

CDM-MP97-A01

Draft Methodological tool

TOOL33: Default values for common parameters

Version 03.1



United Nations
Framework Convention on
Climate Change

COVER NOTE

1. Procedural background

1. The Executive Board of the clean development mechanism (CDM) (hereinafter referred to as the Board), at its 116th meeting, considered the information on development of accurate and reliable region-specific default values for fraction of non-renewable biomass (f_{NRB}) that can be applied in methodologies for clean cooking and requested the Methodologies Panel (MP) to develop subnational/regional values of f_{NRB} , building on scientific studies and engaging external experts. The Board highlighted that such default values should be consistent with the methods contained in "TOOL30 Calculation of the fraction of non-renewable biomass" (hereinafter referred to as TOOL30). In this regard, the Board requested the MP to prepare a concept note based on the work undertaken for consideration by the Board at a future meeting. The Board further requested the MP to propose a revision to TOOL30 and/or related methodologies/tools if there is a need to further clarify and/or revise elements of TOOL30 or related methodologies/tools, in light of the work undertaken on default values.

2. Purpose

2. The purpose of the revision is to remove the references to TOOL30 and include new default values for f_{NRB} at the national and regional (continental) level. The revision also provides an option for stakeholders to propose new methodological approaches for calculation of f_{NRB} values that result in further advancements in terms of accuracy and conservativeness, for consideration by the Board.

3. Key issues and proposed solutions

3. The revision of the TOOL33 allows stakeholders to use the default values of f_{NRB} included in it, and it also provides an option for stakeholders to propose new methodological approaches for calculation of f_{NRB} values that result in further advancements in terms of accuracy and conservativeness, for consideration by the Board.
4. The revisions to draft TOOL33 are highlighted in two colors: yellow highlights indicate changes introduced at MP96 and submitted for consideration at EB 124, while green highlights reflect additional changes made at MP97, and submitted for EB 125.

4. Impacts

5. The national and regional (continental) default values of f_{NRB} will ensure the reliability of calculating emission reductions, reduce transaction cost and facilitate the implementation of CDM project activities and PoAs in the household cookstove sector.

5. Subsequent work and timelines

6. The MP, at its 97th meeting, agreed to seek public inputs on the revised version of the tool. If inputs are received, they will be discussed with the MP and forwarded to the Board for

its consideration. If no inputs are received, the MP recommends that the Board approve the proposed draft version of the tool. No further work is envisaged.

6. Recommendations to the Board

7. The MP recommends that the Board approve the proposed revision to the tool to be made effective at the time of the Board's approval.

TABLE OF CONTENTS	Page
1. INTRODUCTION	5
2. SCOPE, APPLICABILITY, AND ENTRY INTO FORCE	5
2.1. Scope	5
2.2. Applicability	5
2.3. Entry into force	5
3. NORMATIVE REFERENCES	5
4. DEFINITIONS	5
5. PARAMETERS.....	6
5.1. Carbon dioxide emission factor for diesel generating system used for off-grid power generation purposes	6
5.2. Carbon dioxide emission factor for kerosene used for lighting applications	7
5.3. Wood-to-charcoal conversion factor	7
5.4. Average annual consumption of woody biomass per person for cooking	7
5.5. Fraction of non-renewable biomass.....	7
5.6. Efficiency of pre-project cooking device.....	56
APPENDIX 1. PROCESS, CRITERIA AND TIMELINE FOR THE UPDATE OF THE DEFAULT VALUES	57
APPENDIX 2. PRINCIPLES OF CONSERVATIVENESS.....	58

1. Introduction

1. This tool serves as a repository of default values¹ of common parameters, which are applied in methodologies that refer to this tool.

2. Scope, applicability, and entry into force

2.1. Scope

2. This tool includes default values for the parameters listed under section 5 below.
3. The appendix 1 of this tool specifies the validity, process for update and timelines for the update of the default values.
4. The appendix 2 of this tool provides guiding principles of conservativeness that were applied to determine the default values included in this tool considering the level of uncertainty of underlying data.

2.2. Applicability

5. This tool shall be applied in conjunction with the methodologies which refer to this tool to source the default values to estimate the baseline emissions (e.g. from the use of diesel for off-grid power generation, from the use of kerosene for lighting, from the use of woody biomass for cooking).
6. The default values, as contained in section 5 of this tool, are valid up to 10 March 2025. Notwithstanding the provisions on the validity of new, revised and previous versions of methodologies and methodological tools in the “Procedure: Development, revision and clarification of baseline and monitoring methodologies and methodological tools”, there will be no grace period for the application of this tool and the validity of the default values after this date, including in cases where further default values are added to this tool through revisions of this tool before this date.

