) in general, increasing gender awareness amongst project stakeholders.
		To what extent is the chosen TC-measures' goal geared to the core problems/needs of the target group?					high	Target groups of Output A: partly geared, as political complexity of CBLT was not sufficiently considered and weak capacities of staff; Target groups of Output B: mostly geared, but 2 issues neglected: a) problems around land use by pastoralists as source of conflict with farmers, b) insecurity of region due to terrorist groups and disfunctional state executive bodies (police etc.);
	The design of the project is adequately adapted to the chosen goal	Results logic as a basis for monitoring and evaluability (Theory of Change) o Are the hypotheses plausible? o Are the risks pre-sented plausibly?	Outcome and Output indicators	The hypothesis of the ToC is logic but it remains questionable whether the Supra-National Organisation (CBLT) lacks only the knowledge (bases) instead of lacking power. The main risk formulated under Output A is absolutely plausible and became true, possibly. There was no strategic reference framework available. The strategic orientation of the project was designed that the riks of a) political instability b) travel restrictions c) security reasons could lead to re-design the project. ((To what extent: Scale 1...10: 8) The complexity of the framework condition were ansqwered by the project with concentration onto the rural poor and to find solutions for the single beneficiary in the pilot area (valid for Ouput B). In Output B (in the pilot area) the work		Triangulation of information from document study and interviews;	low	Hypotheses not presented, as project did not use results model; risks presented plausibly in results matrix;
		Is the strategic reference framework well anchored in the concept?					high	Partly, as deterioration security situation especially in transboundary regions (the project is focussing on) and hence possibility to follow the concept has been underestimated.
		To w+C:Dhat extent does the strategic orientation of the project address changes in its framework conditions.					medium	addressed through flexibility in chosing farming methods and target groups;
		How is/was the complexity of the framework conditions and guidelines handled? How is/was any possible overloading dealt with and strategically focused?					medium	The complexity was handled in Output A through focussing on very achievable products (technical position in the organogramm, strategic document and trainings) and in Output B by focusing on selected beneficiaries in one pilot area through testing and introducing farming techniques jointly wiht them.

				with the beneficiaries in the farmer field schools need to be free from the overload like global climate change.				
	The conceptual design of the project was adapted to changes in line with requirements and re-adapted where applicable.	What changes have occurred?	n/a	Project staff		only one minor change: n/a	high	There were four changes during the six years: a) budget constraints in 2017, b) detioriorating security situation in the border zone with Cameroon leading to the fact that national and international project staff could not access part of the pilot region. was not accessible any more, c) changes in the organogramm of the CBLT (partner), d) changes in project staff
		How were the changes dealt with?	n/a	Project staff, reports		Interview	high	The project dealt in the only reasonable way not to compromise on the targets: pilot farmers and NGO workers from Cameroon crossed the Logone to participate in project activities on the Chadian side.

Effectiveness

	Evaluation Dimension	**Analysis question**	**Evaluation indicator**	**Indikatoren**	**Available data source**	**Other planned data collection projects**	**Evaluation strategy (evaluation design, method, procedure)**	**Expected evidence strength**	**Results of Evaluation**
Effectiveness	The project achieves the goal on time in accordance with the TC-measures' goal indicators agreed upon in the contract.	To what extent has the agreed TC-measures' goal already been achieved at the time of evaluation, measured against the goal indicators?	Module indicators 1 to 4;		Results matrix and model, project progress reports, interviews, transect walks;		Triangulation of information	very high	"1. The CBLT has established a technical position for climate change": has been achieved. Position for focal point has been created and staff will start on 01/06/2018.; "2. A strategy for adaptation of agriculture to climate change is developed with contributions from member states.": achieved. Strategy will, however, be further fine-tuned in frame of the new project. "3. 3 adaptation measures for agriculture to climate change and conservation of biodiversity are initiated by the CBLT in cooperation with member states.": 33% achieved; CLBT has already identified one more pilot zone, but needs implementation. "4. A third of the beneficiaries of the pilot measures and adaptation activities implemented by the CBLT are women.": more than achieved, as 40% of beneficiaires are women.
		To what extent is it foreseeable that unachieved goals will be achieved during the current project term?						very high	project term ends on 31/05/2018; achievements as by 11/05/2018 (end of field visit) will remain the same;

