Republic of Niger
Supreme Council for the Restoration of Democracy
Office of the Prime Minister

National Environment Council For Sustainable Development
Executive Secretariat

United Nations Development Programme (UNDP)

UNDP Global Project: Capacity Development for Policy Makers to Address Climate Change

Executive Summary

Assessment of Investment and Financial Flows to Mitigate Climate Change in the Forestry Sector and for Adaptation in the Agriculture / Livestock Sector

December 2010

Contents

Acronyms

MEA	Multilateral Environmental Agreements
ODA	Official Development Assistance
IBE	Investment Budget of the State
UNFCCC	United Nations Framework Convention on Climate Change
MTEF	Framework of Medium Term Expenditure
CES / DRS	Conservation of Water and Soil / Soil Protection and Restoration
CNI	Initial National Communication
COP	Conference Of Parties
DE / ME / DC	Department of the Environment / Department of the Environment and Combating Desertification
Dered	Department of Renewable Energy and Domestic Energy
AR	Entity Investments
FAO	Food and Agriculture Organization
GEF	Global Environment Fund
FH-OPT	Radio relay - Office of Post and Telecommunications
GHG	Greenhouse
I&FF	Investment and Financial Flows
IPCC	Intergovernmental Panel on Climate Change
ICRISAT	Institute of International Crops Research in semi-arid Tropics
MME	Ministry of Mines and Energy
NGO	Non Governmental Organization
O&M	Operation and Maintenance
ALMPs	Action Programme Medium Term
NAPA	National Action Plan for Adaptation to Climate Change
GDP	Gross Domestic Product
PIP	Private Irrigation Project
PNEDD	National Environmental Plan for Sustainable Development
UNDP	United Nations Development
PSPR	Special Program of the President of the Republic
PDR	Public Expenditure Review
GCAR	General Census of Agriculture and Livestock
SNA	Second National Communication
RDS	Rural Development Strategy
PRRS Strategy	Accelerated Development and Poverty Reduction
SE / NCA	Executive Secretariat of the National Council of Environment for Sustainable Development
SNER	National Strategy on Renewable Energy
SNPACVC	National Strategy and Action Plan on Climate Change and Variability
SF	Source of Funds
SPAI	Sub Agro Industrial
SRP	Strategy for Poverty Reduction
PV	Photovoltaic
LULUCF	Land Use, Land Use Change and Forestry

1. Introduction

Climatic constraints are one of the main factors limiting the socio-economic development of Niger. Recent droughts have hit Niger 1968, 1974, 1981, 1984, 1987, 1989, 1990, 2000, 2004 and 2009, combined with human activities they have led to degradation of natural resources on which the existence of the majority population depends. Therefore, in the context of the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) that Niger had signed in June 1992 and ratified in July 1995, in addition to projects and programs, it submitted the Initial National Communication (INC) in November 2000 at COP 6 in The Hague and the Second National Communication (SNA) on Climate Change in December 2009, at COP 15 in Copenhagen.

Greenhouse gas emissions inventories are one of the key parts of preparing these national communications. The following areas have been inventory (i) Land Use, Land Use Change and Forestry (LULUCF), (ii) Agriculture / Animal Husbandry (iii) Energy and (iv) Industrial Processes and (v) Waste Management.

Although the outcome of the last inventory identified that Niger is still a sink for sequestration of greenhouse gas emissions (CO2-eq -2,342.87 Gg.), for the reference year 2000 the sectors LULUCF, Agriculture, and Energy that cause most of the emissions have been the object of this assessment. Studies of Vulnerability and Adaptation (V&A) to climate change made in the context of the development of two National Communications and the National Strategy and Action Plan on Climate Change and Variability (SNPACVC) and the Program National Action (NAPA) to climate change have focused on the following sectors: Agriculture, Livestock, Water resources, Forestry, Wildlife, Fishing, Health and wetlands. In these studies, measures and adaptation options have been proposed in relation to these sectors.

