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THE GAMBIA BUREAU OF STATISTICS

ENVIRONMENT STATISTICS COMPENDIUM

2017

Foreword

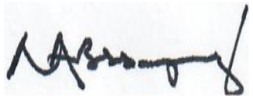
This is the first issue of the Environment Statistics Compendium; this will be an annual publication of the Gambia Bureau of Statistics.

This report presents statistics according to the United Nations Framework for the Development of Environment Statistics 2013 (FDES 2013). FDES 2013 classifies environment statistics into six components namely: Environmental Conditions and Quality; Environmental Resources and their Use; Residuals; Extreme Events and Disasters; Human Settlements and Environmental Health; and Environment Protection, Management and Engagement.

The statistics provided in this publication are the up to date available ones and cover up to 2017, wherever possible.

It is hoped that these statistics will prove useful to the public in general, particularly to planners, decision makers and researchers.

The compendium has been prepared with the collaboration of the National Environment Agency, Department of Forestry, Planning Service Unit of the Ministry of Agriculture, Department of Water Resources and Ministry of Environment, and several other organisations. The co-operation and assistance of all these organisations are gratefully acknowledged**.**



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Introduction

The ongoing environmental challenges faced by modern societies, such as population pressure, energy issues, sustainable development and climate change has increased the demand for environment statistics. The environment is ever more present in public policies and development plans.
The realization that human wellbeing and development depends on the environment has led to an increasing emphasis on environmental and sustainability concerns. Of paramount importance to these actions is the regular production of environment statistics of the highest quality. These statistics portray key information about the state of the environment and its changes through time.
Furthermore, they give information to organizations, students and the public, and can be used as input and support for fact-based policymaking. As in other developing countries, environment statistics represent a new and emerging domain which is typically endowed with limited (technical, financial and human) resources and is challenged by an institutional setup and inter-institutional coordination that are still in development.
This Compendium is based on the structure of the Framework for the Development of Environment Statistics (FDES 2013) developed by the United Nations Statistics Division (UNSD). The FDES 2013 is a flexible, multi-purpose conceptual and statistical framework that is comprehensive and integrative in nature. It marks out the scope of environment statistics and provides an organizing structure to guide their collection and compilation and to synthesize data from various subject areas and sources, covering the issues and aspects of the environment that are relevant for analysis, policy and decision making.

The Compendium is structured in 6 sections following the components of the FDES 2013:

1. Environmental conditions and quality
2. Environmental resources and their use
3. Residuals and waste
4. Extreme events and disasters
5. Human settlements and environmental health
6. Environment protection and management

CHAPTER 1: ENVIRONMENTAL CONDITIONS AND QUALITY

This chapter based on the FDES Component 1 on Environmental Conditions and Quality includes statistics about the physical, biological and chemical characteristics of the environment and their changes over time. These conditions determine the ecosystems characteristics and will vary in space and time as a result of natural processes and/or human influence. These fundamental background conditions are strongly interrelated and determine the types, extent, conditions and health of ecosystems. Many of these natural conditions change very slowly as a result of natural processes or human influence. Others may show immediate and dramatic effects. Importantly, changes in environmental conditions and quality are the result of combined and accumulated impacts of natural and human processes. Connecting the changes with individual activities or events is thus not a straightforward process.

1.1: MEAN TEMPERATURE (^{0}C)

Table 1.1.1: Banjul station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	26.5	26.4	27.1	27.3	26.2	26.8	26.7	26.7	25.9	28.0	28.0	27.3
2011	^{0}C	24.4	25.7	25.3	26.3	25.8	26.3	26.0	27.1	27.4	28.2	26.3	25.6
2012	^{0}C	24.6	24.1	25.4	26.1	26.6	27.7	27.5		27.6	28.8	28.4	25.3
2013	^{0}C	25.5	25.6	19.6	24.6	24.9	32.0	24.7	24.5	30.7	26.0	25.1	25.6
2014	^{0}C	23.0		25.8	26.5	27.0	26.8	25.0	25.0	27.2	27.7	26.2	17.1
2015	^{0}C		24.6	25.0	26.6	27.8	27.7	28.1	27.7	27.8	28.4	27.4	23.6
2016	^{0}C	23.8	25.6	24.6	25.9	25.6	25.6	27.7	28.4	27.8	28.3		26.4
2017	^{0}C	25.6	24.4	25.3	26.7	26.5	27.5	27.0	27.7	28.1	29.3	28.0	25.5
AVERAGE		**24.8**	**25.2**	**24.8**	**26.2**	**26.3**	**27.5**	**26.6**	**26.7**	**27.8**	**28.1**	**27.1**	**24.5**

Source: Department of Water Resources

Table 1.1.2: Yundum station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	25.5	26.9	28.3	27.2	28.5	29.1	27.6	27.6	27.3	28.2	27.7	26.5

2011	^{0}C	25.5	26.2	26.2	26.8	26.6	28.6	30.4	27.5	28.2	28.3	26.8	25.1
2012	^{0}C	26.1	27.3	28.4	28.6	28.4	27.6	27.1	26.2	25.5	25.3	24.9	25.6
2013	^{0}C	24.3	27.2	26.5	25.3	27.7	28.2	28.0	26.7	27.6	27.8	26.8	25.0
2014	^{0}C	25.3	25.6	26.1	26.2	26.3	29.1	29.0	27.6	27.8	28.5	26.2	25.7
2015	^{0}C	24.9	25.1	26.3	26.0	28.7	29.9	28.7	27.5	27.6	27.6	26.4	24.5
2016	^{0}C	26.4	27.6	26.8	26.5	25.8	27.9	27.7	28.3	27.9	28.8	27.7	26.8
2017	^{0}C	25.4	25.5	29.8	29.0	29.1	29.0	28.1	27.2	28.1	28.5	27.9	25.7
AVERAGE		**25.4**	**26.4**	**27.3**	**26.9**	**27.6**	**28.7**	**28.3**	**27.3**	**27.5**	**27.9**	**26.8**	**25.6**

Source: Department of Water Resources

Table 1.1.3: Sibanor station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	24.7	27.1	29.1	30.3	30.3	30.0	27.9	27.7	27.5	28.3	26.6	25.7
2011	^{0}C	23.9	25.3	27.5	29.3	28.8	29.8	28.5	27.6	28.0	28.6	26.7	23.3
2012	^{0}C	24.0	24.8	27.5	28.8	29.4	29.4				28.6	27.6	25.0
2013	^{0}C	24.5	25.9	28.8	28.3	29.8	29.7	27.2	26.9	27.9	28.9	26.3	24
2014	^{0}C	25.8	25.1	27.3	28.9	28.5	30.6	29.8			28.3	25.7	21.7
2015	^{0}C	23.0	25.4	26.7	28.2	29.2	30.1	27.9	27.0	27.3	28.5	27.2	24.3
2016	^{0}C	24.4	26.0	27.2	28.0	27.7	28.0	27.1	27.4	27.6	30	26.7	25.6
2017	^{0}C	24.5	25.5	29.7	30.3	29.4	30.0	27.7	27.4	28.3	29.4	27.3	23.9
AVERAGE		**24.4**	**25.6**	**28.0**	**29.0**	**29.1**	**29.7**	**28.0**	**27.3**	**27.8**	**28.8**	**26.8**	**24.2**

Source: Department of Water Resources

Table 1.1.4: Jenoi station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	24.9	27.4	29.3	31.3	31.9	30.6	28.8	28.7	28.0	29.4		
2011	^{0}C				30.9	30.7	30.6	29.1	28.0	28.4	29.2	27.7	24.4
2012	^{0}C	24.5	25.8	28.9	30.3	29.9	29.9	28.1	27.7	27.6	28.3	28.0	24.1
2013	^{0}C	23.8			28.6	30.7	29.6	28.8	27.5	27.9	28.9	27.5	25.3

2014	^{0}C	24.8	25	28	33.5	30.3	31.2	27.4	28.1	28.2	29.2	25.6	25.2
2015	^{0}C	29.1	26	26.9	30.2	30.3	30.7	28.9	28.1	28.4	28.9	27.7	24
2016	^{0}C	25.3	26.1	28.2	30	30.4	29	27.9	28.5		29.6	28.2	25.8
2017	^{0}C	24.7	25.8	29.1	30.6	30.7	30.3	28.8	30.2	27.4	27.4	26.1	24.5
AVERAGE		**25.3**	**26.0**	**28.4**	**30.7**	**30.6**	**30.2**	**28.5**	**28.4**	**28.0**	**28.9**	**27.3**	**24.8**

Source: Department of Water Resources

Table 1.1.5: Kerewan station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	25.5	26.9	28.9	29.4	29.2	29.9	27.4	28.0	26.9	27.8	26.8	26.1
2011	^{0}C	24.1	25.2	27.0	28.6	28.0	27.6	27.1	26.3	26.9	27.9	27.1	24.5
2012	^{0}C												
2013	^{0}C												
2014	^{0}C											26.1	24.4
2015	^{0}C	23.8	25.6	26.6	28.3	28.7	28.9	27.5	26.4	26.6	27.5	27.4	25.5
2016	^{0}C	26.9		27.8	27.8	28.3	26.5	25.6	26.3	26.6	28	27.6	25.3
2017	^{0}C	24.4	24.6	28.4	29.5	29	30.5	28.6	28.4	28.8	29.6	27.6	22.7
AVERAGE		**24.9**	**25.6**	**27.7**	**28.7**	**28.7**	**28.7**	**27.2**	**27.1**	**27.2**	**28.2**	**27.1**	**24.8**

Source: Department of Water Resources

Table 1.1.6: Kaur station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	24.9	27.9	28.1	31.7	32.1	30.4	29.0	**N/A**	27.7	28.9	27.9	26.9
2011	^{0}C	25.5	26.4	29.0	30.9	31.1	30.9	29.4	28.0	28.4	29.0	27.8	25.1
2012	^{0}C	25.6	26.7	29.5	31.0	31.4	31.1	28.5	27.7	27.8	29.1	29.0	25.6
2013	^{0}C	25.4	28.5	30.5	30.4	31.7	N/A	29.5	27.9	28.6	29.5	28.5	26.2
2014	^{0}C	26.4	27.3	29.0	30.9	31.4	32.0	30.3	28.0	29.1	27.8	27.9	26.1
2015	^{0}C	26.0	27.8	29.0	30.8	31.6	31.6	29.2	28.1	27.6	28.5	26.5	24.9

2016	^{0}C	26.6	27.0	29.8	30.7	31.8	30.9	28.8	28.5	27.9	30.0	28.1	26.5
2017	^{0}C	25.9	28.1	30.7	31.8	29.8	28.6	28.3	23.3	28.2	29.9	28.0	26.1
AVERAGE		**25.8**	**27.5**	**29.5**	**31.0**	**31.4**	**30.8**	**29.1**	**27.4**	**28.2**	**29.1**	**28.0**	**25.9**

Source: Department of Water Resources

Table 1.1.7: Sapu station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	25.0	27.7	30.3	32.1	32.4	30.6	29.0	28.5	28.0	28.4	27.3	25.6
2011	^{0}C	24.4	23.8		30.2	31.5	30.4	29.3	28.0	28.3	29.2	28.2	25.3
2012	^{0}C	26.0			31.2			28.3	27.6	27.8	29.1	29.2	
2013	^{0}C	24.9	28.2	29.4	29.4	31.8	30.5	28.2	26.9	26.8	28.6	27.1	25.4
2014	^{0}C	25.5	27.0	29.7	30.1	31.2	31.1	30.4	28.1	27.8	28.7	26.3	24.5
2015	^{0}C	20.7	27.5	29.1	30.9	31.5	31.3	28.6	27.9	27.7	28.1	27.4	25.2
2016	^{0}C	26.2	28	28.6	30.9	30.7	31.2	28.1	27.8	27.6	29.7	29.2	26.9
2017	^{0}C	25.4	27.6	26.7	31.8	32.0	30.9	28.1	27.2	28.4	28.6	29.2	29.5
AVERAGE		**24.8**	**27.1**	**29.0**	**30.8**	**31.6**	**30.9**	**28.7**	**27.8**	**27.8**	**28.8**	**28.0**	**26.0**

Source: Department of Water Resources

Table 1.1.8: Janjanbureh station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	24.7	27.2	30.2		31.3	29.1	27.8	27.9	27.7	28.0	26.1	24.9
2011	^{0}C	24.8	26.2	29.1	31.3	31.7	30.1	28.7	27.7	27.7	28.6	27.3	24.0
2012	^{0}C	25.0	26.3	29.2	30.6	31.1	30.6	28.2	27.1	27.4	28.6	28.3	24.7
2013	^{0}C	23.9	28.1	31.3								27.7	
2014	^{0}C					31.9	32.0	30.0	27.2		29.1	26.5	23.3
2015	^{0}C	23.7	26.4	26.7	30.0	30.6	34.2	28.1	27.7	27.9	28.5	26.9	23.6

2016	^{0}C	25.9	26.2	28.9	30.8	32.2	31.1	28.4	27.9	27.6	29.3	27.9	26.0
2017	^{0}C	24.2	26.7	29.9	30.6	31.4	30.7	27.4	26.5	27.8	28.6	29.4	29.8
AVERAGE		**24.6**	**26.7**	**29.3**	**30.7**	**31.5**	**31.1**	**28.4**	**27.4**	**27.7**	**28.7**	**27.5**	**25.2**