The services implemented by the project successfully contribute to the achievement of the goal agreed upon in the contract	What concrete contribution does the project make to the achievement of the agreed TC-measures' goal, measured against the goal indicators?	1 to 4		-"-		Interviews, Field visits, report analysis	very high	Through Output A relevant information on climate change adaptation was made available via seminars and trainings and starting a database on climate-smart farming techniques; in frame of Output B, the project has laid the ground for improved capacities and techniques for climate change adaptation in agriculture through testing, introducing and disseminating new farming techniques.
	Which factors in the implementation contribute successfully to the achievement of the project objectives?	see contribution analysis in report		'-"		'-"	very high	The project goal and objectives meet the needs and interest of target groups; target group sare well defined and adressed, implementing partners were well selected and professionally managed, reasonable set of project objectives, high technical qualification of project staff, activities were socially and culturally appropriate, project team managed to raise a feeling of ownership for project interventions by target groups, no other similar interventions were implemented by other partners (which could compete with the project); syngergies were established and used with other GIZ projects;
	What other/alternative reasons contributed to the fact that the objective was achieved or not achieved?	see contribution analysis in report		'-"		'-"	high	favourable changes of staffing (interest in the project and technical expertise) during the last stage of the project
	Are core, support and management processes designed in such a way that they contribute to the achievement of the objective?	n/a		'-"		'-"	high	The project is under-staffed, but despite that achieved most of its objectives.
	To what extent have risks (see also Safeguards & Gender) and assumptions of the Theory of Change been addressed in the implementation and steering of the project?	All indicators under output B;		Project proposal and Project reports		-"-	medium	All risks and assumptions have been addressed.
	To what extent were risks of unintended results assessed as observation fields by the monitoring system (e.g. compass)?			Project monitoring system and reports; Interviews;		'-"	low	The monitoring system is observing the risks and unintended results, but as a considerable part of the project area is not accessible, this is only possible to a limited extent.
	To what extent have the project's benefits produced results that were unintended?			Interviews, focus group discussions, transect walks;		'-"	low	1) Awareness on climate change has considerably increased within the CBLT; 2) due to the technical advise and support on assessments and planning procedures and increased sensibility on vulnerabilities of disadvantaged groups through the project, the CBLT has developed an "Emergency Plan" for population groups around the Lake Chad. 3) Farmers in the pilot zone even now apply some of the techniques learned through the project to their traditional ways of farming.

	Which positive or negative unintended results (economic, social, ecological) does the project produce? Is there any identifiable tension between the ecological, economic and social dimensions?			Project documents; interviews, focus group discussions, transect walks;		'-"	low	No negative unintended results were identified by the evaluation. One possible tension, which is however not produced by the project, is between farmers and pastoralists. The project could have worked more on this aspect through awareness raising of different interests between the groups and joint activities.
	How were negative unintended results and interactions counteracted and synergies exploited?			Reports, interviews		'-"	No negative results identified	No negative results identified
	What measures were taken?			Reports, interviews		'-"	No negative results identified	No negative results identified