The mitigation and adaptation retained as part of this study are priorities listed in the National Strategy and Action Plan on Climate Change and Variability (SNPACVC), the Rural Development Strategy (RDS) and Accelerated Development and Poverty Reduction Strategy (DPRS).

The proposed capacity building supported by UNDP helps fund national priorities. Thus, this synthesis of studies funded by this project relating to the analysis of Investment and Financial Flows (I&FF) mitigation and adaptation proposed in the forestry and agriculture / livestock highlight trends if nothing is done and the incremental costs in connection with the consideration of climate change.

1.1 Objectives

The overall objective of the I&FF assessment is to determine the extent and sources of funds to address climate change concerns at national level.

Specifically, this study aims to assess investment and financial flows needed for mitigation of emissions of greenhouse gas emissions in the forestry sector and adaptation to climate change in the agriculture / livestock sector over the period from 2005 to 2030 to contribute to the fight against the harmful effects of this problem.

1.2. Choice of sectors

The results of the latest inventory of greenhouse gases (NCA, RIN-2007) showed that the sector Land Use, Land Use Change and Forestry is the largest emitter of GHGs 17135.16 Gg CO2-eq is 55.52 % in Niger. Also, forests are both a sink and a source of greenhouse gas emissions. They absorb carbon

through photosynthesis and reject through decomposition or burning of trees by human activities or natural reasons. Manage forests to retain and increase the carbon they contain will help reduce the emission rate of CO2 and N2O in the atmosphere.

Moreover, according to the socioeconomic plan, the forest sector's contribution to Gross Domestic Product (GDP) is estimated at 17% according to the Tropical Forestry Action Plan (TFAP, 1992). Forest resources are very inadequately controlled strategic importance for the people who depend on satisfying their basic needs. Indeed, forests are the main source of cooking fuel for urban and rural populations.

For adaptation, the choice is motivated by the fact that the agriculture / livestock is one of the most vulnerable to climate change. Also, the Nigerian economy is largely rural. Indeed, the primary sector (agriculture, livestock, forestry and fishing) employs about 85% of the workforce. 2005 it contributed to the GDP 42% and in 2008 it was 44%. It is 22% and 29% of the volume of exports from Niger in 2005 and 2008 respectively.

1.3 Previous analyses utilized

This I&FF assessment is based on strategies, plans and programs adopted by the Government of Niger including:

- Reports of national inventories of greenhouse gas emissions
- Reports to mitigate emissions of greenhouse gases
- Studies of Vulnerability and Adaptation to Climate Change
- The National Action Plan for Adaptation (NAPA) to climate change
- The Initial National Communication (INC) on Climate Change
- The National Strategy and Plan of Action on Climate Change and Variability (SNPACVC)
- The National Strategy on Renewable Energy (SNER)
- The Second National Communication (SNA) on Climate Change
- The National Environmental Plan for Sustainable Development (PNEDD)
- The Programme of Action Medium Term (ALMPs)
- The Rural Development Strategy (RDS)
- The Accelerated Development and Poverty Reduction Strategy (DPRS).

1.4 Institutional arrangements and collaborations

At National level, the project is supervised by the National Council of Environment for Sustainable Development (NCA), an institution attached to the Prime Minister through the Executive Secretariat (SE / NCA) with the support of the Commission National Technical Change and Climate Variability (CTNCVC). This commission includes the state institutions, civil society and private sector and provides a framework for handling all matters relating to climate variability and climate change. A Project Coordination Unit has been placed in the SE / NCA and coordinates the entire project.

The NGO OSEILED has been contracted by the Project Coordination Unit to carry out this evaluation by preparing two studies (adaptation and mitigation). Taking into account the guidelines, the NGO has established two (2) teams of multidisciplinary experts each consisting of five (5) members and each headed by a team leader.