2.3. Entry into force

7. The date of entry into force is the date of the publication of the **EB ###** meeting report on **# Month 2025**.

3. Normative references

8. Not applicable.

4. Definitions

9. The definitions contained in the Glossary of CDM terms shall apply.

¹ The background information on the rationale for the default values is included under Annex 3 of MP87 meeting report and Annex 19 of MP 88 meeting report.

10. For the purpose of this tool, the following definition shall apply:

- (a) **Mini-grid system** – An integrated energy system consisting of interconnected loads and one or more energy resources with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all electricity generating units connected to the mini-grid is equal to or less than 15 MW), which is not connected to a national or a regional grid.

5. Parameters

11. This tool provides default values for following parameters:

- (a) CO₂ emission factor for diesel generating system used for off-grid power generation purposes;
- (b) CO₂ emission factor for kerosene used for lighting applications;
- (c) Wood-to-charcoal conversion factor;
- (d) Average annual consumption of woody biomass per person for cooking;
- (e) Fraction of non-renewable biomass;
- (f) Efficiency of pre-project cooking device.

5.1. Carbon dioxide emission factor for diesel generating system used for off-grid power generation purposes

12. For a baseline electricity generating system, including the mini-grid system, where all generators use exclusively fuel oil and/or diesel fuel, the CO₂ emission factor for a diesel generating system of the relevant capacity operating at optimal load as given in Table 1 shall be considered.

Table 1. Emission factors for diesel generator systems (in kg CO₂/kWh^(a))

Cases	Mini-grid with 24 hour service	Mini-grid with temporary service (4 –6 hr/day); Productive applications; Water pumps	Mini-grid with storage
Load factors [%]			
Size	25%	50%	100%
<15 kilowatts (kW)	1.0	0.9	0.8
>=15 <35 kW	1.0	0.8	0.8
>=35 <135 kW	1.0	0.8	0.8
>=135<200 kW	0.9	0.8	0.8
> 200 kW	0.8	0.8	0.8

^(a) A conversion factor of 3.2 kgCO₂ per kg of diesel has been used (following 2006 IPCC Guidelines for National Greenhouse Gas Inventories)

5.2. Carbon dioxide emission factor for kerosene used for lighting applications

13. In methodologies where, in the baseline, kerosene usage for lighting purposes and usage of diesel generating system for meeting electricity demand is envisaged, the default emission factor is provided as follows:

- (a) For the first 55 kWh of electricity supplied to the user by the project electricity generating system in a given year, the emission factor is 2.72 kg CO₂/kWh (i.e. 2.72 t CO₂/MWh);
- (b) For the electricity supplied to the user by the project electricity generating system in a given year that is above 55 kWh, the emission factor is as specified in Table 1 above based on the diesel generator capacity and the load.

5.3. Wood-to-charcoal conversion factor

14. The default value for wood-to-charcoal conversion factor is 4.0 kg of fuelwood (wet basis) per kg of charcoal (dry basis).

5.4. Average annual consumption of woody biomass per person for cooking

15. The default value for the average annual consumption of woody biomass is 0.4 tonnes/person/year (wet basis).

5.5. Fraction of non-renewable biomass

16. The default values at National and regional (continental) levels are listed below. While the National values are recommended to be used in general; regional values may be used if the national values are not available. Stakeholders may also propose new methodological approaches for calculation of f_{NRB} values that result in further advancements in terms of accuracy and conservativeness, for consideration the CDM EB.

17. The default values for the for the fraction of non-renewable biomass (f_{NRB}) at the regional (continental) level are listed below in Table 2.

Table 2. Global and Regional (Continental) f_{NRB} values

Region	f_{NRB}
Asia	18%
Latin America	32%
Sub-Saharan Africa	40%
Global	32%

18. The default values for the fraction of non-renewable biomass (f_{NRB}) at the National level are listed below in Table 3.