Impact

	Evaluation Dimension	Analysis question	Evaluation indicator	Indikatoren	Available data source	Other planned data collection projects	Evaluation strategy (evaluation design, method, procedure)	Expected evidence strength	Results of evaluation
Impact	The announced superordinate long-term results have occurred or are foreseen (should be plausibly explained).	To which superordinate long-term results should the project contribute (cf. module and programme proposal, if no individual measure; indicators, identifiers, narrative)?	-Programm indicator 1, 3, 5, 6		- Project reports '- GIZ Results monitor and matrix		- document study	high	The project should contribute to the increased resilience of the population living in the Lake Chad Basin and the protection of natural resources.
		To what extent will the project contribute to the implementation- for implement-ing Agenda 2030/to the SDGs?	All indicators		'- Project reports		'- document study	medium	The project contributes to Goals 2, 5, 13, 15 and 16, but longer-term impact questionable due to volatile security situation and weak project partner (CBLT).
		Which dimensions of sustainability (economic, ecological, social) does the project affect at impact level? Were there positive synergies on the three levels?	Only relevant for Output B.		project reports, target groups;		document study, interviews;	high	The project affects all three dimensions: a) economic, as the new farming techniques are likely to further increase the income of the rural population, b) ecological: natural resources are protected through using rain- and river water; c) social: through exchange visits and workingn with farmer groups, the project increased social cohesion in the target region.
		'Leave No One Behind': To what extent have targeted marginalised groups (such as women, children, young people, the elderly, people with disabilities, indigenous peoples, refugees, IDPs and migrants, people living with HIV/AIDS and the poorest of the poor) been reached and is there evidence of the results achieved at target group level?	Indicators under Output B;		Project reports and residents of the pilot region;		interviews and transect walks;	high	The target groups have not been reached so far, but this was also not intended by the project. It has worked with privilited groupd and individuals, as the aim was to test new farming methods, which makes only sense if done with farmers which have experience and to whom a failure of the experiment would not do any harm.
	The project contributed to the intended superordinate long-term results.	To what extent is it plausible that the results of the project on the output and outcome levels (project goal) contribute to the superordinate results? (contri-bution-analysis approach)	All indicators		- GIZ Tool Resultmonitor - Reports		contribution analysis	- Scale from 1...10: 4 No evaluation report on the superordinate level (programme) is available. Therefore only own observation during this	see contribution analysis in the evaluation report;

							evaluation of Modul 2 can be asessed.	
	What are the alternative explanations/reasons for the results observed? (e.g. the activities of other stakeholders)	-"-		- "		document study, interviews;		mix of external and internal factors and measures (detailed through contribution analysis)
	To what extent do changes in the framework conditions influence superordinate long-term results?	-"-		- "		document study, interviews;		The highly volatile security situation severaly influence the long-term results, as most of the Lake Chad Basin boundary region is not accessible at the moment and projects cannot be implemented. Secondly, the political situation of most member countries and the lack of law and order make it questionable when and to which degree the results the project can have a real impact for the most vulnerable groups.
	To what extent is the effectiveness of the development measures positively or nega-tively influenced by other poli-cy areas, strategies or interests (German ministries, bilateral and multilateral development partners)? What are the con-sequences of the project?	-"-		- Reports from other intern. Organisations.		document study, interviews;		Other policy areas, strategies and interests influence the effectiveness only positively, as adaptation to climate change is increasingly a key area for support and intervention. Apart from that, the overall interest of European countries (inluding Germany) is to prevent migration caused by war and/or natural disasters which fosters the project's goal on climate change adaptation.
	To what extent has the project made an active and systematic contribution to widespread impact? (4 dimensions: relevance, quality, quantity, sustainability; scaling-up approaches: vertical, horizontal, functional or combined)? If not, could there have been potential? Why was the potential not exploited?	-"-		- Reports from other intern. Organisations - Press releases		'-"		For Output A), the project has contributed to a potential regional impact for the CBLT's 6 member states. For Output B), the project has a scaling-up approach through the introduction of farming techniques in the project area. These techniques could also be replicated in other regions of the Lake Chad Basin, but the CBLT still does not have the capacity to do so.
	Referring to the three dimensions of sustainability (economic, ecological, social): How was it ensured that synergies were exploited in the three dimensions? What measures were taken? (-> discussion of interactions in the sense of trade-offs below for unintended results)	-"-		- Project reports - Project experts - Representatives of institutions		'-"		The project has worked through local NGOs and also involved government extension services and thereby ensured syngeries in all three dimensions. Exchange visits between representatives of these institutions and pilot farmers were a key component of the project.
The occurrence of additional (not formally agreed) positive results at impact level has been monitored and additional opportunities for further positive results have been seized.	To what extent is the (positive or negative) contribution of the project plausible?	'-"		'-"		-" + Triangulation		See Contribution Analysis. Overall, the contribution of the project is very plausible, as without the project the key achievements would not have been reached.
	What are the alternative explanations/reasons for the results observed? (e.g. the activities of other stakeholders)	'-"		-"		'-" + Triangulation		See Contribution Analysis. Since no other stakeholders are working in the same field and project area, there are no alternative explanations for the observed results.
	Have negative results oc-curred?	'-"		'-"		-"-		No negative results have occured.
	To what extent were the risks of negative, unintended, superordinate results identified and assessed in the monitoring system? To what extent were these negative results in the sense of (negative) interactions or trade-offs in the ecological, economic and social dimensions already	'-"		GIZ Resultsmonitor		-"-		No negative results have occured.