These teams were trained by the Centre in the PASS user's guide UNDP *User Guidebook and Methodology for Assessing I&FF to address climate change* through a training workshop held in Niamey.

1.5 Basic methodology and key terms

The methodology was to take stock of data and information including those contained in the various documents prepared. The teams set a schedule for periodic meetings in collaboration with the Project Coordination and the NGO OSEILED. Both team leaders have agreed to meet whenever necessary to have a common understanding of some issues and address the major difficulties encountered in the workplace.

Thus it was agreed to retain the name of three entities with the understanding for the case of Niger, households (families, individual farmers), government entity (state) and corporations (NGOs and private).

For the collection of data and information, both teams have each organized in three groups are (i) the expert team leader and expert in forestry and agriculture for agriculture or forestry data, (ii) expert in statistics and the finance data for the Government and NGOs (iii) energy expert or livestock for all data relating to their areas. However, collaborations were advocated and proactive in seeking information and data.

As historical data to be collected in ten (10) years [1996-2005], as initially planned, appeared to be non-existent after initial research, a period of six (6) years [2000-2005] was selected, coinciding with the country's political stability, where more data is available.

The statistical tools used for data processing such as growth rate, moving average and the expert judgments, evaluating investments and financial flows is made to the time horizon 2005-2030 for the baseline and adaptation/mitigation scenarios.

Led by two (2) expert team leaders, regular meetings have helped to compile the information and data and develop the sector papers following the 8 steps in the methodological guide of the National I&FF Assessment on mitigation and adaptation. These steps, as explained during the training workshop organized in July 2009 with the support of the center PASS, are:

- Establish key parameters of the assessment
- Compile historical data of I&FF and other input data for the scenarios
- Define the baseline scenario
- Calculate the I&FF for the base scenario
- Identify adaptation / mitigation scenarios
- Derive / estimate / project the I&FF for the adaptation / mitigation scenario
- Estimated annual changes I&FF and O&M necessary for the implementation of adaptation / mitigation scenarios
- Assess the implications in terms of public policy.

Definitions and key terms used in this report were drawn, including the methodological guide for the estimation of investment and financial flows to address climate change, the UNFCCC and IPCC reports.

Moreover, the sectoral papers were enriched through exchanges (phone, Skype) between the two team leaders, project coordination, the center PASS and the team from New York.
This I&FF assessment has provided the following results:

- Summary information on investments and financial flows in the current agriculture / livestock and forestry
- Project future I&FF in the absence of additional effort (baseline) to cope with climate change
- identification of measures to address climate change and projections of future I&FF

associated with their implementation

- An assessment of potential sources of financing entities and national and international role in addressing climate change.

Investment

"The Investment" (I) is the capital cost of an active material having a lifetime of more than a year, as the capital cost of solar PV kits, equipment for the work of the Water Conservation Sol / defense and Soil Remediation (CES / DRS).

Financial flows

The "Financial Flow" (FF) is the ongoing expense for programmatic measures, the FF cover expenses other than those for the expansion or installation of new physical assets.

Investment entity

An "investment entity is an entity responsible for an investment. These are the entities that decide to invest, for example: a photovoltaic park, a reforestation program, a national park, a stabilization of sand dunes. This methodology uses three types of investment entity: families, corporations and government.

Sources of I&FF Funds

"Sources of I&FF funds" are the origins of the funds invested by investment entities, e.g. domestic actions, external debt, domestic subsidies, foreign aid.

Scenario

A scenario is an internally consistent and plausible characterization of future conditions over a specified period. For each sectoral assessment of I&FF for mitigation, we must develop a baseline scenario and mitigation / adaptation for the sector. In both cases, the baseline scenario describes the conditions of the status quo, that is to say it is a description of what will probably happen if no new policy measure to cope with climate change is implementation.