Table 3. Default values for fraction of f_{NRB} at National level

Country	f_{NRB} Mean (%)
Afghanistan	10
Angola	27

Country	INRB Mean (%)
Armenia	1
Azerbaijan	1
Bangladesh	39
Benin	34
Bhutan	30
Plurinational State of Bolivia	14
Botswana	35
Brazil	13
Burkina Faso	36
Burundi	35
Cambodia	20
Cameroon	38
Central African Republic	42
Chad	37
China	10
Colombia	7
Costa Rica	10
Côte d'Ivoire	19
Democratic Republic of the Congo	42
Djibouti	1
Dominican Republic	43
Ecuador	28
Equatorial Guinea	31
Eritrea	30
Eswatini	16
Ethiopia	33
Gabon	18
Gambia	55
Georgia	1
Ghana	35
Guatemala	41
Guinea	37
Guinea-Bissau	34
Guyana	0
Haiti	59
Honduras	33
India	7
Indonesia	9
Islamic Republic of Iran	5
Iraq	1

Country	INRB Mean (%)
Jamaica	38
Jordan	1
Kazakhstan	7
Kenya	29
Kyrgyzstan	25
Lao People's Democratic Republic	47
Liberia	40
Madagascar	36
Malawi	48
Malaysia	39
Mali	45
Mauritania	65
Mexico	30
Mongolia	12
Mozambique	38
Myanmar	36
Namibia	28
Nepal	45
Nicaragua	26
Niger	61
Nigeria	38
Pakistan	8
Panama	21
Papua New Guinea	8
Peru	4
Philippines	55
Republic of the Congo	16
Rwanda	33
Senegal	61
Sierra Leone	41
Somalia	64
South Africa	18
South Sudan	35
Sri Lanka	45
Sudan	50
Syrian Arab Republic	3
Tajikistan	19
United Republic of Tanzania	51
Thailand	20

Country	fNRB Mean (%)
Timor-Leste	39
Togo	46
Türkiye	13
Turkmenistan	0
Uganda	39
Uzbekistan	15
Viet Nam	36
Zambia	40
Zimbabwe	21

19. The default values for the fraction of non-renewable biomass (f_{NRB}) at the sub-national level are listed below in Table 4.

Table 4. Default sub-national fNRB values

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Bangladesh	Barisal	46	36
Bangladesh	Chittagong	72	25
Bangladesh	Dhaka	0	47
Bangladesh	Khulna	40	16
Bangladesh	Mymensingh	2	28
Bangladesh	Rajshahi	0	46
Bangladesh	Rangpur	1	30
Bangladesh	Sylhet	21	41
Bhutan	Bumthang	34	12
Bhutan	Chhukha	33	32
Bhutan	Dagana	32	25
Bhutan	Gasa	16	13
Bhutan	Haa	24	18
Bhutan	Lhuentse	30	27
Bhutan	Monggar	34	31
Bhutan	Paro	26	27
Bhutan	Pema Gatsel	37	40
Bhutan	Punakha	28	27
Bhutan	Samdrup-Jongkhar	37	38
Bhutan	Samtse	31	33
Bhutan	Sarpang	34	37
Bhutan	Thimphu	25	19
Bhutan	Trashi Yangtse	28	31
Bhutan	Trashigang	30	32
Bhutan	Trongsa	32	28
Bhutan	Tsirang	36	33

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Bhutan	Wangdue Phodrang	28	24
Bhutan	Zhemgang	39	33
Afghanistan	Badakhshan	33	3
Afghanistan	Badghis	26	6
Afghanistan	Baghlan	12	6
Afghanistan	Balkh	1	15
Afghanistan	Bamyan	46	6
Afghanistan	Daykundi	44	5
Afghanistan	Farah	3	18
Afghanistan	Faryab	5	8
Afghanistan	Ghazni	11	7
Afghanistan	Ghor	51	8
Afghanistan	Hilmand	3	13
Afghanistan	Hirat	4	6
Afghanistan	Jawzjan	1	6
Afghanistan	Kabul	1	14
Afghanistan	Kandahar	1	13
Afghanistan	Kapisa	3	18
Afghanistan	Khost	8	6
Afghanistan	Kunar	34	8
Afghanistan	Kunduz	0	17
Afghanistan	Laghman	11	10
Afghanistan	Logar	0	21
Afghanistan	Nangarhar	3	14
Afghanistan	Nimroz	0	0
Afghanistan	Nuristan	36	8
Afghanistan	Paktika	3	4
Afghanistan	Paktya	6	10
Afghanistan	Panjshir	21	7
Afghanistan	Parwan	7	13
Afghanistan	Samangan	20	6
Afghanistan	Sari Pul	24	5
Afghanistan	Takhar	2	6
Afghanistan	Uruzgan	26	11
Afghanistan	Wardak	13	12
Afghanistan	Zabul	11	13
Iran	Alborz	8	32
Iran	Ardebil	9	26
Iran	Bushehr	0	48
Iran	Chahar Mahall and Bakhtiari	8	33
Iran	East Azarbaijan	9	32