Source: Department of Water Resources

Table 1.1.9: Basse station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	24.7	28.8	31.4	33.4	33.4	30.9	28.4	27.9	27.9	28.4	27.3	25.9
2011	^{0}C	24.8	26.7	30.4	32.3	32.7	30.7	28.9	28.0	27.5	28.7	27.6	23.7
2012	^{0}C	24.6	26.7	30.0	32.3	31.8	31.0	28.1	27.5	27.6	29.3	29.2	25.1
2013	^{0}C	25.1	28.7	31.5	32.2	33.0	31.9	28.9	27.6	28.1	28.9	28.3	25.7
2014	^{0}C	26.0	30.0	27.0	33.0	33.0	31.5	29.9	27.9	27.2	29.1	28.1	25
2015	^{0}C	24.9	27.9	29.6	32.1	32.9	32.1	28.5	27.8	27.9	28.7	27.3	23.4
2016	^{0}C	25.4	25.8	29.5	32.5	33.3	30.8	28.6	28.1	27.5	29.9	27.9	25.5
2017	^{0}C	25.4	26.7	31.3	30.8	32.8	32.1	28.6	28.0	28.9	30.4	28.9	30.4
Average		**25.1**	**27.6**	**30.1**	**32.3**	**32.9**	**31.4**	**28.7**	**27.9**	**27.8**	**29.2**	**28.1**	**25.6**

Source: Department of Water Resources

Table 1.1.10: Fatoto station monthly mean temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	24.4	27.1	30.4	12.3	32.0	31.3	29.3			28.2	26.0	25.0
2011	^{0}C	25.0	25.1	28.7	30.7	31.4	30.8	28.8	28.9	28.7	28.9	28.4	24.3
2012	^{0}C	24.5	25.6	28.4	32.2	31.5	30.3	28.3	27.6	27.5	28.9	29.1	25.0
2013	^{0}C	24.6	28.2	32.2	33.0	32.0	30.0	28.5	27.5	28	28.7	28	25.5
2014	^{0}C	26.5	27.0	29.9	33.1	33.2	31.0	30.0	28.1	27.9	30	28.9	25.6

2015	^{0}C	24.1	26.6	28.3	31.7	32.8	31.3	28.0	26.4	26.5	27.2	26.2	22.9
2016	^{0}C	25.2	27.1	30.7	32.0	34.9	30.2	26.7	26.3	27.4	27.1	25.9	24
2017	^{0}C	25.1	25.9	30.7	30.0	32.7	31.3	26.5	26.9	26.5	29.3	25.9	23.1
AVERAGE		**24.9**	**26.6**	**29.9**	**29.4**	**32.6**	**30.8**	**28.3**	**27.4**	**27.5**	**28.5**	**27.3**	**24.4**

Source: Department of Water Resources

1.2: MAXIMUM TEMPERATURE (^{0}C)

Table 1.2.1: Banjul station monthly maximum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	34.0	41.5	34.0	34.0	33.0	32.6	32.2	32.2	33.0	34.0	35.0	34.5
2011	^{0}C	32.5	34.0	34.0	40.5	34.0	34.0	34.5	33.6	34.5	35.2	34.0	37.0
2012	^{0}C	37.0	37.0	37.0	37.0	35.0	35.0	35.0		33.5	35.0	34.5	33.0
2013	^{0}C	32.0	34.0		35.0	34.0	34.0	35.0	32.0	35.0	34.0	34.0	34.2
2014	^{0}C	35.0	36.5	40.5	33.0	40.0	34.0	34.0	33.0	36.0	34.0	35.5	35.0
2015	^{0}C	34.0	36.5	37.0	36.0	37.0	37.0	36.0	34.0	32.8	32.8	33.8	
2016	^{0}C	36.0	37.0	40.5	45.2	34.5	34.8	33.5	33.2	34.2	33.6		34.0
2017	^{0}C	34.6	33.5	38.6	40.2	37.2	37.5	35.3	34.7	36.0	37.4	36.2	36.0
AVERAGE		**34.4**	**36.3**	**37.4**	**37.6**	**35.6**	**34.9**	**34.4**	**33.2**	**34.4**	**34.5**	**34.7**	**34.8**

Source: Department of Water Resources

Table 1.2.2: Yundum station monthly maximum temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	37.5	42.5	43.8	42.0	38.5	35.9	33.8	32.7	34.3	37.0	37.5	38.5
2011	^{0}C	39.7	40.2	40.5	42.3	37.5	35.5	33.2	32.6	34.4	35.5	36.5	36.5
2012	^{0}C	37.6	39.0	41.2	40.2	39.3	34.5	32.2	32.5	34.4	35.5	35.5	35.6
2013	^{0}C	36.5	37.8	41.0	39.3	38.6	34.7	34.2	34.0	34.4	33.9	36.5	35.0

2014	^{0}C	37.2	37.0	40.0	40.6	37.5	36.0	34.9	34.6	33.7	35.0	38.4	37.0
2015	^{0}C	35.6	37.6	41.0	41.5	38.8	36.8	36.2	35.0	34.0	34.0	34.8	34.0
2016	^{0}C	38.0	41.6	40.4	44.4	38.8	36.0	35.0	35.0	34.8	36.0	38.0	38.5
2017	^{0}C	36.4	38.4	43.0	42.8	38.8	40.0	40.4	34.0	35.2	36.8	37.4	39.0
AVERAGE		**37.3**	**39.3**	**41.4**	**41.6**	**38.5**	**36.2**	**35.0**	**33.8**	**34.4**	**35.5**	**36.8**	**36.8**

Source: Department of Water Resources

Table 1.2.3: Sibanor station monthly maximum temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	38.6	42.8	42.5	42.4	41.6	38.5	34.6	33.4	35.0	36.4	37.6	37.7
2011	^{0}C	36.5	40.5	41.8	42.2	43.3	40.8	34.7	33.4	35.0	36.0	37.0	36.1
2012	^{0}C	38.5	39.5	42.0	41.5	43.5	39.4				35.5	37.5	36.5
2013	^{0}C	36.5	40.0	43.0	42.0	41.5	37.5	35.0	248.0	34.5	35.0	36.5	37.0
2014	^{0}C	39.5	39.2	41.0	43.0	42.0	39.0	36.3			37.0	37.6	38.5
2015	^{0}C	37.0	39.0	41.8	42.5	42.0	39.0	37.4	33.8	34.0	35.4	36.8	36.8
2016	^{0}C	41.0	43.5	44.0	44.5	41.2	39.0	35.5	34.0	35.5	39.2	39.4	42.5
2017	^{0}C	37.5	40.0	43.0	43.2	40.0	40.0	34.0	32.8	35.5	37.5	38.0	37.2
AVERAGE		**38.1**	**40.6**	**42.4**	**42.7**	**41.9**	**39.2**	**35.4**	**69.2**	**34.9**	**36.5**	**37.6**	**37.8**

Source: Department of Water Resources

Table 1.2.4: Jenoi station monthly maximum temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	39.8	43.5	44.0	43.6	44.3	39.6	36.0	36.4	35.3	37.4	39.9	39.5
2011	^{0}C	37.6	41.5	43.0	43.1	44.1	41.8	37.6	35.0	34.8	38.0	39.5	38.0
2012	^{0}C	39.0	42.0	42.2	43.4	43.5	39.9	34.8	33.6	34.8	36.5	39.4	38.0
2013	^{0}C	38.0	40.4	43.7	42.7	41.0	375.0	35.5	34.5	39.5	35.5	38.8	39.5
2014	^{0}C	40.0	38.5	41.5	43.0	43.5	40.5	39.0	36.0	33.9	36.0	36.5	36.4
2015	^{0}C	36.0	39.0	41.2	43.6	42.5	41.6	37.4	33.8	35.4	36.0	37.0	36.0
2016	^{0}C	38.0	42.0	41.4	44.6	44.0	41.0	36.0	34.4		36.4	38.0	39.0

2017	^{0}C	38.0	40.4	43.5	43.8	43.0	42.0	38.0	34.2	35.9	37.6	38.0	36.2
AVERAGE		**38.3**	**40.9**	**42.6**	**43.5**	**43.2**	**82.7**	**36.8**	**34.7**	**35.7**	**36.7**	**38.4**	**37.8**

Source: Department of Water Resources

Table 1.2.5: Kerewan station monthly maximum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	39.5	43.5	44.5	43.0	42.0	40.0	35.5	35.0	35.0	36.5	39.0	38.5
2011	^{0}C	39.5	41.5	42.0	43.5	44.5	41.5	36.5	34.5	35.5	37.5	40.0	37.5
2012	^{0}C	39.0		42.5	42.5	43.0	39.0	35.0	34.5	35.2	36.0	38.2	38.0
2013	^{0}C	37.5	40.5	43.5	42.0	42.0	37.8	35.5	35.0	35.7	36.0	38.5	37.3
2014	^{0}C	39.2	38.9	42.5	44.4	43.6	39.6	37.0	36.0			38.2	38.5
2015	^{0}C	36.2	39.2	41.2	41.6	42.0	39.0	38.6	34.6	34.2	35.2	36.8	36.0
2016	^{0}C	38.8	42.2	41.6	44.2	43.8	39.6	35.0	33.9	35.5	36.6	38.8	39.6
2017	^{0}C	37.6	39.8	43.2	44.4	41.0	40.6	36.2	35.0	35.6	37.6	35.6	37.6
AVERAGE		**38.4**	**40.8**	**42.6**	**43.2**	**42.7**	**39.6**	**36.2**	**34.8**	**35.2**	**36.5**	**38.1**	**37.9**

Source: Department of Water Resources

Table 1.2.6: Kaur station monthly maximum temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	38.8	45.5	45.5	43.4	42.6	40.1	36.1		34.3	36.2	39.3	39.2
2011	^{0}C	38.7	41.2	43.7	42.6	43.8	43.6	36.8	34.5	35.1	38.0	39.0	37.7
2012	^{0}C	38.5	40.5	41.7	42.2	43.0	41.0	35.0	33.1	35.0	37.5	39.1	38.6
2013	^{0}C	38.0	40.6	44.2	42.8	42.0	39.5	38.0	34.5	38.0	38.0	39.5	38.3
2014	^{0}C	40.2	39.3	42.5	44.0	45.5	41.0	40.4	35.0	34.5	36.2	40.0	38.0

2015	^{0}C	36.4	40.0	41.8	44.0	43.2	40.8	38.5	38.8	35.0	36.0	38.0	36.5
2016	^{0}C	38.5	42.5	42.0	44.0	45.2	42.5	36.5	36.5	35.8	38.9	39.0	40.0
2017	^{0}C	38.5	41.0	43.7	42.7	47.7	42.0	35.4	34.4	35.9	38.6	39.2	39.0
AVERAGE		**38.5**	**41.3**	**43.1**	**43.2**	**44.1**	**41.3**	**37.1**	**35.3**	**35.5**	**37.4**	**39.1**	**38.4**

Source: Department of Water Resources

Table 1.2.7: Sapu station monthly maximum temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	39.5	42.7	43.5	43.0	43.0	41.0	37.5	37.5	34.5	36.5	37.8	37.9
2011	^{0}C	37.0	35.8		40.8	42.8	40.5	37.0	34.9	35.3	37.0	39.0	37.0
2012	^{0}C	38.3			42.5			35.2	34.7	35.8	37.0	39.0	
2013	^{0}C	38.2	40.5	43.5	42.7	42.5	39.5	37.1	35.5	35.5	35.5	38.4	37.6
2014	^{0}C	40.3	38.8	42.5	43.4	43.3	43.4	38.5	34.3	33.8	35.6	39.0	38.0
2015	^{0}C	37.2	40.6	41.6	44.0	42.2	40.0	38.0	34.4	34.8	36.8	362.0	35.8
2016	^{0}C	38.2	41.7	41.8	43.6	44.4	40.8	36.8	34.6	35.2	38.6	39.0	40.8
2017	^{0}C	37.8	41.8	43.5	43.4	42.8	41.4	34.9	33.3	34.9	38.0	34.9	38.0
AVERAGE		**38.3**	**40.3**	**42.7**	**42.9**	**43.0**	**40.9**	**36.9**	**34.9**	**35.0**	**36.9**	**78.6**	**37.9**

Source: Department of Water Resources

Table 1.2.8: Janjanbureh station monthly maximum temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	39.9	42.6	44.0	43.6	41.0	37.3	36.4	35.0	36.5	39.0	37.4	
2011	^{0}C	37.4	41.3	42.8	42.8	45.3	40.0	36.5	35.1	34.5	37.4	39.6	37.5
2012	^{0}C	38.7	40.8	41.8	42.1	43.4	40.5	34.6	32.8	34.5	36.0	38.6	38.0
2013	^{0}C	38.0	40.6	44.0	42.5							38.5	
2014	^{0}C							38.9	35.2	35.0	38.6	39.0	38.0
2015	^{0}C	37.2	40.6	41.9	44.0	43.2	40.6	37.8	34.0	34.0	35.4	37.0	36.2

2016	^{0}C	38.1	41.6	42.8	43.6	44.6	41.4	37.1	34.8	35.0	38.7	39.3	40.0
2017	^{0}C	38.6	40.7	43.6	43.2	42.8	41.6	34.8	33.6	36.6	38.0	36.6	38.0
AVERAGE		**38.3**	**41.2**	**43.0**	**43.1**	**43.4**	**40.2**	**36.6**	**34.4**	**35.2**	**37.6**	**38.3**	**38.0**

Source: Department of Water Resources

Table 1.2.9: Basse station monthly maximum temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	40.5	44.0	44.2	44.5	44.8	41.2	36.9	33.8	35.3	37.2	38.2	40.0
2011	^{0}C	39.6	41.3	43.6	43.5	43.8	42.5	37.5	39.2	35.3	37.2	38.9	39.2
2012	^{0}C	38.6	41.5	42.2	43.5	43.6	41.5	35.5	34.2	35.8	38.0	39.6	38.5
2013	^{0}C	39.0	41.5	44.6	44.5	43.0	40.7	35.8	34.6	35.4	36.2	39.2	38.4
2014	^{0}C	40.0	40.1	42.5	43.8	43.9	39.4	39.5	34.7	34.4	37.1	38.7	38.2
2015	^{0}C	37.9	40.3	41.4	44.1	43.6	41.2	38.2	33.6	34.7	36.6	38.0	35.6
2016	^{0}C	38.3	41.1	42.2	44.2	44.6	43.0	36.4	35.0	34.9	39.0	38.5	40.4
2017	^{0}C	38.0	41.0	45.0	43.2	43.0	43.0	35.3	34.0	35.0	39.5	35.0	39.5
Average		**39.0**	**41.4**	**43.2**	**43.9**	**43.8**	**41.6**	**36.9**	**34.9**	**35.1**	**37.6**	**38.3**	**38.7**