The scenario for mitigation / adaptation includes measures to mitigate GHG emissions or to adapt to climate change that is to say the script should describe the expected economic developments, technological change (if appropriate) new measures to reduce GHG emissions / to adapt to climate change and the expected investments in the sector and necessary for the implementation of mitigation / adaptation.

The evaluation period

The evaluation period is the time horizon for evaluation, that is to say the number of years covered by the basic scenarios and climate change and associated waves of FI and FF annual and annual O&M costs. The assessment period to assess I&FF should cover 25 years (2005-2030).

Base Year

The base year is the first year of the evaluation period, that is to say the first year of baseline scenarios, mitigation and adaptation. The base year should be a recent year for which information on the I&FF and O&M is available for the IF, FF and O&M costs for the first year of these scenarios are all historical data. In fact, the reference year as starting data streams of costs for each scenario is based. **It is 2005, which was recommended as the reference year.**

2. Summary of sectoral assessments

2.1 Forestry sector – Mitigation measures

The main activities to mitigate GHG emissions included in the forestry sector are grouped into two (2) steps:

- *Sequestration*
  - Forestation / Reforestation
  - Assisted natural regeneration
  - Forest management
  - The restoration of degraded lands.
- *Substitution*
  - The exploitation of solar photovoltaic
  - The exploitation of solar thermal
  - Energy saving in the use of wood for cooking.

As part of the evaluation of investment and financial flows for mitigation of emissions of greenhouse gases, the choice of the forestry sector is justified by the fact that it is the issuer of greenhouse gas emissions in Niger and it contributes 17% to Gross Domestic Product (GDP) and is the main source of cooking fuel for urban and rural populations.

2.2 Agriculture sector – Adaptation measures

As regards the adaptation of the Agriculture / Livestock climate change measures adopted are:

- Improving the rainfed production
- The promotion of irrigated crops
- Improving the production of extensive livestock
- The promotion of intensive farming.

Under the valuation of investments and financial flows for adaptation Sector Agriculture / Livestock Climate Change, the choice is motivated by the fact that this sector is among the most vulnerable to climate change, it contributes to 42% in 2005 and 44% of GDP in 2008, holds approximately 85% of the workforce and is 22% and 29% of the volume of exports from Niger in 2005 and 2008 respectively.

2.3 Base year and assessment period

In accordance with the recommendations of the methodological guide, the base year chosen for this assessment is 2005. And the year 2030 was chosen as the closing year, so the assessment covers the period 2005-2030.

The accounting units are the U.S. dollar in constant 2005 (1 USD = 527.5 CFA).
For the update, the interest rate on the money market in 2005 used is 4.95%.

2.4 Forestry – Results

The main results obtained show for the forestry sector:

For sequestration:

- At the household level (natural regeneration and forest management) the flux difference

between the baseline and the mitigation is 32.28 million dollars to achieve the objective of mitigating the horizon 2030. This difference is comprised of $ 3.5 million for natural regeneration; 20.14 million U.S. dollars for the management of forests, 0.26 million for reforestation; U.S. $ 5.87 million for plantations and 2.5 million for dune fixation.

- For corporations (NGOs), this difference is 124.31 million U.S. dollars which should be U.S. $ 48.3 million for reforestation, 31.5 million U.S. for plantations and 44.5 million U.S. for fixing dunes. These flows come mostly from foreign sources.
- Regarding the government entity, the difference is made up of 109.7 by 27.9 million U.S. dollars for reforestation, 33.4 million U.S. dollars for plantations and U.S. $ 48.4 million for dune fixation. These flows are from national sources.

For substitution:
Alleviating the pressure on forests in 2030 through the substitution requires an additional cost compared to the current situation and level:

- Households for mitigation activities must be 976.78 million dollars for PV, U.S. $ 173.11 million for solar thermal and 238.26 million U.S. dollars for energy conservation. This makes a total of 1.38815 billion, mainly from domestic funds (equity or debt).
- NGOs and corporations, must of which $ 383.78 million from 299.34 million dollars from internal sources and 84.44 million dollars in official development assistance only for PV systems. This shows that over 90% of investments will come from national funds.
- The Government must, of which $ 132.86 million from 126.92 million dollars from internal funds and 5.94 million foreign sources (loans 4.22 million, 0.99 million ODA bilateral, multilateral ODA 0 , 73 million).