	known during the conception of the project and reflected (e.g. in the module or programme proposal)?							
	Was there a corresponding risk assessment in the TC-measures' proposal? How was the ability to influence these risks originally assessed?	'-"		- Project proposal - Project reports		report asessment, Interviews		The risks in the proposal are on security, the political complexitiy of the CBLT and conflicts of interests between farmers and pastoralists. Relevant risks were regularly identified and discussed and considered appropriately. However, they were outside the scope of the project and hence there was no scope to influence them.
	To what extent have the project's services caused negative (unintended) results (economic, social, ecological)? Is there any identifiable tension between the ecological, economic and social dimensions? -Economically: Impairment of competitiveness, employability, etc. -Socially: How should the impact be assessed in terms of distributive results, non-discrimination and universal access to social services and social security systems? To what extent can particularly disadvantaged population groups benefit from the results or have negative results for particularly disadvantaged population groups been created? -Ecologically: What are the positive or negative environmental impacts of the project?	Output Indicator B1-3		- Project Reports and interviews;		'-"-		The project's services did not cause negative results, neither at economic, nor at social and ecological level. There is also no tension between the three dimensions, as no external technology was introduced (such as artificial irrigation or working with local political elites). On the ecological level, the positive impacts are that natural resources are protection and biodiversity is increased through introduction of climate-smart farming techniques without abandoning traditional ways of farming.
	What measures have been taken by the project to counteract the risks/negative interactions?	All indicators		'-"		'-"-		The risks in the proposal are on security, the political complexitiy of the CBLT and conflict of interests between farmers and pastoralists. The risks were regularly discussed and considered appropriately. However, as they were outside the project's control, the project could not take any measures to mitigate them. An alternative solution to deal with the security risk in the project region in Cameroon was that the project worked with the target groups through regularly inviting them to the Chadian side.
	To what extent have the framework conditions for the negative results played a role? How did the project react to this?	'-"		'-"		--"		No negative results identified.

	Evaluation Dimension	Analysis question	Evaluation indicator	Available data source	Other planned data collection projects	Evaluation strategy (evaluation design, method, procedure)	Expected evidence strength (narrative)	Results of Evaluation
Efficiency	The project's use of resources is appropriate with regard to the outputs achieved. [Production efficiency: Resources/Services in accordance with the BMZ]	To what extent are there deviations between the identified costs and the projected costs? What are the reasons for the identified deviation(s)?	Effizientzool	Effizienztool		Effizienztool and interviews	- Scale from 1...10: 9	Cannot be analysed based on figures: a) project was conceptualised and the major part implemented before new GIZ accounting and budgeting tool was introduced, b) project leader has changed and hence was not available for an interview. However, according to the present project leader (AV), there were no mayor deviations.