Source: Department of Water Resources

Table 1.2.10: Fatoto station monthly maximum temperature (^{0}C), 2010 - 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	40.4	44.5	44.5	0.0	43.0	41.5	38.0	0.0	0.0	35.0	38.5	38.7
2011	^{0}C	39.5	41.0	43.5	44.5	44.2	43.9	37.2	38.5	38.3	38.0	41.0	38.0
2012	^{0}C	38.7	41.5	43.3	43.4	43.5	41.6	35.0	34.0	36.2	38.1	39.8	38.6
2013	^{0}C	39.2	41.5	45.2	43.7	43.7	39.8	37.0	35.0	35.5	37.2	40	39.5
2014	^{0}C	40.8	40.6	43.6	45.0	45.1	40.1	39.0	34.8	34.5	40	40.2	38.8

2015	^{0}C	39.4	40.2	42.0	44.4	43.5	42.9	38.6	34.6	35.9	36.8	37.5	36.8
2016	^{0}C	38.1	42.0	44.2	43.9	45.4	42.8	37.8	36.2	35.0	38.4	39.0	41.5
2017	^{0}C	37.6	41.8	43.2	43.0	43.7	42.4	36.8	34.2	35.2	38.6	38.4	38
AVERAGE		**39.2**	**41.6**	**43.7**	**44.0**	**44.0**	**41.9**	**37.4**	**35.3**	**35.8**	**37.8**	**39.3**	**38.7**

Source: Department of Water Resources

1.3: MINIMUM TEMPERATURE (^{0}C)

Table 1.3.1: Banjul station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	18.0	20.0	20.0	20.0	19.0	20.6	21.5	20.1	20.5	20.1	19.5	18.9
2011	^{0}C	14.0	16.0	15.5	18.5	19.0	19.5	19.5	20.5	20.0	23.0	19.5	17.0
2012	^{0}C	12.0	14.0	15.7	19.0	20.0	20.5	22.0		21.5	21.0	20.5	16.0
2013	^{0}C	19.0	17.0		18.0	18.7	19.6	19.0	19.0	19.3	20.0	20.0	17.9
2014	^{0}C	14.0	18.0	19.5	18.0	20.0	20.0	20.5	20.1	21.5	21.0	18.5	17.0
2015	^{0}C		9.9	14.5	16.0	20.0	20.5	20.0	20.0	22.0	23.0	19.0	
2016	^{0}C	10.0	15.8	14.0	15.0	16.2	17.0	23.0	24.2	22.5	23.8		16.5
2017	^{0}C	19.1	17.3	18.4	19.7	19.7	21.5	20.7	22.6	22.6	23.7	21.9	18.0
AVERAGE		**15.2**	**16.0**	**16.8**	**18.0**	**19.1**	**19.9**	**20.8**	**20.9**	**21.2**	**22.0**	**19.8**	**17.3**

Source: Department of Water Resources

Table 1.3.2: Yundum station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	13.5	15.5	17.5	20.0	20.3	21.8	21.0	21.5	21.0	21.5	17.3	16.5
2011	^{0}C	15.5	14.8	15.5	16.6	18.7	21.1	22.3	21.5	21.0	21.1	16.5	14.0
2012	^{0}C	15.5	15.1	16.6	18.0	19.0	20.5	20.4	21.6	21.5	20.0	21.1	12.0
2013	^{0}C	13.5	16.5	16.5	18.0	18.3	22.0	20.5	20.9	20.5	20.5	17.5	15.4

2014	^{0}C	13.4	14.4	15.5	14.5	18.5	21.0	22.5	22.0	21.8	22.0	18.4	15.0
2015	^{0}C	15.0	13.0	15.4	15.4	18.5	20.6	19.4	20.2	21.0	20.0	15.0	11.0
2016	^{0}C	15.0	15.5	15.8	15.8	16.0	18.0	20.0	21.8	20.0	20.0	17.4	15.0
2017	^{0}C	13.0	12.0	16.6	19.0	19.3	21.0	20.6	20.4	21.5	20.2	16.2	15.0
AVERAGE		**14.3**	**14.6**	**16.2**	**17.2**	**18.6**	**20.8**	**20.8**	**21.2**	**21.0**	**20.7**	**17.4**	**14.2**

Source: Department of Water Resources

Table 1.3.3: Sibanor station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	11.0	12.8	14.0	16.8	20.2	21.5	22.0	22.0	22.2	20.8	14.0	14.2
2011	^{0}C	11.0	8.8	14.2	16.2	18.8	22.2	22.4	21.9	21.3	21.0	14.7	9.5
2012	^{0}C	7.5	10.6	14.5	16.9	20.0	20.5				21.3	17.1	11.4
2013	^{0}C	10.0	13.0	16.2	17.2	18.8	22.0	20.0	21.0	21.6	22.0	16.0	11.0
2014	^{0}C	12.0	10.8	14.5	16.2	19.8	21.6	22.0	21.6		21.0	14.0	10.0
2015	^{0}C	8.0	10.6	13.2	16.3	17.4	19.8	18.0	19.0	21.2	21.2	15.4	11.6
2016	^{0}C	9.0	10.0	11.0	12.0	14.0	16.0	20.0	20.0	21.0	21.0	14.0	11.0
2017	^{0}C	11.5	11.5	17.0	18.4	19.2	21.4	20.6	21.6	21.0	20.8	14.8	12.0
AVERAGE		**10.0**	**11.0**	**14.3**	**16.3**	**18.5**	**20.6**	**20.7**	**21.0**	**21.4**	**21.1**	**15.0**	**11.3**

Source: Department of Water Resources

Table 1.3.4: Jenoi station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	9.5	10	15	18.5	20.4	21.8	21.9	21.6	21.2	22.3		
2011	^{0}C				19.2	19.8	21	22	21.5	20.5	19	13.6	10
2012	^{0}C	11.6	11.2	16	18	18.6	19.4	20.8	20.5	21.5	20.6	16.4	11

2013	^{0}C	10.2	13.4	17	15.4	11.5	23	21.5	21	21	21	14	12
2014	^{0}C	12	13	14	16	17	20	22	21.5	21	21	12	8.4
2015	^{0}C	11.4	12	11	18.6	20	21.6	20.6	21	19	22	14	10
2016	^{0}C	11	11.4	13.4	13.4	20	17	18.6	20		20.2	18.4	13.8
2017	^{0}C	10	12.6	14.3	16.4	19	20	21	20	19	18	13.6	9.1
AVERAGE		**10.8**	**11.9**	**14.4**	**16.9**	**18.3**	**20.5**	**21.1**	**20.9**	**20.5**	**20.5**	**14.6**	**10.6**

Source: Department of Water Resources

Table 1.3.5: Kerewan station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	12.8	13.5	15.3	17.5	18.0	21.0	19.0	21.0	18.0	18.0	14.5	15.0
2011	^{0}C	10.5	11.0	13.0	16.0	17.0	18.2	18.0	18.0	18.0	19.0	11.0	11.0
2012	^{0}C												
2013	^{0}C												
2014	^{0}C								20.0	18.5	0.0	13.4	12.2
2015	^{0}C	12.0	13.0	13.0	15.8	15.0	19.3	19.4	19.4	20.4	20.5	14.0	13.8
2016	^{0}C	13.0	0.0	12.0	14.0	14.6	14.6	14.6	17.0	18.4	20.2	16.0	13.0
2017	^{0}C	13.0	10.0	11.0	15.2	16.0	21.0	21.6	20.0	21.5	21.0	21.5	21.0
AVERAGE		**12.3**	**9.5**	**12.9**	**15.7**	**16.1**	**18.8**	**18.5**	**19.2**	**19.1**	**16.5**	**15.1**	**14.3**

Source: Department of Water Resources

Table 1.3.6: Kaur station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	9.5	14.2	12.5	19.3	21.1	21.6	22.3		17	19	12.7	12.4
2011	^{0}C	11.4	10.2	16.9	18.2	20	21.1	21.9	21.6	21	20.4	15.4	12.6
2012	^{0}C	11.5	13.8	18.3	16.4	21.9	21.9	22	21.4	21.5	20.6	18.5	13.5
2013	^{0}C	11.2	16	16.6	18.6	20	21.8	21.5	21.3	21.8	21.9	17.2	14.6
2014	^{0}C	12.5	15.3	15.7	17	20	22.3	22.2	20.5	21	21.6	16.4	12.6
2015	^{0}C	11.6	15	15.6	17.8	21.8	22	20.8	21	22	22	14.2	12.2
2016	^{0}C	13.6	13.8	16.8	17.6	21	22.2	22.4	21.6	21.5	21.2	14.6	13.6
2017	^{0}C	12	14.6	16.6	20.2	17.2	23	20.4	20.6	21.3	18	13.6	12
AVERAGE		**11.7**	**14.1**	**16.1**	**18.1**	**20.4**	**22.0**	**21.7**	**21.1**	**20.9**	**20.6**	**15.3**	**12.9**

Source: Department of Water Resources

Table 1.3.7: Sapu station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	9.5	13.5	17.0	20.0	22.0	20.0	22.5	22.5	22.5	21.8	14.5	12.0
2011	^{0}C	12.0	12.0	14.0	18.0	16.6	21.0	22.5	22.0	21.9	20.7	13.5	11.2
2012	^{0}C	12.0			19.8			22.5	21.9	20.5	20.6	18.2	
2013	^{0}C	13.0	15.5	11.8	16.9	20.0	20.5	21.1	21.0	20.9	20.7	15.0	13.0
2014	^{0}C	10.5	14.5	14.5	18.1	20.5	19.5	22.6	21.5	21.6	20.0	14.5	11.0
2015	^{0}C	14.2	15.4	16.0	18.0	20.2	22.4	22.3	21.0	21.4	21.2	13.2	9.4
2016	^{0}C	11.0	13.0	18.0	18.0	22.0	22.0	20.2	20.8	20.0	21.2	18.0	13.0
2017	^{0}C	12.9	13.9	16.0	16.0	20.2	22.9	20.9	20.0	19.4	19.8	19.4	19.8
AVERAGE		**11.9**	**14.0**	**15.3**	**18.1**	**20.2**	**21.2**	**21.8**	**21.3**	**21.0**	**20.8**	**15.8**	**12.8**

Source: Department of Water Resources

Table 1.3.8: Janjanbureh station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	9.5	12.5	17.5	19.2	17.5	20.5	20.5	21.6	18.5	12.5	10.0	
2011	^{0}C	10.0	12.7	14.5	18.5	20.4	21.5	20.5	21.0	20.5	19.5	14.4	10.0
2012	^{0}C	12.3	11.0	15.0	15.9	15.6	20.5	22.4	16.0	21.5	21.0	18.0	10.5
2013	^{0}C	10.5	13.6	19.0	17.5	19.2	21.9	21.9	21.8	22.0	21.5	15.8	13.0
2014	^{0}C	11.5	11.5	12.5	15.0	22.0	23.5	23.0	19.3	20.5	19.6	14.0	8.6
2015	^{0}C	10.2	10.2	11.4	15.4	22.1	19.4	21.8	21.2	21.8	21.6	14.2	11.0
2016	^{0}C	12.5	11.0	15.8	17.6	20.0	22.0	21.0	21.0	21.2	21.7	15.0	12.4
2017	^{0}C	8.2	11.0	13.6	17.4	19.8	21.0	19.4	19.7	19.6	17.2	19.6	17.2
AVERAGE		**10.6**	**11.7**	**14.9**	**17.1**	**19.6**	**21.3**	**21.3**	**20.2**	**20.7**	**19.3**	**15.1**	**11.8**

Source: Department of Water Resources

Table 1.3.9: Basse station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	10.4	14.8	19.8	22.4	23.0	21.5	21.3	20.8	21.4	17.0	14.9	13.4
2011	^{0}C	11.1	11.5	15.2	17.7	22.5	22.5	21.0	20.0	19.6	20.0	13.4	9.4
2012	^{0}C	11.8	11.4	16.5	20.7	20.8	21.0	21.5	21.4	21.2	20.3	14.4	11.8
2013	^{0}C	10.6	12.5	16.6	21.0	22.0	20.8	20.0	22.0	21.5	21.4	16.5	12.2
2014	^{0}C	12.0	12.5	14.2	20.6	22.9	22.0	21.6	17.5	19.0	20.8	12.4	9.3
2015	^{0}C	9.7	13.3	12.3	16.1	19.0	22.1	21.6	21.2	21.8	22.1	14.1	9.8
2016	^{0}C	12.0	11.4	15.6	19.3	23.6	20.2	20.2	21.6	21.2	22.4	14.6	12.3
2017	^{0}C	5.5	10.6	15.0	19.5	20.2	23.0	22.0	20.5	22.0	21.5	22.0	21.5
Average		**10.4**	**12.3**	**15.7**	**19.7**	**21.8**	**21.6**	**21.2**	**20.6**	**21.0**	**20.7**	**15.3**	**12.5**