2.5 Agriculture – Results

For adaptation, the measures "Improvement of rainfed crop production" and "Promotion of irrigated crops" show the highest differentials respectively 156.86 and 154.45 million dollars. The measure "Improving the production of extensive farming" with 55, $ 84 million and "the promotion of intensive farming" with 21.12 million dollars from afar after another.

The government entity is the top level of each measure with the exception of a measure 1 "Improving rainfed production" where are the households who occupy the top spot with 65.57 million dollars.

Differentials are positive almost everywhere except at the multilateral ODA that is the main source of funding to the baseline.

Measure 1 "Improvement of rainfed crop production" lags cumulative differential of about 120, 04 million. Incremental investment on an upward trend over the period 2006-2030.

Measure 2 "promotion of irrigated agriculture" shows a positive differential of about 181.10 million. The excess expenditure decreases over time.

As part of the programming I&FF measure 3 "Improving the production of extensive farming" makes a net positive of about 51.61 million U.S. dollars in 2005, an upward trend during the evaluation period.

Measure 4 "Promotion of intensive farming" is a very promising alternative for livestock in Niger. Because of the lack of historical data from 2000 to 2005 at this measure, the baseline was not developed and therefore spreads are all positive with a total over the period 2005-2030 of 21, U.S. $ 12 million in 2005. The results for the screenplay adaptation become incremental investments over the measure.

It appears that these incremental investments are relatively low. This is due to the scope of intensive farming in Niger, although it is practiced both around urban centers and villages, remains very low. But the activities selected are appropriate to be a good strategy for adapting to climate change sector and the fight against poverty and underemployment, especially in urban areas.

2.6 Forestry - Policy Implications

In terms of political involvement or incentive that would be necessary to redirect or expand I&FF basic goals of mitigation and adaptation, it is noted that:

For sequestration, companies are the entities whose investments are most important, followed by the State for the purpose of mitigation. In general, funding for these entities comes largely from the outside through the financing of land reclamation projects followed Plantation, biological fixation of the dunes and reforestation through which communities vulnerable to climate change are paid by the work of "cash for work" means financial compensation after completion of labor. Funding community projects implemented by NGOs for the benefit of communities seeking to increase carbon sinks (REDD, CDM, adaptation funds and others) are needed to bridge the gap and achieve the goal set by the NAPA WFP and the CSD.

On households, information operations / awareness, support to project activities or natural regeneration takes place mainly in the fields of crops should be intensified at this level. Natural regeneration is a process that increasingly proven with very modest means employed by households. This contributes to the increase in forest and therefore a means of subsistence and a true carbon sink. To achieve its objectives, it is necessary to finance the projects from the SNA and ALMPs through financing REDD GEF adaptation funds, ODA and others.

About government entities, it is important to maintain and increase funding for the environmental component of the "Special Program of the President of the Republic" which is an initiative resulting from the use of funds (HIPC Heavily Indebted Poor Countries) enjoyed by the Niger. Also, achievement of objectives could be achieved only through more substantial funding from bilateral partners and multilateral development projects including the restoration of degraded lands and reforestation.

Also, it is important that the strengthening of awareness building, information and education for behavioral change (move towards assisted natural regeneration, take action massive reforestation and protection, rational use of forest resources) regarding protecting the environment is undertaken in terms of policy measures that could be used to induce entities in the sequestration.