	To what extent could the outputs have been maximised with the same amount of resources and under the same framework conditions and with the same or better quality (maximum principle)?	projects budgeting	'projects budgeting		Assessment of budget and Interviews	- Scale from 1...10: 9	Only to a limited extent due to donor budget regulations; the project adapted to the circumstances and looked for alternative solutions: a) by charging the project leader (AV) only partly to the module and from September 2016 onwards not anymore at all (costs were included in another module under implementation).
	To what extent could outputs have been maximised by reallocating resources between the outputs?	Assessment and interviews	''projects budgeting		Assessment and interviews	- Scale from 1...10: 7	Donor regulations did not allow a reallocation of resources and outputs were maximised adequately.
	Were the output/resource ratio and alternatives carefully considered during the design and implementation process – and if so, how?	-"-	'-"-		'-"-	- Scale from 1...10: 7	The output/resource ratio initially designed had not been readjusted according to real conditions. There were no alternatives. The project itself searched for efficient solutions, e.g. a national staff which is not considered in this evaluation, because the costs were charged to another component (Organizational Development).
	For interim evaluations based on the analysis to date: To what extent are further planned expenditures meaningfully distributed among the targeted outputs?	'-"-	'-"-		'-"-		n/a, as this is a final evaluation;
The project's use of resources is appropriate with regard to achieving the TC-measures' goal (outcome). [Allocation efficiency: Resources/Services in accordance with the BMZ]	To what extent could the outcome have been maximised with the same amount of resources and the same or better quality (maximum principle)?	'-"-	'-"-		'-"-	- Scale from 1...10: 5	As there were no additional resources for personnel in 11/2016, the outcome had been maximised by giving the regional Expert ("National Personnel") the additional task to coordinate technically and administratively Output B and carry out financial monitoring.
	Were the outcome-resources ratio and alternatives carefully considered during the conception and implementation process – and if so, how? Were any scaling-up options considered?	'-"-	'-"-		'-"-	- Scale from 1...10: 5	Not possible to assess at this stage as project was planned in 2012 (hence 7 years ago) and the personnel which had conceptualised the project and prepared the project proposal is not known to the evaluators and hence could not be consulted. According to present AV project searched for efficient solutions, e.g. by using national staff from another GIZ programme (Organizational Development). Scaling up options considered through dissemmination strategy and synergies with other projects;
	To what extent was more impact achieved through synergies and/or leverage of more resources, with the help of other bilateral and multilateral donors and organisations (e.g. Kofi, MSPs)? If so, was the relationship between costs and results appropriate?	'-"-	'-"-		'-"-		Synergies were created through the close collaboration with 2 other GIZ programmes: "International Services InS seed production" and "Projet de resilience et de Cohabitation pacifique au Tchad (PRCPT)" (Übergangshilfe);

	Evaluation Dimension	Analysis question	Evaluation indicator	Available data source	Other planned data collection projects	Evaluation strategy (evaluation design, method, procedure)	Expected evidence strength (narrative)	Results of Evaluation
Sustainability	Prerequisite for ensuring the long-term success of the project: results are anchored in (partner) structures	What has the project done to ensure that the intended effect can be achieved in the medi-um to long term by the partners themselves (working aid re-view)?	- Programme indicator: 1, 3, 4 + 6 '- Modul indicator 1		- Result Matrix of OP-Planning of CBLT - GIZ Tool ResultMonitor	- Assessment of data and Interviews	-Interviews	- Scale from 1...10: 5
		Which advisory contents, approaches, methods and concepts of the project are anchored/institutionalised in the (partner) system?	- Programme indicator: 1, 3, 4 + 6 '- Modul indicator 1 - Modul indicator B1 and B2		- Reports	- Assesmment of reports - Expert interviews (for Output B: with the local NGO and extensionists)	- Interviews	- Scale from 1...10: 7
		To what extent are they continuously used and/or further developed by the target group and/or implementing partners?	-"		-reports'- eports	-"	- Field visits - Interviews with NGO - Expert Interviews	- Scale from 1...10: 5
		To what extent are (organisational, personnel, financial, economic) resources and capacities in the partner country (longer-term) available to ensure the continuation of the results achieved (e.g. multi-stakeholder partnerships (MSPs)?	'-"		'-reports'-	-"	- Other National statistics, like from Worldbank	- Scale from 1...10: 5 This eval.question is applicable for the CBLT headquarter and the CBLT Focal point Offices, but not for the local NGO (Output B)
		To what extent are national structures and accountability mechanisms in place to support the results achieved (e.g. for the implementation and review of Agenda 2030)? o What is the project's exit strategy? o How are lessons learnt prepared and document-ed?	- The projects ToC is based on the fact that there are no accountability mechanisms nor (reliable) national structures in place in Chad.		n/a	Assessment		