Source: Department of Water Resources

Table 1.3.10: Fatoto station monthly minimum temperature (^{0}C), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	^{0}C	7.7	12.0	12.0	18.8	18.9	21.0		22.3	22.3	20.0	11.9	10.3
2011	^{0}C	9.6	9.7	12.9	17.9	18.0	20.8	20.0	22.5	21.8	15.6	10.9	6.5
2012	^{0}C	6.5	10.0	12.0	17.7	17.6	19.0	21.5	22.0	21.1	21.1	17.0	11.0
2013	^{0}C	10.0	13.0	18.9	21.5	19.5	20.6	20.0	22.0	21.0	20.5	13.0	11.5
2014	^{0}C	10.2	11.5	16.0	22.0	23.1	21.8	22.0	21.5	21.5	20.0	14.0	8.0
2015	^{0}C	9.5	13.0	13.5	18.9	22.8	19.0	20.0	16.0	16.4	16.8	12.5	10.0
2016	^{0}C	11.9	13.2	17.0	16.9	23.4	18.4	16.6	16.2	20.0	17.4	12.8	7.6
2017	^{0}C	11.0	9.8	18.8	14.8	23.4	20.2	18.4	20.0	18.0	20.0	9.2	10.0
AVERAGE		**9.6**	**11.5**	**15.1**	**18.6**	**20.8**	**20.1**	**19.8**	**20.3**	**20.3**	**18.9**	**12.7**	**9.4**

Source: Department of Water Resources

1.4: MEAN RELATIVE HUMIDITY

Table 1.4.1: Banjul station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	63.0	60.0	62.0	66.0	69.0	71.0	77.0	80.0	80.0	73.0	56.0	55.0
2011	%	44.0	43.0	48.0	60.0	65.0	70.0	73.0	78.0	76.0	73.0	66.0	39.0
2012	%	49.0	52.0	57.0	54.0	70.0	74.0	78.0	81.0	80.0	74.0	63.0	51.0
2013	%	47.0	49.0	50.0	71.0	58.0	74.0	78.0	86.0	84.0	69.0	65.0	53.0
2014	%	55.0	21.0	28.0	70.0	73.0	68.0	75.0	72.0	75.0	75.0	65.0	53.0
2015	%	48.0	59.0	52.0	52.0	62.0	72.0	75.0	46.0	82.0	69.0	53.0	51.0
2016	%	47.0	40.0	52.0	58.0	67.0	69.0	76.0	76.0	73.0	68.0	55.0	64.0
2017	%	40.0	52.0	54.0	53.0	61.0	64.0	69.0	69.0	68.0	69.0	63.0	51.0

AVERAGE	**49.0**	**47.0**	**50.0**	**61.0**	**66.0**	**70.0**	**75.0**	**74.0**	**77.0**	**71.0**	**61.0**	**52.0**

Source: Department of Water Resources

Table 1.4.2: Yundum station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	53.0	61.0	60.0	68.0	72.0	75.0	84.0	88.0	91.0	84.0	70.0	71.0
2011	%	57.0	43.0	58.0	65.0	72.0	75.0	81.0	88.0	85.0	82.0	70.0	50.0
2012	%	48.0	51.0	55.0	64.0	71.0	76.0	82.0	87.0	87.0	83.0	70.0	56.0
2013	%	48.0	50.0	64.0	58.0	70.0	75.0	81.0	90.0	86.0	83.0	70.0	60.0
2014	%	50.0	39.0	57.0	57.0	73.0	74.0	78.0	85.0	86.0	81.0	62.0	47.0
2015	%	42.0	44.0	51.0	67.0	71.0	71.0	78.0	87.0	86.0	84.0	71.0	56.0
2016	%	51.0	39.0	53.0	66.0	69.0	73.0	83.0	86.0	85.0	79.0	66.0	52.0
2017	%	41.0	47.0	58.0	56.0	72.0	71.0	82.0	80.0	85.0	79.0	69.0	45.0
AVERAGE		**49.0**	**47.0**	**57.0**	**63.0**	**71.0**	**74.0**	**81.0**	**86.0**	**86.0**	**82.0**	**68.0**	**55.0**

Source: Department of Water Resources

Table 1.4.3: Sibanor station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	48.0	52.0	47.0	50.0	85.0	66.0	80.0	83.0	83.0	78.0	64.0	61.0
2011	%	48.0	37.0	44.0	49.0	56.0	65.0	76.0	83.0	81.0	77.0	67.0	52.0
2012	%	43.0	42.0	43.0	49.0	57.0	64.0	75.0	80.0	80.0	76.0	64.0	52.0
2013	%	46.0	43.0	50.0	52.0	54.0	67.0	73.0	68.0	84.0	79.0	68.0	57.0
2014	%	51.0	35.0	43.0	52.0	61.0	64.0	73.0	69.0	82.0	76.0	65.0	50.0
2015	%	40.0	40.0	42.0	50.0	55.0	59.0	74.0	83.0	72.0	79.0	78.0	59.0
2016	%	48.0	25.0	40.0	38.0	55.0	62.0	78.0	81.0	82.0	74.0	62.0	50.0
2017	%	41.0	40.0	51.0	41.0	57.0	62.0	78.0	82.0	79.0	74.0	62.0	38.0
AVERAGE		**46.0**	**39.0**	**45.0**	**48.0**	**60.0**	**64.0**	**76.0**	**79.0**	**80.0**	**77.0**	**66.0**	**52.0**

Source: Department of Forestry

Table 1.4.4: Jenoi station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	41.0	46.0	41.0	47.0	50.0	65.0	78.0	82.0	82.0	75.0	59.0	54.0
2011	%	42.0	33.0	40.0	50.0	50.0	63.0	73.0	81.0	80.0	73.0	57.0	46.0
2012	%	36.0	35.0	36.0	41.0	47.0	62.0	73.0	79.0	79.0	73.0	57.0	42.0
2013	%	38.0	33.0	47.0	42.0	50.0	65.0	80.0	85.0	80.0	78.0	61.0	48.0
2014	%	41.0	28.0	35.0	41.0	44.0	60.0	79.0	84.0	73.0	80.0	58.0	36.0
2015	%	25.0	31.0	32.0	37.0	50.0	53.0	71.0	80.0	78.0	77.0	57.0	45.0
2016	%	41.0	30.0	32.0	42.0	47.0	61.0	74.0	77.0	72.0	71.0	51.0	38.0
2017	%	27.0	33.0	40.0	39.0	50.0	54.0	73.0	79.0	76.0	72.0	61.0	40.0
AVERAGE		**36.0**	**34.0**	**38.0**	**42.0**	**48.0**	**60.0**	**75.0**	**81.0**	**77.0**	**75.0**	**58.0**	**44.0**

Source: Department of Water Resources

Table 1.4.5: Kerewan station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	37.0	40.0	43.0	40.0	43.0	71.0	71.0	71.0	75.0	71.0	55.0	48.0
2011	%	37.0	25.0	34.0	38.0	48.0	59.0	71.0	82.0	79.0	71.0	52.0	27.0
2012	%	30.0	28.0	31.0	35.0	44.0	59.0	72.0	78.0	78.0	71.0	49.0	36.0
2013	%	26.0	33.0	39.0	41.0	49.0	N/A	73.0	84.0	80.0	71.0	53.0	39.0
2014	%	30.0	19.0	25.0	25.0	42.0	55.0	68.0	78.0	80.0	72.0	51.0	35.0
2015	%	20.0	28.0	26.0	39.0	45.0	53.0	69.0	79.0	81.0	76.0	52.0	34.0
2016	%	28.0	17.0	24.0	42.0	37.0	53.0	72.0	76.0	78.0	66.0	46.0	27.0
2017	%	22.0	22.0	30.0	30.0	43.0	54.0	75.0	78.0	74.0	68.0	44.0	**22.0**
AVERAGE		**29.0**	**27.0**	**31.0**	**36.0**	**44.0**	**58.0**	**71.0**	**78.0**	**78.0**	**71.0**	**50.0**	**33.0**

Source: Department of Forestry

Table 1.4.6: Kaur station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	37.0	40.0	43.0	40.0	43.0	71.0	71.0	71.0	75.0	71.0	55.0	48.0
2011	%	37.0	25.0	34.0	38.0	48.0	59.0	71.0	82.0	79.0	71.0	52.0	27.0
2012	%	30.0	28.0	31.0	35.0	44.0	59.0	72.0	78.0	78.0	71.0	49.0	36.0
2013	%	26.0	33.0	39.0	41.0	49.0	N/A	73.0	84.0	80.0	71.0	53.0	39.0
2014	%	30.0	19.0	25.0	25.0	42.0	55.0	68.0	78.0	80.0	72.0	51.0	35.0
2015	%	20.0	28.0	26.0	39.0	45.0	53.0	69.0	79.0	81.0	76.0	52.0	34.0
2016	%	28.0	17.0	24.0	42.0	37.0	53.0	72.0	76.0	78.0	66.0	46.0	27.0
2017	%	22.0	22.0	30.0	30.0	43.0	54.0	75.0	78.0	74.0	68.0	44.0	**22.0**
AVERAGE		**29.0**	**27.0**	**31.0**	**36.0**	**44.0**	**58.0**	**71.0**	**78.0**	**78.0**	**71.0**	**50.0**	**33.0**

Source: Department of Water Resources

Table 1.4.7: Sapu station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	46.0	43.0	41.0	36.0	42.0	57.0	70.0	73.0	76.0	75.0	61.0	56.0
2011	%	45.0	40.0	38.0	43.0	45.0	55.0	74.0	70.0	78.0	72.0	63.0	39.0
2012	%	37.0	34.0	36.0	39.0	46.0	60.0	76.0	80.0	80.0	75.0	58.0	45.0
2013	%	37.0	35.0	40.0	38.0	43.0	67.0	63.0	84.0	82.0	76.0	55.0	40.0
2014	%	33.0	28.0	28.0	36.0	46.0	65.0	76.0	80.0	81.0	74.0	50.0	36.0
2015	%	26.0	22.0	36.0	37.0	28.0	51.0	72.0	81.0	80.0	72.0	54.0	41.0
2016	%	29.0	25.0	29.0	30.0	38.0	51.0	73.0	75.0	76.0	70.0	52.0	36.0
2017	%	32.0	23.0	31.0	32.0	39.0	49.0	80.0	80.0	74.0	68.0	23.0	38.0
AVERAGE		**36.0**	**31.0**	**35.0**	**36.0**	**41.0**	**57.0**	**73.0**	**78.0**	**78.0**	**73.0**	**52.0**	**41.0**

Source: Department of Water Resources

Table 1.4.8: Janjanbureh station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	46.0	43.0	41.0	36.0	42.0	57.0	70.0	73.0	76.0	75.0	61.0	56.0
2011	%	45.0	40.0	38.0	43.0	45.0	55.0	74.0	70.0	78.0	72.0	63.0	39.0
2012	%	37.0	34.0	36.0	39.0	46.0	60.0	76.0	80.0	80.0	75.0	58.0	45.0
2013	%	37.0	35.0	40.0	38.0	43.0	67.0	63.0	84.0	82.0	76.0	55.0	40.0
2014	%	33.0	28.0	28.0	36.0	46.0	65.0	76.0	80.0	81.0	74.0	50.0	36.0
2015	%	26.0	22.0	36.0	37.0	28.0	51.0	72.0	81.0	80.0	72.0	54.0	41.0
2016	%	29.0	25.0	29.0	30.0	38.0	51.0	73.0	75.0	76.0	70.0	52.0	36.0
2017	%	32.0	23.0	31.0	32.0	39.0	49.0	80.0	80.0	74.0	68.0	23.0	38.0
AVERAGE		**36.0**	**31.0**	**35.0**	**36.0**	**41.0**	**57.0**	**73.0**	**78.0**	**78.0**	**73.0**	**52.0**	**41.0**

Source: Department of Water Resources

Table 1.4.9: Basse station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	46.0	43.0	41.0	36.0	42.0	57.0	70.0	73.0	76.0	75.0	61.0	56.0
2011	%	45.0	40.0	38.0	43.0	45.0	55.0	74.0	70.0	78.0	72.0	63.0	39.0
2012	%	37.0	34.0	36.0	39.0	46.0	60.0	76.0	80.0	80.0	75.0	58.0	45.0
2013	%	37.0	35.0	40.0	38.0	43.0	67.0	63.0	84.0	82.0	76.0	55.0	40.0
2014	%	33.0	28.0	28.0	36.0	46.0	65.0	76.0	80.0	81.0	74.0	50.0	36.0
2015	%	26.0	22.0	36.0	37.0	28.0	51.0	72.0	81.0	80.0	72.0	54.0	41.0
2016	%	29.0	25.0	29.0	30.0	38.0	51.0	73.0	75.0	76.0	70.0	52.0	36.0
2017	%	32.0	23.0	31.0	32.0	39.0	49.0	80.0	80.0	74.0	68.0	23.0	38.0
AVERAGE		**36.0**	**31.0**	**35.0**	**36.0**	**41.0**	**57.0**	**73.0**	**78.0**	**78.0**	**73.0**	**52.0**	**41.0**

Source: Department of Water Resources

Table 1.4.10: Fatoto station monthly mean relative humidity (%), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	%	46.0	43.0	41.0	36.0	42.0	57.0	70.0	73.0	76.0	75.0	61.0	56.0
2011	%	45.0	40.0	38.0	43.0	45.0	55.0	74.0	70.0	78.0	72.0	63.0	39.0
2012	%	37.0	34.0	36.0	39.0	46.0	60.0	76.0	80.0	80.0	75.0	58.0	45.0
2013	%	37.0	35.0	40.0	38.0	43.0	67.0	63.0	84.0	82.0	76.0	55.0	40.0
2014	%	33.0	28.0	28.0	36.0	46.0	65.0	76.0	80.0	81.0	74.0	50.0	36.0
2015	%	26.0	22.0	36.0	37.0	28.0	51.0	72.0	81.0	80.0	72.0	54.0	41.0
2016	%	29.0	25.0	29.0	30.0	38.0	51.0	73.0	75.0	76.0	70.0	52.0	36.0
2017	%	32.0	23.0	31.0	32.0	39.0	49.0	80.0	80.0	74.0	68.0	23.0	38.0
AVERAGE		**36.0**	**31.0**	**35.0**	**36.0**	**41.0**	**57.0**	**73.0**	**78.0**	**78.0**	**73.0**	**52.0**	**41.0**