For substitution, it is especially households that are the first players to alleviate pressure on forests. Thus, to achieve the goal of replacing mitigation measures such as use of solar photovoltaics are expected in the SNER. It was an operation planned (households kit solar) to bring the share of solar PV to 10% at the projection period. Policy measures that could be used to encourage households to acquire solar photovoltaic subsidies, increasing household incomes through programs against poverty. The Niger has a program PRASE (Regional Program of Access to basic energy services) that contributes to the achievement of objectives.

2.7 Agriculture Sector - Policy Implications

The evaluation focused on financial flows for adaptation measures oriented primarily towards food security given the recurrent climatic hazards affecting the agricultural sector, the engine of the national economy, the main contributor to the accumulation of national wealth and a provider of

work at the country's workforce. Niger has adopted four (04) adaptation Preferred namely: improving the production of rainfed crops, the promotion of irrigated crops, improved livestock production and promotion of extensive livestock intensive. For this purpose, under the leadership of the Government, which conducts all policy development, technical and financial partners, and other institutions must engage in the implementation of adaptation measures and encourage households and businesses to be part of the way through intervention strategies such as "cash for work" and the cancellation of taxes for reinvestment to develop the screenplay.

2.8 Uncertainties and limitations of the methodology

In terms of uncertainties and limitations of the methodology, it should be noted that like any scoping prospective and landed a number of key constraints which are related to insufficient and accessibility of data and information, particularly in households and enterprises / NGOs, where data are often fragmented, unorganized and inaccessible. Thus the level of disaggregation of data collected from different entities, does not bring out a separate financial flows and investment flows in our analysis as desired for tables 1 and 2.

At each entity, the financial situations of the projects or any other operations are given by the major components or parts.

However, as early solution to this problem, it is worth remembering that in the context of the implementation of the Paris Declaration of July 2005 on the effectiveness of Official Development Assistance (ODA), Niger has joined the Platform Management Help. The new database on projects and programs of development that is being installed, will allow the future to deal with any request for information on financial flows and investment flows at least in terms of the main entity is the state.

Also, increasingly, there are partners who are willing to contribute to a better structuring of the private sector, NGOs / AD and to the accompaniment of the Decentralized Territorial Communities and community organizations to encourage them to keep accounts healthier and more detailed. All this may contribute to the future, with some measures to strengthen capacity to conduct even better exercise of I&FF analyses in Niger.

3. Summary tables of incremental investment costs

Table 1: Incremental Cumulative Discounted I&FF for All Investments in Each Sector, by Investment Entity and Funding Source (in million 2005 US$)

Invest-ment entity	Source of funds		Investissements sectoriels incrémentaux cumulés (2005-2030) en valeur actualisée (en millions de $EU 2005)					
			Forestry Mitigation		Agriculture Adaptation			
			Sequestration	Substitution	Improving rainfed production	Promotion of irrigated crops	Improving the production of extensive livestock	Promotion of intensive livestock
			ΔI&FF	ΔI&FF	ΔI&FF	ΔI&FF	ΔI&FF	ΔI&FF
House-holds	Total Household Funds (all domestic)		32,28	1388,15	65,57	55,53	12,06	4,84
Corpora-tions	Domestic	Total internal sources	-	299,34	47,71	39,70	7,58	3,54
	Foreign	ODA	-	84,44	0,00	-	-	-
	Total des I&FF des sociétés		124,31	383,78	47,71	39,70	7,58	3,54
Govern-ment	Domestic	Fonds internes (budgétaire)	-	126,92	81,40	106,70	24,50	12,74
	Foreign	Foreign borrowing	-	4,22	-	-	-	-
		Bilateral ODA	-	0,99	10,10	100,40	21,56	0,00
		Multilateral ODA	-	0,73	-47,93	-147,89	-9,86	0,00
		Total foreign sources	-	5,94	-37,83	-47,49	11,70	12,74
	Total Government Funds		109,7	132,86	43,57	59,22	36,20	12,74
Total			266,29	1904,79	120,04	181,12	51,6	21,14