	Forecast of durability: Results of the project are permanent, stable and long-term resilient	To what extent are the results of the project durable, stable and resilient in the longer-term under the given conditions?	- Modul indicator 1 '- Output indicator B2+3	.2.1.1 Wahrnehmung der GIZ als Arbeitgeber, der das Thema Gender in seiner Organisation berücksichtigt a) Nur Männer in Führungspositionen/ Nur Frauen in Führungspositionen b) Fördert Gleichberechtigung/ Benachteiligt die Geschlechter c) Vorreiter im Thema innerbetriebliche Gleichstellung/ Nachzügler im Thema innerbetriebliche Gleichstellung d) Familienfreundlich/ Familienunfreundlich Die Auswertung der Wahrnehmungsabfrage erfolgt differenziert nach Außenstruktur und HQ.	- Project reports	- Assessments of reports - Interviews - Field observation	- Assessments of reports - Interviews - Field observation	- Scale from 1....10: 5
		What risks and potential are emerging for the long-term protection of the results and how likely are these factors to occur? o (Example: Adaptability of target groups and institu-tions regarding economic dynamism & climate change; particularly disad-vantaged groups are able to represent themselves in the long term and their in-dividual countries have the capacity for their participa-tion; changes in behav-iour, attitudes and aware-ness among target groups and institutions that sup-port the sustainability of the project's results, etc.? o What has the project done to reduce these risks and exploit potential?	- Output indicator B2+3		- Project reports	- Assessments of reports - Interviews - Field observation - Trinagulation of findings	- Assessments of reports - Interviews - Field observation - Trinagulation of findings	- Scale from 1....10: 7 For Output B the long-term results can be evaluated during the field mission.

	Are the results of the project eco-logically, socially and economi-cally balanced?	Evaluation of the outcome results with regard to interactions between the environmental, social and economic dimensions of sustainability	'-"-	Indikator 6: Gendersensibilität der Rekrutierung von Personal 1.2.2.1 Anteil von Frauen bzw. Männern, die sich auf Stellen in der GIZ beworben haben, differenziert nach a) Bändern b) OE c) Personalkörper mit deutschem Arbeitsvertrag; nationales Personal (im Rahmen der Fallstudien) d) CIMler; EHler e) Jahren 1.2.2.2 Anteil von Frauen bzw. Männern, die zu Vorstellungsgesprächen eingeladen wurden, differenziert nach a) Bändern b) OE c) Personalkörper mit deutschem Arbeitsvertrag; nationales Personal d) CIMler; EHler e) Jahren 1.2.2.3 Anteil von Frauen bzw. Männern, die eingestellt wurden, differenziert nach a) Bändern b) OE c) Personalkörper mit deutschem Arbeitsvertrag; nationales Personal d) CIMler; EHler e) Jahren	- Reports - Resource persons to be interviewed	- Interviews and questioning proxy indicators to detect interactions	- Expert Interviews (Modul- and output Indicator A) - Field visits and focus grou interviews	- Scale from 1....10: 8
		Which positive or negative intended and unintended results (economic, social, ecological) does the project produce? (Assign intended and unintended results from the effectiveness evaluation to the three sustainability dimensions)	- Output indicator B2+3		- Reports - Resource persons to be interviewed	- Interviews and questioning proxy indicators to detect interactions	- Field visits with focus group interviews - Interviews with local NGO	- Scale from 1....10: 7