Source: Department of Water Resources

1.5: RAINFALL (mm)

Table 1.5.1: Banjul station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	158.3	188.1	205.8	661.9	67.7	0.0	0.0
2011	mm	0.0		0.0	0.0	0.0	8.7	181.6	343.2	353.0	55.2	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	22.1	57.8	198.6	322.7	423.2	51.0	0.0	0.0
2013	mm	0.0	0.0	0.0	0.0	0.0	0.0	78.7	280.6	40.5	2.1	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	1.5	17.5	37.0	215.2	119.0	46.8	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	0.0	116.5	250.8	267.9	126.9	9.5	0.0
2016	mm	0.0	0.0	0.0	0.0	TR	7.6	217.4	253.9	203.8	0.7	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	0.0	85.2	189.9	262.0	55.4	27.4	0.0	0.0

AVERAGE	**0.0**	**0.0**	**0.0**	**0.0**	**3.4**	**41.9**	**151.0**	**266.8**	**265.6**	**47.2**	**1.2**	**0.0**

Source: Department of Water Resources

Table 1.5.2: Yundum station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	52.8	232.1	258.1	618.3	41.7	1.0	0.0
2011	mm	0.0	0.0	0.0	0.0	0.0	43.4	112.4	373.1	276.2	75.9	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	40.7	134.7	326.6	368.6	438.0	65.5	8.5	0.0
2013	mm	0.0	0.0	0.0	0.0	0.2	17.7	118.1	651.4	179.2	55.8	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	4.3	26.1	68.8	358.3	126.3	29.8	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	9.6	240.5	475.4	444.1	83.9	27.3	0.0
2016	mm	0.0	0.0	0.0	0.0	TR	9.8	262.0	268.1	267.4	14.9	0.0	0.0
2017	mm	0.0	TR	0.0	0.0	0.0	77.5	337.2	359.3	61.5	32.6	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**6.5**	**46.5**	**212.2**	**389.0**	**301.4**	**50.0**	**4.6**	**0.0**

Source: Department of Water Resources

Table 1.5.3: Sibanor station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	124.3	276.2	476.1	359.9	48.5	0.0	0.0
2011	mm	0.0	0.0	0.0	0.0	1.6	31.3	92.1	557.0	213.5	77.2	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	22.2	139.7				22.6	0.0	0.0
2013	mm	0.0	0.0	0.0	0.0	0.0	13.9	88.8	397.7	249.3	75.3	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	1.7	49.7	160.2	374.4	-99.9	31.4	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	TR	1.1	314.1	401.0	410.1	240.6	15.8	0.0
2016	mm	0.0	0.0	0.0	0.0	TR	50.6	193.8	310.4	304.0	8.5	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	0.0	48.9	398.3	429.8	57.4	40.0	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**4.3**	**57.4**	**217.6**	**420.9**	**213.5**	**68.0**	**2.0**	**0.0**

Source: Department of Water Resources

Table 1.5.4: Jenoi station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	171.0	293.9	307.2	356.2	65.8	0.0	0.0
2011	mm	0.0	0.0	0.0	0.0	4.6	15.7	138.7	285.4	182.8	7.2	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	10.6	64.2	256.2	388.2	462.8	155.7	0.0	0.0
2013	mm	0.0	0.0	0.0	0.0	60.9	104.8	390.6	317.1	49.0	0.0	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	0.0	20.1	47.5	281.5	195.9	62.4	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	5.6	208.3	356.6	241.3	172.3	15.5	0.0
2016	mm	0.0	0.0	0.0	0.0	TR	82.3	391.6	236.2	430.3	15.9	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	0.0	27.0	271.6	458.5	64.1	109.4	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**10.9**	**61.3**	**249.8**	**328.8**	**247.8**	**73.6**	**1.9**	**0.0**

Source: Department of Water Resources

Table 1.5.5: Kerewan station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	110.1	198.8	153.3	593.8	78.5	0.0	0.0
2011	mm	0.0	0.0	0.0	0.0	4.3	12.1	80.5	216.8	190.3	29.8	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	4.3	53.8	335.7	244.1	309.7	83.4	0.0	0.0
2013	mm	0.0	0.0	0.0	0.0	0.0	5.9	143.4	383.0	177.1	78.8	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	0.0	25.2	29.8	337.2	161.1	60.1	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	0.0	244.8	390.0	370.4	135.3	0.0	0.0
2016	mm	0.0	0.0	0.0	0.0	0.4	32.5	174.8	245.2	348.5	25.6	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	0.0	179.3	376.5	271.0	77.4	39.7	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**1.1**	**52.4**	**198.0**	**280.1**	**278.5**	**66.4**	**0.0**	**0.0**

Source: Department of Water Resources

Table 1.5.6: Kaur station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	29.9	149.9	231.3	299.2	100.8	5.0	0.0
2011	mm	0.0	0.0	0.0	0.0	0.0	17.5	310.6	257.4	217.1	73.0	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	13.2	111.6	280.7	286.2	266.6	73.3	0.0	0.0
2013	mm	0.0	0.0	0.0	0.0	0.0	83.8	141.8	481.1	236.2	34.5	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	0.0	82.8	126.9	195.6	213.8	49.0	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	10.5	145.2	370.6	98.5	56.7	0.0	0.0
2016	mm	0.0	0.0	0.0	0.0	0.8	41.6	331.9	255.2	306.6	16.3	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	0.0	24.0	164.3	422.3	60.4	25.6	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**1.8**	**50.2**	**206.4**	**312.5**	**212.3**	**53.7**	**0.6**	**0.0**

Source: Department of Water Resources

Table 1.5.7: Sapu station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	182.4	354.1	349.2	401.1	41.4	0.0	0.0
2011	mm	0.0	0.0	0.0	0.0	0.0	80.6	189.9	335.7	172.6	174.4	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	51.5	230.7	353.4	497.6	312.7	111.9	0.0	0.0
2013	mm	0.0	0.0	0.0	0.0	0.0	121.3	213.4	569.6	297.8	125.9	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	12.9	25.4	168.4	287.1	208.4	52.9	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	21.9	261.5	420.0	291.9	101.0	0.0	0.0
2016	mm	0.0	0.0	0.0	0.0	9.0	50.3	318.0	349.4	348.6	32.0	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	0.0	100.5	184.2	546.5	54.4	89.3	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**9.2**	**101.6**	**255.4**	**419.4**	**260.9**	**91.1**	**0.0**	**0.0**

Source: Department of Water Resources

Table 1.5.8: Janjanbureh station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	114.5	228.1	268.5	228.8	27.3	0.0	0.0
2011	mm	0.0	0.0	0.0	0.0	63.0	47.9	141.4	226.3	145.8	65.0	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	69.6	79.4	213.8	306.2	253.4	0.0	0.0	0.0
2013	mm	0.0	0.0	0.0	0.0	2.3	141.6	269.2	232.1	346.3	48.3	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	0.9	15.0	39.5	199.5	158.3	76.2	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	47.4	114.6	310.9	209.8	114.0	0.0	0.0
2016	mm	0.0	0.0	0.0	0.0	16.6	30.7	260.4	311.9	237.1	3.7	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	0.0	156.4	177.2	391.8	30.5	57.4	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**19.1**	**79.1**	**180.5**	**280.9**	**201.3**	**49.0**	**0.0**	**0.0**

Source: Department of Water Resources

Table 1.5.9: Basse station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.0	83.9	397.7	285.2	255.7	93.9	0.0	0.0
2011	mm	0.0	0.0	0.0	0.0	4.9	73.0	95.7	337.7	330.2	48.0	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	52.9	95.5	101.0	261.1	240.2	57.3	0.0	0.0
2013	mm	0.0	0.0	0.0	0.0	16.1	85.9	169.5	352.8	243.9	65.5	10.1	0.0
2014	mm	0.0	0.0	0.0	0.0	25.9	121.4	228.4	214.9	187.4	40.2	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	35.8	307.9	274.4	297.6	76.0	TR	2.3
2016	mm	0.0	0.0	0.0	0.0	TR	82.5	193.1	354.3	254.2	5.9	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	0.0	124.8	289.3	436.1	35.0	12.6	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**14.3**	**87.9**	**222.8**	**314.6**	**230.5**	**49.9**	**1.4**	**0.3**

Source: Department of Water Resources

Table 1.5.10: Fatoto station monthly rainfall (mm), 2010 – 2017

YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	mm	0.0	0.0	0.0	0.0	0.3	76.5	434.9	318.4	393.4	160.5	0.0	0.0
2011	mm	0.0	0.0	0.0	0.0	0.0	75.4	138.8	143.4	215.0	14.0	0.0	0.0
2012	mm	0.0	0.0	0.0	0.0	50.3	45.7	157.1	234.7	234.0	88.9	8.4	0.0
2013	mm	0.0	0.0	0.0	0.0	21.1	112.7	116.7	190.0	138.2	60.2	0.0	0.0
2014	mm	0.0	0.0	0.0	0.0	53.7	95.6	151.6	133.9	144.0	15.1	0.0	0.0
2015	mm	0.0	0.0	0.0	0.0	0.0	47.6	204.2	359.0	169.8	161.0	0.0	3.5
2016	mm	0.0	0.0	0.0	0.0	1.4	42.5	96.0	155.0	358.5	12.8	0.0	0.0
2017	mm	0.0	0.0	0.0	0.0	1.5	130.3	115.1	284.1	45.2	10.0	0.0	0.0
AVERAGE		**0.0**	**0.0**	**0.0**	**0.0**	**18.1**	**70.9**	**185.6**	**219.2**	**236.1**	**73.2**	**1.2**	**0.5**

Source: Department of Water Resources

Table 1.6: Forest area by category, 1981 - 2010

(1,000 ha or unit)	**1981/1982**	**1997/1998**	**2008/2010**
FOREST	-	-	300000
MANGROVE	66900	58800	36000
OTHER WOODED LAND	-	-	123000
CLOSED WOODLAND	-	12000	-
OPEN WOODLAND	-	-	-
GALLERY FOREST, CLOSED & OPEN WOODED LAND	90700	-	-
SAVANNAH WOODLAND	-	88800	-
TREE AND SHRUB SAVANNA	347700	360800	-
OTHER LAND	-	-	589000
INLAND WATER			118000

Source: Department of Forestry

Table 1.7: Community forest management stage changes, 2014 - 2017

Area of Forest (ha or unit)	Start up (ha)		Preliminary Community Forest Management Agreement (PCFMA) ha		Community Forest Management Agreement (CFMA) ha		Total in ha.	Total in ha.	% Area under community forest management
	2014	2017	2014	2017	2014	2017	2014	2017	2017
West Coast	725.63	75	3091.2	3022.9	3957.25	5040.95	7774.17	8138.85	22.17%
Lower River	1853.19	1366.6	3325.95	2072.09	1773.49	4021.03	6952.63	7459.72	20.32%
North Bank	773.2	398.5	235	3309.37	122.3	357.5	1130.5	4065.37	11.07%
Upper River	669	500	469.57	345	1764.28	3267.13	2902.85	4112.13	11.20%
Central River South	2809.35	1177.45	1796	1238.5	2730.91	4678.12	7336.26	7094.07	19.33%
Central River North	282.91	410	2836.47	1510.2	2466.62	3908.99	5586	5829.19	15.88%
TOTAL	**7113.28**	**3,897.55**	**11754.19**	**11,498.06**	**12815**	**21,273.72**	**31682.32**	**36,699.33**	

Source: Department of Forestry

CHAPTER 2: ENVIRONMENTAL RESOURCES AND THEIR USE

Environmental resources (or assets, as they are referred to in the System of Environmental-Economic Accounting Central Framework (SEEA-CF)) are the naturally occurring living and non-living components of the earth, together constituting the biophysical environment, which may provide benefits to humanity. Environmental resources include natural resources, such as subsoil resources (mineral and energy), biological resources and water resources, and land. They may be naturally renewable (e.g., fish, timber or water) or non-renewable (e.g., minerals). They are important in every aspect of human activity such as shelter, food, health care, infrastructure, communications, transportation, defence and more. Thus, statistics of quality and availability of environmental resources are needed for policy makers to make informed decisions, especially to avoid the shortage or restriction of their use and availability. The main focus is the measure of stock variability over time, space and their use for production and consumption.