Source: Prepared by the study

Table 2: Incremental Annual I&FF for All Investments in Each Sector (in million 2005 US$)

Year	Incremental Annual Sectoral Investments (million 2005 US$)					
	Forestry Mitigation		Agriculture Adaptation			
	Sequestration	Substitution	Improving the production of rainfed	Promotion of irrigated crops	Improving the production of extensive livestock	Promotion of intensive livestock
	ΔI&FF	ΔI&FF	ΔI&FF	ΔI&FF	ΔI&FF	ΔI&FF
2005	0,00	0,00	0,00	0,00	0,00	0,00
2006	16,88	15,59	-14,38	-7,69	0,24	1,91
2007	16,58	13,05	-8,84	-7,11	-0,03	1,75
2008	15,78	14,61	-7,78	1,51	0,77	1,61
2009	15,34	15,17	-8,67	0,86	0,53	1,48
2010	14,62	16,25	-4,31	3,61	1,26	1,36
2011	14,12	18,67	-0,35	3,06	2,51	2,04
2012	13,44	74,73	4,33	4,06	2,11	1,23
2013	12,92	28,98	1,67	18,43	1,74	0,96
2014	12,31	77,11	2,62	15,91	0,95	0,88
2015	11,79	38,77	3,53	14,87	1,37	0,82
2016	11,23	41,79	4,64	14,25	1,46	0,76
2017	10,74	44,58	4,78	13,60	1,54	0,70
2018	10,21	47,25	5,60	12,93	1,64	0,65
2019	9,75	50,45	6,42	12,24	1,74	0,60
2020	9,28	52,96	7,24	11,52	1,86	0,56
2021	8,83	58,42	8,07	10,78	2,00	0,52
2022	8,4	99,07	8,93	10,01	2,15	0,48
2023	8,18	76,14	9,80	9,21	2,33	0,45
2024	7,61	116,42	10,71	8,38	2,53	0,42
2025	7,23	103,33	11,66	7,51	4,84	0,39
2026	6,86	121,38	12,66	6,61	2,93	0,36
2027	6,52	143,85	13,70	5,67	3,23	0,34
2028	6,2	170,67	14,81	4,69	3,57	0,31
2029	5,89	208,13	15,98	3,65	3,95	0,29
2030	5,58	257,42	17,22	2,56	4,38	0,27
Total	266,29	1904,79	120,04	181,12	51,6	21,14

Source: Prepared by the study

4. References

MS-2009: National Strategy on Renewable Energies.

Office of the Prime Minister -2008: Accelerated Development and Poverty Reduction.

NCA-2009: Second National Communication on Climate Change.

SE / NCA, November 2000: First National Communication on Climate Change.

SE / NCA, April 2003: National Strategy and Action Plan on Climate Change and Variability (SNPACVC).

SE / NCA, February 2006: National Action Plan for Adaptation (NAPA) to climate change.

NCA-2007: Report on National Inventory of Greenhouse Gases.

MDA-2006: Rural Development Strategy.

MHE-LCD-2005: Program of medium-term action.

UNDP in April 2009: Methodological Guide Assessment I & FF to address climate change.

Ministry of Agricultural Development, Ministry of Animal Resources: General Census of Agriculture and Livestock 2005-2007, Volume II, Final Results (Strand livestock), June 2007, p32.

SE / NCA, 2007: Study on Vulnerability and Adaptation of agriculture sector to climate change.

SE / NCA, 2007: Study on Vulnerability and Adaptation of the livestock sector to climate change.

SE / NCA, June 2007: National Assessment of Vulnerability and Adaptation to Climate Change.

ME / IA, October 2007: Three-Year Programme for the Development of Livestock.

SP / CSD Expenditure Framework (MTEF), Encryption CSD.

ME / F / INS: The Economic Accounts of the Nation, published from 2000 to 2005.

ME / F / INS: Statistical yearbooks of Niger from 2000 to 2005 editions.