		Is there any identifiable tension between the ecological, economic and social dimensions? o Economically: Impairment of competitiveness, employability, etc o Socially: How should the impact be assessed in terms of distributive results, non-discrimination and universal access to social services and social security systems? To what extent can particularly dis-advantaged population groups benefit from the results or have negative results for particularly disadvantaged population groups been created? o Ecologically: What are the positive or negative environmental impacts of the project?	'-"-		'-"-	'-"-	- Field visits and questioning the target group and the local NGO - Additionally is it intended to include some Non-Beneficiary-People from the pilot area into the list of interviewees.	- Scale from 1....10: 8
		If negative interactions have been avoided and synergies exploited, how was this ensured? What measures were taken?	- Output indicator B2+3		- Reports - Resource persons to be interviewed	_ Expert interviews with a) GIZ (AV) - AHT (for output B)	- Field visits and questioning the target group and the local NGO	- Scale from 1....10: 7

Annex 2: List of resources

ACEEN, 2015: Inventaire des principaux systèmes de production agricoles dans la partie camerounaise de la zone pilote (Arrondissements de Kousseri, Waza, Logone-Birni, Zina et Maga).

AHT, 2017a: Supraregional Africa – Adaptation to Climate Change in Lake Chad Basin. Dissemination Concept. June 2016.

AHT, 2017b: Supraregional Africa – Adaptation to Climate Change in Lake Chad Basin. Progress Report. March 2017.

AHT, 2016: Synthesis Report (10/2013 – 01/2016). January 2016.

AHT, 2018: Projet >Conseil en organisation a la LCBC< - Componante C: >Adaption au changement climatique<. January 2018.

APR, 2014a: Inventaire des principaux systèmes de production agricoles dans le Département du Mayo-Lemie / Région de Mayo-Kebbi Est

APR, 2014b: Inventaire des principaux systèmes de production agricoles dans le Département du Chari/ Région du Chari Baguirmi.

BMZ, 2016: Strategy Paper 4/2016, The BMZ's Africa Policy: New challenges and focuses.

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CADEPI, 2014: Inventaire des systèmes principaux de production agricole dans la zone pilote du projet « Adaptation au Changement Climatique par l'Agriculture dans le Bassin du lac Tchad », Département de Diamaré.

Commission du Bassin du Lac Tchad (LCBC), 2015: Plan de Développement et d'Adaptation au Changement Climatique du Lac Tchad.

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GIZ & BGR, 2013: Kontextanalyse für Frieden und Sicherheit im Rahmen der gemeinsamen Projektfortschrittskontrolle für das Programm “Nachhaltiges Wassermanagement im Tschadseebecken” (TZ Module BGR und GIZ). – Vorprüfung. November 2013.

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Republic of Chad, Presidency of the Republic, Prime Minister’s Office, Ministry of the Economy and Development Planning, 2016: National Development Plan 2017-2021.

Republic of Chad, President of the Republic Prime Minister, Ministry of Economy and Development Planning, 2017: Synthesis of the Vision 2030.

Sana Logone, 2014: Inventaire des Systèmes principaux de production agricole dans la zone pilote du Projet «Adaptation au Changement Climatique par l’Agriculture dans le Bassin du Lac Tchad» de la LCBC / GIZ : Département du Mayo Danay et Département du Mayo Kani Cameroun

SDC – Swiss Agency for Development and Cooperation, 2016: Konflikt in der Region um das Tschadseebecken. July 2016 (www.eda.admin.ch/dam/deza/factsheet-lake-chad_DE.pdf).

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UP, 2014: Inventaire des systèmes principaux de production agricoles Département du Mayo Boneye/Région du Mayo-Kebbi Est.