Table 2.1a: Imports and Exports by quantity (Metric tonnes), 2010 - 2017

Imports	2010	2011	2012	2013	2014	2015	2016	2017
HS Codes Minerals								
270500: Coal gas, water gas, producer gas and similar gases	0.1	6	3	2	93	107	1	2
270900: Petroleum oils	132	238	66	128	100	36	5	0
271011: Light oils and preparations	22,272	26,955	27,433	31,825	30,715	32,191	34,562	0
271019: Kerosene	55,911	52,065	63,980	52,515	59,582	60,726	69,764	109,043
271111: Natural gas	4	1	8	10	26	9	20	32
271113: Butanes, liquefied	1	1	78	4	8	9	5	118
271129: Petroleum gases and other gaseous hydrocarbons in gaseous state	1	3	4	0	14	35	1	0
271390: Other residues of petroleum oils or of oils obtained from	51	98	430	987	21	0	37	0
271500: Bituminous mixtures based on natural asphalt, on natural	54	113	80	17	37	73	30	35
Energy								
271600 Electrical energy (optional heading)	5	5	0	10	0	3	0	0
Crops								
1001: Wheat	1	3	2	3,310	30,696	46,102	29,578	0
1005: Maize (corn)	0	1	3	0	34	6	18	4
120210: Groundnuts in shell, not roasted or otherwise cooked	0	0	0	12	24	52	5	0
120220: Shelled groundnuts, not roasted or otherwise cooked	0	0	2	0	0	36	0	0
1006: Rice	88,214	143,768	140,672	130,226	140,411	906,894	129,811	159,853
Livestock								
010110: Purebred breeding animals	0.3	2	1	0.2	0.3	0.1	1	0
010290: Live bovine animals, other than purebred breeding	0	0	2	0	0	0	0	0
010511: Live fowls of species gallus domesticus (chicks)	1	2	1	1	1	2	0	1
010519: Live ducks, geese, and guinea fowls	0	0	1	1	0.1	0	0	0

Forest Products								
440110: Fuel wood, in-logs, in-billets,in-twigs, in-faggots or in similar	2	178	8,190	2,437	9,139	17,994	29,164	9,302
440121: Coniferous wood in chips or particles	2	94	11	19	27	56	39	398
440122: Non-coniferous wood in chips or particles	0	4	15	1	1	2	3	3
440290: Other wood nes	0	1,321	11,050	3,152	2,339	3,485	5,566	3,247
440310: Wood in rough, treated with paint, stains, creosote or other preservatives	8	90	11	33	111	12	103	28
440410: Coniferous hoopwood; split poles, etc; wooden sticks, etc; chipwood	39	63	2	50	1568	294	42	89
440890: Veneer sheets and sheets for plywood and other wood, =<6mm thick, nes	145	147	159	76	53	21	0	17
440929: Other Non-coniferous wood	0	2	24	19	2	1	0	3
441011: Waferboard, including oriented strand board of wood	343	222	79	2	3	1	5	106
441231: With at least one outer ply of tropical wood specified in	582	834	728	881	931	1,283	1,174	3
441232: Plywood with at least one outer ply of nonconiferous wood	18	16	30	162	101	177	365	86
441239: Other plywood	369	0	10	1	81	448	147	2
441299: Plywood, veneered panels and similar laminated wood nes	106	6	46	9	9	42	0	594

Source: Statistics Unit, Ministry of Trade, Industry and Employment

Table 2.1b: Imports and Exports by quantity (Metric tonnes), 2010 - 2017

Exports	2010	2011	2012	2013	2014	2015	2016	2017
Minerals								
270500: Coal gas, water gas, producer gas and similar gases	0	0	0	0	0	0	0	0
270900: Petroleum oils	0	0	0	0	0	0	0	0
271011: Light oils and preparations	0	0	0	0	0	0	0	0
271019: Kerosene	0	0	0	0	0	0	0	0

271111: Natural gas	0	0	0	0	0	0	0	0
271113: Butanes, liquefied	0	0	0	0	0	0	0	0
271129: Petroleum gases and other gaseous hydrocarbons in gaseous state	0	0	0	0	0	0	0	0
271390: Other residues of petroleum oils or of oils obtained from	0	0	0	0	0	0	0	0
271500: Bituminous mixtures based on natural asphalt, on natural	0	0	0	0	0	0	0	0
Energy								
271600: Electrical energy (optional heading)	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Crops								
1001: Wheat	0	0	0	0	0	0	0	0
1005: Maize (corn)	0	0	0	0	0	0	0	0
120210: Groundnuts in shell, not roasted or otherwise cooked	1,556	207	4	371	167	686	703	72
120220: Shelled groundnuts, not roasted or otherwise cooked	8,302	2,224	1,422	4,148	534	982,893	10,417	7,937
1006: Rice	0	0	0	0	0	0	0	0
Livestock								
010110: Purebred breeding animals	0	0	0	0	0	0	0	0
010290: Live bovine animals, other than purebred breeding	0	0	0	0	0	0	0	0
010511: Live fowls of species gallusdomesticus (chicks)	0	0	0	0	0	0	0	0
010519: Live ducks, geese, and guinea fowls	0	0	0	0	0	0	0	0
Forest Products								
440110: Fuel wood, in-logs, In-billets, in-twigs, in-faggots or in similar	0	235	3,634	591	0	0	0	0
440121: Coniferous wood in chips or particles	0	0	1,216	596	58,677	25,486	17,988	6,138
440122: Non-coniferous wood in chips or particles	0	0	0	0	0	0	0	0
440290: Other wood nes	0	0	598	148	19	101	0	0
440310: Wood in rough, treated with paint, stains, creosote or other preservatives	0	0	0	0	0	0	0	0

440410: Coniferous hoopwood; split poles, etc; wooden sticks, etc; chipwood	0	0	3,240	347	0	0	0	3,813
440890: Veneer sheets and sheets for plywood and other wood, =<6mm thick, nes	0	0	0	0	0	0	0	0
440929: Other Non-coniferous wood	0	0	0	0	0	0	0	0
441011: Waferboard, including oriented strand board of wood	0	0	0	0	0	0	0	0
441231: With at least one outer ply of tropical wood specified in	0	0	0	0	0	0	0	0
441232: Plywood with at least one outer ply of non-coniferous wood	0	0	0	0	0	0	0	0
441239: Other plywood	0	0	0	0	0	0	0	0
441299: Plywood, veneered panels and similar laminated woodnes	0	0	0	0	0	0	0	0

Source: Statistics Unit, Ministry of Trade, Industry and Employment

Table 2.2: Agricultural crops – Crop production, 2010 - 2017

Crop	2010	2011	2012	2013	2014	2015	2016	2017
Early Millet	77,505	72,941	96,467	71,527	59,116	55,969	54,663	39,874
Late Millet	18,872	14,293	19,622	22,272	17,701	18,301	17,798	12,135
Sorghum	14,440	20,556	23,146	30,390	20,289	21,626	20,458	18,846
Maize	35,761	23,613	28,934	33,060	30,289	32,019	31,005	21,441
Total Coarse Grain	**146,578**	**131,403**	**168,169**	**157,249**	**127,395**	**127,914**	**123,923**	**92,296**
Upland Rice	46,327	15,228	40,838	52237	32,301			21,485.72
Swampland Rice	16,599	12,606	13,381	17467	14,373			8,481.27
Total Paddy	**62,926**	**27,834**	**54,219**	**69,704**	**46,674**	**53,309.46**	**48,778.16**	**29,967**
Total Cereal	**209,504**	**159,237**	**222,388**	**226,953**	**174,069**	**181,224**	**172,701**	**122,263**
Groundnuts (73/33)	41,826	44,154	66,063	54850	46,750			29,598.06
Groundnuts (28/206)	52,390	39,704	51,238	36224	30,542			19,841.32
Philippine Pink								8,185.62
Total Groundnuts	**94,216**	**83,858**	**117,301**	**91,074**	**77,292**	**82653.97**	**71,082.41**	**57,625**

Source: Planning Service Unit, Ministry of Agriculture

Table 2.3: Agricultural crops - Area harvested, yield and production, 2012 - 2017

	2012			2013			2014			2015			2016			2017		
Early Millet	**Area**	**Yield**	**Production**	**Area**	**Yield**	**Production**	**Area**	**Yield**	**Production**	**Area**	**Yield**	**Production**	**Area**	**Yield**	**Production**	**Area**	**Yield**	**Production**
West Coast Region	1467	938	1376	5523	1150	6352	1609	659	1060	2153.8	590	1270.74	2323.8	591	1374.09	1408.49	564	794.54
Lower river Region	8591	1187	10196	10320	1003	10354	9201	733	6748	9194.6	740	6804	9894.6	743	7351.69	9364.11	604	5659.41
North Bank Region	50269	1002	50358	25702	819	21051	28354	737	20897	18576	1144	21251.06	21176.1	944	19990.24	20372.75	591	12037.8
Central R. Region North	17304	1116	19308	15079	761	11468	15025	847	12725	15076	828	12482.51	13375.5	828	11074.91	13860.7	631	8745.65
Central R. Region South	13469	903	12166	17787	832	14799	15272	667	10192	15129	700	10590.09	15128.7	630	9531.84	15172.55	529	8021.47
Upper River Region	4027	761	3063	8155	920	7503	9008	832	7493	9311.7	836	7784.58	12602.3	666	8393.13	7344.74	628	4614.99
The Gambia	95127	1014	96467	82566	914	71527	78469	753	59116	69440	806	55968.88	74501	734	54662.94	67523.33	591	39873.9
Late Millet																		
West Coast Region	6745	830	5596	8312	905	7525	7458	817	6093	7106.2	866	6153.97	7126.2	816	5814.98	2643.14	660	1744.86
Lower river Region	126	778	98	500	1175	588	424	837	355	468	782	365.98	462.53	712	329.41	750.06	624	468.06
North Bank Region	926	1301	1205	1281	920	1178	814	912	742	758.7	981	744.28	760.12	911	692.67	1633.56	586	957.24
Central R. Region North	1337	642	859	1548	842	1303	1986	374	742	2027.2	700	1419.04	2111.02	701	1480.14	2449.94	633	1549.61
Central R. Region South	1301	728	947	1770	720	1274	1798	904	1625	1858.3	842	1564.69	1751.03	832	1456.59	1560.33	602	939.89
Upper River Region	11258	970	10917	9815	1060	10404	9881	824	8144	9490.8	886	8408.85	9591.1	926	8877.33	9572.44	676	6475.34
The Gambia	21693	905	19622	23226	937	22272	22361	792	17701	21709	843	18300.77	21802	816	17797.5	18609.47	652	12135
Sorghum																		
West Coast Region	1544	902	1393	3399	1110	3773	254	924	235	306.7	854	261.92	310.07	643	199.38	500.67	766	383.5
Lower river Region	202	802	162	1350	965	1303	1412	776	1096	1046.7	887	928.42	911.74	678	618.16	1088.52	876	953.49

North Bank Region	1573	853	1341	2120	1120	2374	1034	878	908	1035.5	928	960.94	839.05	923	774.44	1550.49	764	1183.8
Central R. Region North	4762	879	4184	1973	776	1532	2676	752	2013	2133.6	925	1973.58	2012.6	785	1580.78	2103.07	795	1672.91
Central R. Region South	4739	900	4264	3127	980	3065	2465	644	1587	2491.8	741	1846.42	2491.8	812	2022.34	2221.93	779	1731.39
Upper River Region	18270	646	11802	16751	1095	18343	19394	745	14450	18132	826	14976.87	18654.7	1026	19139.76	13994.01	923	12920.5
The Gambia	31091	744	23146	28720	1008	30390	27235	745	20289	25146	860	21625.56	25220	811	20457.78	21458.69	878	18845.6
Maize																		
West Coast Region	2773	748	2075	5135	1243	6383	5934	810	4809	6112.5	869	5311.76	5412.5	869	4703.46	4500.33	679	3056.33
Lower river Region	1876	1403	2632	3423	933	3195	3588	697	2502	4447.6	692	3077.74	4107.6	792	3253.22	4011.22	738	2959.56
North Bank Region	6072	888	5394	3458	1040	3596	4926	887	4369	4245.8	933	3961.33	4015.8	736	2955.63	3632.91	806	2929.84
Central R. Region North	4203	1261	5302	5048	770	3887	5192	744	3863	5677.5	994	5643.44	5125.5	948	4858.97	3000.21	560	1681.05
Central R. Region South	5144	963	4953	7034	998	7020	7920	789	6245	7675.1	799	6132.4	7275.1	943	6860.42	7158.25	673	4815.91
Upper River Region	8220	1044	8578	9072	990	8979	9143	930	8502	8645	936	8091.72	8636.5	1093	9439.69	7505.61	799	5998.52
The Gambia	28287	1023	28934	33170	996	33060	36704	825	30289	36804	870	32019.05	34573	897	31005.11	29808.54	719	21441.2
Upland Rice																		
West Coast Region	9030	993	8963	16133	1210	19520	15090	714	10775							13967.78	319	4453.86
Lower river Region	7635	914	6976	7001	913	6392	7826	714	5588							9500.88	408	3880.78
North Bank Region	12760	853	10889	7873	1148	9038	9227	403	3723							9963.44	419	4173.82
Central R. Region North	4225	924	3905	5224	945	4937	5395	641	3456							4468.84	494	2206.27
Central R. Region South	6603	665	4391	5342	934	4991	4394	596	2618							4617.12	430	1985.36
Upper River Region	8400	680	5714	7373	998	7359	8150	753	6140							10899.57	439	4785.64
The Gambia	48653	839	40838	84946	1025	52237	50082	645	32301							53417.62	402	21485.7

Swamp Rice												
West Coast Region		0	-	500	815	408	380	908	345	351.7	381	133.91
Lower river Region	5525	839	4638	3872	862	3338	3491	646	2256	2982.85	609	1817.95
North Bank Region	2561	551	1412	4675	1287	6015	4613	886	4085	5305.29	609	3232.03
Central R. Region North	4166	938	3906	4870	1153	5614	3501	995	3482	3169.06	522	1652.98
Central R. Region South	4422	775	3425	3517	595	2092	4197	998	4187	3568.88	447	1594.65
Upper River Region	-	0	-	0	0	0	22	800	17	104.6	476	49.75
The Gambia	16752	799	13381	17434	942	17467	16204	887	14373	15482.37	548	8481.27
Groundnut 73/33												
West Coast Region	5021	919	4613	6119	836	5114	4220	979	4132	3342.23	693	2317.41
Lower river Region	1304	1946	2537	2269	1046	2373	4825	1064	5132	4458.71	798	3556.09
NorthBank Region	13726	1322	18141	18240	1227	22375	13379	986	13187	11055.01	667	7377.11
Central R. Region North	16140	1049	16927	5223	948	4951	6351	1060	6732	5095.53	621	3162.65
Central R. Region South	10489	849	8905	7887	748	5900	8367	870	7281	7394.47	766	5666.02
Upper River Region	12875	1160	14939	14625	967	14138	9993	1029	10287	9654.12	779	7518.77
The Gambia	59556	1109	66063	54363	962	54850	47134	992	46750	41000.07	722	29598.1
Groundnut 28/206												
West Coast Region	5972	767	4581	6091	825	5023	4443	1029	4573	3789.76	742	2810.91
Lower river Region	6786	911	6183	4237	852	3612	4053	929	3763	3903.98	604	2357.94
NorthBank Region	16522	752	12418	9363	815	7629	6565	885	5806	7786.02	761	5926.03
Central R. Region North	6784	1010	6855	6927	915	6338	3399	924	3141	2882.86	702	2024.92

Central R. Region South	5981	1110	6639	7511	749	5627	5323	971	5170						4849.77	772	3742.04
Upper River Region	15272	954	14562	8724	917	7996	6562	1233	8088						4453.75	669	2979.48
The Gambia	57317	894	51238	42853	845	36224	30345	1007	30542						27666.14	717	19841.3
Groundnut (73/33+28/208)																	
West Coast Region										11086	1022	11330.2	11140.8	621	6918.43		
Lower river Region										9172.5	1010	9264.23	9312.25	909	8464.84		
NorthBank Region										20510	994	20387.04	21210.2	912	19346.04		
Central R. Region North										11090	949	10524.32	10819.9	784	8481.72		
Central R. Region South										13689	1021	13975.96	14612.3	894	13063.06		
Upper River Region										16614	1041	17294.86	17913.6	897	16070.12		
The Gambia										82161	1006	82653.97	85009	836	71082.41		
Groundnut (Philipine pink)																	
West Coast Region															6735.19	648	4363.95
Lower river Region															464.25	788	365.92
NorthBank Region															1046.73	781	817
Central R. Region North															55.79	790	44.07
Central R. Region South															74	755	55.86
Upper River Region															2880.83	881	2538.82
The Gambia															11256.8	727	8185.62

Rice (Upland + Swamp)						
West Coast Region	15009	842	12637.83	16207.1	733	11879.66
Lower river Region	11310	799	9036.45	10501.1	800	8400.75
NorthBank Region	14212	654	9294.78	14379.1	607	8726.67
Central R. Region North	9262.3	766	7094.92	9732.23	539	5241.78
Central R. Region South	8559.7	827	7078.87	8852.17	710	6284.07
Upper River Region	9298.5	839	7801.44	9889.32	819	8099.25

Source: Planning Services Unit, Ministry of Agriculture

Table 2.4: Livestock herd and poultry status by type, 2010 - 2017

Animal Type	2010	2011	2012	2013	2014	2015	2016	2017
Ndama Cattle	356,395	392288	226725	405497	431308	N/A	253545	256241
Non Ndama Cattle		6184	30643	30557	47775	N/A	3756	11483
West African Dwarf Goat	330,677	296939	286621	254102	340314	N/A	326603	313198
Non West African Dwarf Goat		6051	25509	13333	19521	N/A	1733	N/A
Djalonke Sheep	194,722	139296	79420	25985	40427	N/A	166467	154481
Non Djalonke Sheep		4643	32744	14885	12762	N/A	6195	4004
Donkeys	N/A	55527	48014	28048	22941	N/A	65650	53054
Horses	N/A	16902	18504	4515	4593	N/A	22070	21050
Pigs	7,991	6385	N/A	4873	8192	N/A	14380	14283
Poultry	253641	1870376	637028	516806	609180	N/A	937951	N/A

Source: Planning Services Unit, Ministry of Agriculture

Comment [UNSD1]: What is the difference between NA and blank in the other tables? If it has the same meaning should be consistent in how it is represented

Comment [M2]: Actually this aren't blank, for 2010 these breeds were not disaggregated. E.g cattle was just entred as cattle not like "ndama cattle" and "non ndama cattle". Same applies to Goat and Sheep for 2010

CHAPTER 3: RESIDUALS

This chapter contains statistics on the amount and characteristics of residuals generated by human production and consumption processes, their management, and their final release to the environment. Residuals are flows of solid, liquid and gaseous materials, and energy, that are discarded, discharged or emitted by establishments and households through processes of production, consumption or accumulation. Residuals may be discarded, discharged or emitted directly to the environment or be captured, collected, treated, recycled or reused. The FDES 2013 covers the main groups of residuals that are emissions of substances to air, water or soil, wastewater and waste, and the release of residuals from the application of chemical substances.

Table3.1: Imports of Ozone Depleting Substance Alternative in all sectors, 2012 - 2015

Alternative	Imports (Mt)			
	2012	2013	2014	2015
HFC				
HFC-134a	7	8	8	8
HFC-227ea/HFC-365mfc				
HFC blends				
R-404A	5	9	1	2
R-407C	1	1	1	2
R-410A	0	1	1	1
R-507A				
HFO				
HFO-1234yf				
Other alternative				
HC-290				
HC-600a	1	3	3	2
Pentane(C, N, I)				
R-744				
R-717				

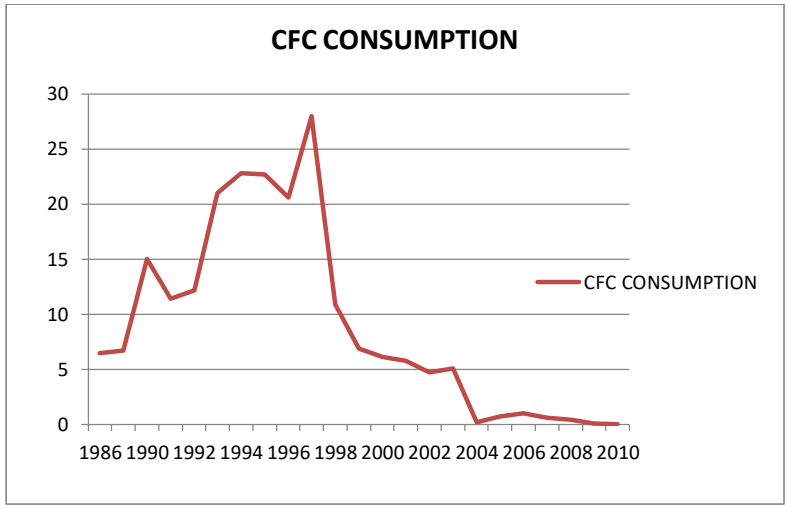
Source: National Environment Agency

Table 3.2: Estimated use by Ozone Depleting Substance Alternative (Mt), 2012 - 2015

Alternative	*Estimated use (Mt)*			
	2012	**2013**	**2014**	**2015**
HFC*				
HFC-134a	9	11	13	15
HFC-227ea/HFC-365mfc				
HFC blends				
R-404A	6	7	8	10
R-407C	5	6	10	12
R-410A	4	6	8	9
R-507A				
HFO				
HFO-1234yf				
OTHERS				
Methyl formate	12	13	15	16
HC-290				
HC-600a	4	5	7	8
Pentane(C, N, I)				
R-744				
R-717				

Source: National Environment Agency

Figure 1: Consumption of CFC, 1986-2010



Source: National Environment Agency

Table 3.3: Pesticide / Chemical imported in to The Gambia, 2013 - 2016

Pesticide / Chemical	Unit	2013	2014	2015	2016
Lanju brand mosquito spray	kg	8,840		113,210	74,485
Lanju brand mosquito coil	carton	32,460	10,311		
Methanol	ml	250			
Ethanol	ml	250			
N-Deithylbenzamide	carton		50		
Attack insecticide	Litre		1920		
Hdryochloric acid	Litre		900		

Sodium hydrogen sulphate	kg	18,450		
Aerosol insecticides (bayonet)	carton	13,307		
Baygon liquid and aerosol	carton	645		
Sniper DDVP	carton	298		
Dye	kg	123		
Baygon	Litre	26,840	9,114	
Sulphuric acid	mg/m^3		11	
Calcium carbide	litre		29,376	
Odomos Mosquito repellant cream	kg		126	
Insecticide spritex	Litre		19,656	
Insecticide Bath	kg		13,977	
Bop insecticide spray	Litre		9,600	
Polymeric	Litre			332,000
Bayonet Aerosol	Litre			42, 860

Source: National Environment Agency

CHAPTER 4: EXTREME EVENTS AND DISASTERS

This chapter organizes statistics on the occurrence of extreme events and disasters with focus on their impacts on human well-being and the infrastructure of the human sub-system. The most common data providers are national and subnational authorities responsible for disaster management and assistance, insurance companies, satellite information and research centres. Unfortunately, there is a data gap regarding FDES Component 4 for The Gambia.

CHAPTER 5: HUMAN SETTLEMENTS AND ENVIRONMENTAL HEALTH

This chapter encompasses statistics on the environment in which humans live and work, particularly with regard to living conditions and environmental health. These statistics are important for the management and improvement of conditions related to human settlements, shelter

conditions, safe water, sanitation and health. Increasing concentration of humans in modern urban settlements pose special challenges to humans and their physical environment in which these settlements are located. The well-being and health risks associated with the environment can be mitigated substantially by the prevailing conditions and characteristics of human settlements. Appropriate infrastructure, adequate waste disposal, wise land use planning, clean and safe transportation and ecosystem health, among others, can modify the effect of environmental and settlement-related risks on human well-being.

Table 5.1Percentage distribution of household heads by source of light, LGA and residence, 2013

	Electricity	Kerosene lamp with shade	Other kerosene lamp	Candle	Solar	Firewood	Battery powered light	Other	NS	Total	No. of Households
LGA											
Banjul	89.4	0.3	0	5.2	0	0	4.9	0	0.1	100	6,643
Kanifing	81.8	0.5	0.3	8.2	0.2	0	8.9	0.1	0	100	60,103
Brikama	42.9	0.5	0.6	16.1	4.7	0	35.1	0.1	0.1	100	82,006
Mansakonko	21.3	0.7	0.7	16.1	7.1	0.1	53.8	0.2	0.1	100	9,668
Kerewan	24.6	0.5	0.1	11.8	4.9	0.1	58.1	0.1	0	100	22,609
Kuntaur	8.2	1.2	0.2	31	3.8	1.5	53.9	0	0.1	100	8,913
Janjanbureh	12	1.5	0.3	35	4.3	0.4	46.3	0.1	0.2	100	11,849
Basse	26.5	1.6	1	22.8	7.2	0.6	39.7	0.5	0.1	100	15,819
Residence											
Urban	67	0.5	0.4	11.9	1.7	0	18.4	0.1	0	100	146,194
Rural	8.7	0.9	0.5	22.2	7.4	0.5	59.6	0.2	0.1	100	71,416
Total	**47.9**	**0.7**	**0.5**	**15.3**	**3.6**	**0.2**	**31.9**	**0.1**	**0.1**	**100**	**217,610**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.2: Distribution of household heads by source of light and sex, 2013

Source of light	Sex		Number of Household
	Male	Female	
Electricity	79,165	25,054	104,219
Kerosene lamp with shade	1,144	264	1,408
Other kerosene lamp	778	192	970
Candle	27,252	5,936	33,188
Solar	6,465	1,316	7,781
Battery powered lamp	56,693	12,692	69,385
Other	473	73	546
NS	93	20	113
Total	**172,063**	**45,547**	**217,610**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.3: Percentage distribution of households' main cooking fuel by LGA and residence, 2013

	Firewood	Kerosene	Briquette	Charcoal	Gas	Electricity	Saw dust	Other	NS	Total	Number of Households
LGA											
Banjul	6.4	0.9	0	58.7	3.5	0	0	0.4	30.1	100	6,643
Kanifing	31	0.8	0.4	48.3	6.9	0	0.5	0.2	11.8	100	60,103
Brikama	70.2	0.6	0.6	20.7	3.3	0.1	0.8	0.2	3.6	100	82,006
Mansakonko	90.1	0.2	1	3.8	0.6	0	0.4	0.1	3.7	100	9,668

Kerewan	88.4	0.5	0.2	5.1	0.5	0	0.3	0	5	100	22,609
Kuntaur	96.5	0.5	0.4	0.9	0.1	0	0.2	0	1.4	100	8,913
Janjanbureh	95.4	0.4	0.4	1.3	0.2	0	0.1	0	2.2	100	11,849
Basse	81.7	0.6	0.5	10.4	0.9	0	0	0.1	6	100	15,819
Residence											
Urban	48.2	0.8	0.5	35.6	4.8	0.1	0.6	0.2	9.2	100	146,194
Rural	94.7	0.3	0.4	1.9	0.5	0	0.22	0	2	100	71,416
Total	**63.5**	**0.6**	**0.5**	**24.5**	**3.4**	**0**	**0.5**	**0.1**	**6.9**	**100**	**217,610**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.4: Percentage distribution of households by type of toilet facility, LGA and residence, 2013

LGA	Type of Toilet Facility										Number of households
	Piped Sewer System	Septic Tank	Pit Latrine (with slab)	Pit Latrine (without slab)	Ventilated Improved Pit Latrine	Bucket/ Pan	No facility/ Bush/ Open	Other	NS	Total	
Banjul	87.4	3.5	7	0.9	0	0.9	0.2	0	0	100	6,643
Kanifing	0	41.7	37.5	14.5	4.6	0.5	0.6	0.6	0	100	60,103
Brikama	0	16.5	43.7	31.6	4.9	0.2	1.7	1.3	0.1	100	82,006
Mansakonko	0	2.8	41.1	49.7	2.4	0	3.4	0.4	0.1	100	9,668
Kerewan	0	3.8	46.6	42.4	3	0.2	2.7	1.1	0	100	22,609
Kuntaur	0	1.7	33.8	45.1	2.2	0	16.2	0.8	0.1	100	8,913
Janjanbureh	0	2.5	32.6	55.3	2.1	0	6.4	0.9	0.2	100	11,849
Basse	0	2.4	38.2	54.5	3.6	0	0.8	0.2	0.1	100	15,819
Residence											
Urban	4	26.7	41.2	21.5	4.8	0.4	0.5	0.9	0	100	146,194
Rural	0	2.4	36.6	51.7	2.4	0	6	0.9	0.1	100	71,416
Total	**2.7**	**18.7**	**39.7**	**31.4**	**4**	**0.3**	**2.3**	**0.9**	**0.1**	**100**	**217,610**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.5: Percentage distribution of households by method of solid waste disposal, LGA and residence, 2013