Annex 3: Evaluation schedule

Work step	When	Responsible	Collaborating	To be informed
Preliminary clarification, including agreement on timing of evaluation	Dec 2017	Evaluation Unit	Officer responsible for the commission, partner(s)	
Provision of documents	By 10.02.2017	**Evaluation Unit (standard evaluation documents)** officer responsible for the commission, project team (project documents)		
Clarification of commission incl. role clarification in evaluator team	15.02.2018	Evaluation Unit	International evaluator, local evaluator	

Launch meeting to clarify roles and determine information requirements	20.02.2018	Evaluation Unit	Officer responsible for the commission, partner(s) international evaluator, local evaluator	
Letter informing central stakeholders at the start of evaluation (incl. information on process and roles)	20.02.2018	Evaluation Unit		Director of division, country director or head of section, officer responsible for the commission, partner(s), BMZ
Desk study incl. initial preliminary clarification of content at GIZ and (if needed) local check (local evaluator) - data available (incl. RBM) - partner systems - partners' information requirements	12.02.2018-23.03.2018	International evaluator/ Local evaluator	GIZ staff	
Preparation for travel (sometimes only possible after inception report)	Feb – April 2018	International evaluator	Local evaluator, officer responsible for the commission/project team, (country office)	
Draft inception report (IR) in accordance with GIZ specifications and template, report language: English	Submission of IR 23.03.2018	International evaluator	Local evaluator	
Quality check of IR	Feedback to contractor: 06.04.2018	Evaluation Unit	Officer responsible for the commission, partner(s) (for material accuracy)	
Revision of IR	20.04.2018	International	(Local evaluator)	

		evaluator		
Approval of IR	26.04.2018	Evaluation Unit		BMZ
Formulation and agreement of interview plan	15.02.2018-20.04.2018	Int. & loc. evaluators	Officer responsible for the commission, partner(s)	
Performance of mission	30.04.2018 – 11.05.2018	International and local evaluator		
Launch meeting, local briefing	30.04.2018	International and local evaluator	Officer responsible for the commission, country director, partner(s), embassy /project team,	
Documentation of provisional findings for local final presentation/debriefing (in accordance with GIZ specifications)	11.05.2018	International and local evaluator		
Final presentation, debriefing/ final meeting, local	11.05.2018	International and local evaluator	Officer responsible for the commission, project team, country director, partner(s), embassy	
Evaluation, analysis, report	By 01.06.2018	International evaluator		
Submission of evaluation report (in accordance with GIZ specifications and template; report language: English)	01.06.2018	International evaluator		
Quality check 1 on evaluation report	Feedback to contractor: by 13.06.2018	Evaluation Unit		
Revision 1 of evaluation report	By 22.06.2018	International evaluator		
Quality check 2 on	Feedback to	Evaluation Unit	Officer responsible	

evaluation report	contractor: by 27.06.2018		for the commission, partner(s) (for material accuracy)	
Revision 2 of evaluation report (including linguistic and editorial quality assurance)	By 29.06.2018	International evaluator		
Approval of evaluation report	05.07.2018	Evaluation Unit		
Final meeting by Skype (joint assessment of evaluation)	tbd	Evaluation Unit, int. evaluator		
Publication of evaluation report	August/ September 2018	Evaluation Unit		Evaluators officer responsible for the commission, partner(s)

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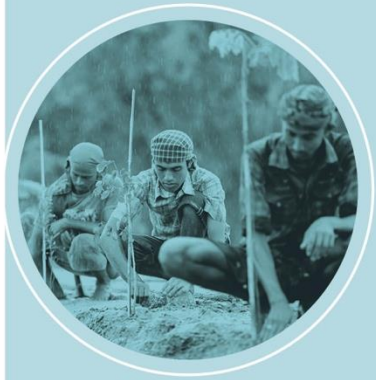

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn

Friedrich-Ebert-Allee 36 + 40
53113 Bonn, Germany
T +49 228 44 60-0
F +49 228 44 60-17 66

Dag-Hammarskjöld-Weg 1-5
65760 Eschborn, Germany
T +49 61 96 79-0
F +49 61 96 79-11 15

E info@giz.de
I www.giz.de