	Land fill/ Burying	Burning	Use as compost	Recycling	Collection by Municipality (Household Containers)	Collection by Municipality (Municipal Containers)	Collected by private firm	Set-setal*	Public dump site (authorized)	Bush or Open space	Other	NS	Total
LGA													
Banjul	0.4	0.9	0.6	0	86.9	8.8	0.1	0	1.9	0.2	0.3	0.1	100
Kanifing	3.4	14.1	0.5	0.2	9.2	5.2	41	0.8	18.1	6.6	1	0	100
Brikama	16.1	51.3	1.7	0.3	1.4	0.6	8.8	0.8	6.6	11.8	0.6	0.1	100
Mansakonko	29.2	22	4.4	0.7	0.5	0.4	0.4	0.3	5.3	36.4	0.3	0.1	100
Kerewan	23.3	19.6	8.4	0.7	0.8	0.3	3.3	0.3	3.4	39.6	0.2	0	100
Kuntaur	13.4	17.6	6.7	0.1	0	0	0	0.4	0.7	60.9	0.1	0.1	100
Janjanbureh	18	17.1	2.1	0.6	0.1	0	0.8	0.4	5.1	55.4	0.4	0.2	100
Basse	15.9	23.9	7.1	0.4	1.4	0.1	1.6	0.1	7.2	41.8	0.3	0.1	100
Residence													
Urban	8.3	32.7	0.9	0.3	8.8	2.9	22.4	0.8	12.3	9.9	0.8	0	100
Rural	24	23.5	6.5	0.4	0.1	0.1	0.4	0.2	2.2	42.3	0.2	0.1	100
Total	**13.4**	**29.6**	**2.8**	**0.4**	**5.9**	**2**	**15.2**	**0.6**	**8.9**	**20.6**	**0.6**	**0.1**	**100**

*"Set-settal" is a national cleansing exercise which is conducted bi-monthly.
Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.6: Percentage distribution of households by regularity of collection of solid waste, LGA and residence, 2013

	Collected (private)		Collected (municipality)				
	Regular	Not regular	Regular	Not regular	Not Stated	Total	Number of Households
LGA							
Banjul	2.5	2.5	84	11	0	100	6,356
Kanifing	62.4	14.4	11.2	11.9	0	100	33,233
Brikama	68.1	15.4	11.4	4.3	0.8	100	8,892

Mansakonko	41.1	24.2	10.5	24.2	0	100	124
Kerewan	60.1	12.1	17.9	10	0	100	1,002
Kuntaur							
Janjanbureh	32.4	30.5	4.8	32.4	0	100	105
Basse	49.1	12.3	28.3	10.3	0	100	495
Residence							
Urban	55.7	12.9	20.9	10.5	0.1	100	49,792
Rural	40	36.6	9.6	13.7	0	100	415
Total	**55.6**	**13.1**	**20.8**	**10.5**	**0.1**	**100**	**50,207**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.7: Percentage distribution of households by main source of water, LGA and residence, 2013

	Piped into Dwelling	Piped into Compound	Public Stand Pipe	Protected Well in Compound	Unprotected Well in Compound	Well with pump (public)	Well without pump (public)	Other	NS	Total	number of households
LGA											
Banjul	24.2	71.9	1.9	0	0.6	0.1	0	1.2	0.1	100	6,643
Kanifing	12.7	62.5	15.5	2.2	1.8	0.6	0.7	4.1	0	100	60,103
Brikama	4.9	29.5	25.1	10.2	12.8	8.2	5.2	4	0	100	82,006
Mansakonko	1.5	7.6	29.5	12.8	1.1	35.3	10.3	1.5	0.4	100	9,668
Kerewan	1.7	13.4	34.1	9.7	4.3	23.7	11.2	1.8	0	100	22,609
Kuntaur	0.6	3.3	16	7.5	0.8	49.1	22.2	0.5	0.1	100	8,913
Janjanbureh	2.2	5.4	22.3	7.8	4.9	35.1	21.5	0.7	0.2	100	11,849
Basse	0.8	1.3	11.5	33	5.5	33.8	10.1	3.9	0.1	100	15,819
Residence											

Urban	9.5	47.5	19.9	7.5	6.3	2.9	2.3	4.1	0	100	1,476,194
Rural	0.6	2.7	24.4	12.6	7.1	35.7	15.4	1.6	0.2	100	71416
Total	**6.6**	**32.8**	**21.4**	**9.2**	**6.5**	**13.7**	**6.6**	**3.3**	**0.1**	**100**	**217,610**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.8: Percentage distribution of households by source of water, 1983-2013

	Census Years			
Main source of water	**1983**	**1993**	**2003**	**2013**
Private pipe	9.9	15.7	26	39.4
Public pipe	12.1	17.7	31.5	21.4
Private well	21.7	22.3	13.7	9.2
Public well with pump	1.1	17	18.5	13.7
Public well without pump	45.8	20.2	8.6	6.6
Other	2.7	4.4	1.4	3.5
NS	6.8	2.6	0.3	1
Total	**100**	**100**	**100**	**100**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.9: Percentage distribution of the population by residence and sex, 2013

Residence	**Population**			**% share of the population**		
	Male	**Female**	**Total**	**Male (%)**	**Female (%)**	**Total (%)**
Urban	537,005	536,822	1,073,827	50	50	100

Rural	376,750	406,604	783,354	48.1	51.9	100
Total	**913,755**	**943,426**	**1,857,181**	**49.2**	**50.8**	**100**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.10: Percentage distribution of the population by LGA and residence, 2003 - 2013

LGA	2003			2013		
	Urban	Rural	Total	Urban	Rural	Total
Banjul	100	0	100	100	0	100
Kanifing	100	0	100	100	0	100
Brikama	60.3	39.7	100	73.6	26.4	100
Mansakonko	18.4	81.6	100	18.7	81.4	100
Kerewan	20.1	79.9	100	22.8	77.2	100
Kuntaur	6.4	93.6	100	7.3	92.7	100
Janjanbureh	15.5	84.5	100	14.9	85.1	100
Basse	13	87	100	28.6	71.4	100
Total	**50.4**	**49.6**	**100**	**57.8**	**42.2**	**100**

Source: 2013 PHC, Gambia Bureau of Statistics

Table 5.11: Percentage distribution of the population by Local Government Area, 1973-2013

LGA	Population					% Share of total population				
	1973	1983	1993	2003	2013	1973	1983	1993	2003	2013
Banjul	39,179	44,188	42,326	35,061	31,054	7.9	6.4	4.1	2.6	1.7
Kanifing	39,404	101,504	228,214	322,735	377,134	8	14.8	22	23.7	20.3
Brikama	91,013	137,245	234,917	389,594	688,744	18.4	20	22.6	28.6	37.1
Mansakonko	42,447	55,263	65,146	72,167	81,042	8.6	8	6.3	5.3	4.4
Kerewan	93,388	112,225	156,462	172,835	220,080	18.9	16.3	15.1	12.7	11.9

Kuntaur	47,669	57,594	67,774	78,491	96,703	9.7	8.4	6.5	5.8	5.2
Janjanbureh	54,232	68,410	88,247	107,212	125,204	11	9.9	8.5	7.9	6.7
Basse	86,167	111,388	155,059	182,586	237,220	17.5	16.2	14.9	13.4	12.8
Total	**493,499**	**687,817**	**1,038,145**	**1,360,681**	**1,857,181**	**100**	**100**	**100**	**100**	**100**

Source: 2013 PHC, Gambia Bureau of Statistics

5.12: Percentage distribution of households and the de jure population by source of drinking water, time to obtain drinking water, and treatment of drinking water, according to residence, The Gambia 2013

	Households			Population		
Characteristic	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Source of drinking water						
Improved source	95.3	84.7	91	94.3	84.8	89.6
Piped into dwelling	5.5	0.4	3.4	4.3	0.3	2.3
Piped to yard/plot	60.4	6.1	38.2	59.2	5	32.5
Public tap/standpipe	24.6	44.7	32.8	25.2	44.7	34.8
Tubewell or borehole	1.8	18.9	8.8	1.6	18.6	10
Protected well	2.4	14.5	7.4	3.9	16.1	9.9
Bottled water	0.6	0.1	0.4	0.1	0	0.1
Non-improved source	3.7	14.5	8.1	4.3	14.6	9.4
Unprotected well	3.7	14.3	8	4.3	14.5	9.3
Surface water	0	0.2	0.1	0	0.1	0.1
Other source	0.9	0.7	0.8	1.3	0.5	0.9
Total	100	100	100	100	100	100
Time to obtain drinking water (round trip)						
Water on premises	69.8	11.8	46.1	67.2	10.8	39.4
Less than 30 minutes	24.6	67.7	42.3	25.6	67.2	46.1
30 minutes or longer	5.1	19.3	10.9	6.6	21.1	13.8
Don't know/missing	0.4	1.2	0.7	0.6	1	0.8
Total	100	100	100	100	100	100
Water treatment prior to						

drinking1						
Boiled	0.3	0.2	0.2	0.2	0.1	0.1
Bleach/chlorine added	2.9	3.1	3	3	3.1	3.1
Strained through cloth	5.1	23.5	12.6	7.3	25.5	16.2
Ceramic, sand, or other filter	0.3	0.1	0.2	0.2	0.1	0.1
Other	0.2	0.4	0.3	0.2	0.2	0.2
No treatment	91.2	73.5	84	89.7	71.9	81
Percentage using an appropriate treatment method2		3.3	3.4	3.3	3.3	3.3
3.4						
Number		2,546	6,217	25,939	25,202	51,1
3,671						42

1 Respondents may report multiple treatment methods, so the sum of treatment may exceed 100 per cent.

2 Appropriate water treatment methods include boiling, bleaching, filtering, and solar disinfecting.

Source: 2013 PHC, Gambia Bureau of Statistics

5.13: Percentage distribution of households and the de jure population by type of toilet/latrine facilities, according to residence, 2013

	Households			Population		
Type of toilet/latrine facility	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Improved, not shared facility	45.9	24.3	37	50.4	29	39.8
Flush/pour flush to piped sewer system	2	0	1.2	1.9	0	1
Flush/pour flush to septic tank	26.2	2	16.3	25.6	1.7	13.8
Flush/pour flush to pit latrine	2.1	0.4	1.4	2.2	0.5	1.4
Ventilated improved pit (VIP) latrine	4.3	4.2	4.2	5.8	4.2	5
Pit latrine with slab	11.3	17.7	13.9	14.8	22.5	18.6
Shared facility1	31.5	12.8	23.8	26.8	10.8	18.9
Flush/pour flush to piped sewer system	2.3	0	1.3	1.2	0	0.6
Flush/pour flush to septic tank	4.6	0.2	2.8	3.9	0.1	2.1
Flush/pour flush to pit latrine	1.5	0.2	1	1.3	0.2	0.8

Ventilated improved pit (VIP) latrine	6.9	2.1	4.9	6.1	1.7	4
Pit latrine with slab	16.3	10.2	13.8	14.1	8.8	11.5
Non-improved facility	22.6	62.9	39.1	22.9	60.2	41.3
Pit latrine without slab/open pit	22.1	58	36.8	22.6	56.5	39.3
No facility/bush/field	0.3	4.7	2.1	0.2	3.5	1.8
Other	0.1	0.2	0.1	0	0.1	0.1
Total	100	100	100	100	100	100
Number	3,671	2,546	6,217	25,939	25,202	51,142

1 Facilities that would be considered improved if they were not shared by 2 or more households

Source: 2013 DHS, Gambia Bureau of Statistics

CHAPTER 6: ENVIRONMENT PROTECTION, MANAGEMENT AND ENGAGEMENT

Environmental protection, management and engagement contains information on environmental protection and resource management expenditure to improve the environment and maintain ecosystem health. Environmental governance, institutional strength, enforcement of regulations and extreme event preparedness are also considered. It also includes a wide variety of programmes and actions to increase awareness, including environmental information and education, as well as private and community activities aimed at diminishing environmental impacts and improving the quality of local environments. However, this chapter only covers statistics on environmental governance and protection.

Table 6.1: List of Multilateral Environmental Agreements (MEA's) and other Global Environmental Conventions Signed, 2017

NO:	CONVENTION	DATE OF SIGNING	DATE OF RATIFICATION	RESPONSIBLE AGENCY
1.	Abidjan Convention	March 23, 1981,	Dec. 6, 1984	National Environment Agency
2.	Vienna Convention for the Protection of the Ozone Layer	Jan. 26, 1995		National Environment Agency
3.	Rotterdam Convention	1998	Feb. 2004	National Environment Agency
4.	Minamata	Oct. 2013	Nov. 2016	National Environment Agency
5.	United Nations Framework on Climate Change	Oct. …1995	Jan. 29, 1996	National Climate Committee with a Secretariat at the NEA
6.	Stockholm Convention	May 2001	May 2003	National Environment Agency
7.	Basel Convention	1989	1992	National Environment

				Agency
8.	Montreal Protocol	1987	16th Sept. 1989	National Environment Agency

Source: National Environment Agency

Table 1.2: Policy frameworks and legislations, 2017

Legislation	**Date enacted**	**Implementation Status**	**Comments**
Gambia Environmental Action Plan (GEAP II)	2008	2009 - 2018	
National Environment Management Act.	1994		
Hazardous Chemical Control Act.	1994		Amendment Reg. 2013
Ozone Depleting Substances Regulations	1999		
Environment Quality standard Regulations	1999		

Source: National Environment Agency