Country	Sub-Regional	INRB_2020_2030_mean	INRB_2020_2030_sd
Iran	Esfahan	2	31
Iran	Fars	4	26
Iran	Gilan	18	18
Iran	Goolestan	7	21
Iran	Hamadan	10	32
Iran	Hormozgan	0	60
Iran	Ilam	3	27
Iran	Kerman	1	31
Iran	Kermanshah	7	29
Iran	Khuzestan	1	35
Iran	Kohgiluyeh and Buyer Ahmad	2	28
Iran	Kordestan	10	32
Iran	Lorestan	8	31
Iran	Markazi	9	34
Iran	Mazandaran	18	18
Iran	North Khorasan	6	30
Iran	Qazvin	10	32
Iran	Qom	2	29
Iran	Razavi Khorasan	4	18
Iran	Semnan	2	27
Iran	Sistan and Baluchestan	0	0
Iran	South Khorasan	0	24
Iran	Tehran	5	31
Iran	West Azarbaijan	9	31
Iran	Yazd	0	30
Iran	Zanjan	11	34
Kazakhstan	Almaty	17	7
Kazakhstan	Aqmola	0	0
Kazakhstan	Aqtöbe	0	0
Kazakhstan	Atyrau	0	0
Kazakhstan	East Kazakhstan	7	11
Kazakhstan	Mangghystau	0	0
Kazakhstan	North Kazakhstan	11	5
Kazakhstan	Pavlodar	0	11
Kazakhstan	Qaraghandy	0	0
Kazakhstan	Qostanay	1	5
Kazakhstan	Qyzylorda	0	0
Kazakhstan	South Kazakhstan	8	9
Kazakhstan	West Kazakhstan	0	0
Kazakhstan	Zhambyl	8	10

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Kyrgyzstan	Batken	34	9
Kyrgyzstan	Biškeek	2	3
Kyrgyzstan	Chüy	16	10
Kyrgyzstan	Jalal-Abad	30	10
Kyrgyzstan	Naryn	19	13
Kyrgyzstan	Osh	30	10
Kyrgyzstan	Osh city	4	5
Kyrgyzstan	Talas	22	12
Kyrgyzstan	Ysyk-Köl	16	12
Tajikistan	Districts of Republican Subordin	26	12
Tajikistan	Dushanbe	7	5
Tajikistan	Gorno-Badakhshan	13	13
Tajikistan	Khatlon	12	12
Tajikistan	Sughd	28	11
Turkmenistan	Ahal	9	49
Turkmenistan	Aşgabat	9	9
Turkmenistan	Balkan	1	37
Turkmenistan	Daşoguz	9	9
Turkmenistan	Lebap	1	10
Turkmenistan	Mary	9	9
Uzbekistan	Andijon	27	13
Uzbekistan	Buxoro	9	10
Uzbekistan	Farg'ona	29	12
Uzbekistan	Jizzax	24	12
Uzbekistan	Namangan	25	12
Uzbekistan	Navoiy	15	11
Uzbekistan	Qaraqalpaqstan	9	9
Uzbekistan	Qashqadaryo	8	11
Uzbekistan	Samarqand	22	12
Uzbekistan	Sirdaryo	5	14
Uzbekistan	Surxondaryo	7	12
Uzbekistan	Toshkent	19	12
Uzbekistan	Toshkent Shahri	9	9
Uzbekistan	Xorazm	9	9
China	Anhui	12	31
China	Beijing	13	4
China	Chongqing	6	76
China	Fujian	12	69
China	Gansu	5	9
China	Guangdong	9	74
China	Guangxi	6	81

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
China	Guizhou	7	69
China	Hainan	12	67
China	Hebei	12	4
China	Heilongjiang	6	3
China	Henan	15	13
China	Hong Kong	11	61
China	Hubei	11	39
China	Hunan	9	68
China	Jiangsu	10	25
China	Jiangxi	11	58
China	Jilin	6	2
China	Liaoning	10	4
China	Macau	6	100
China	Nei Mongol	5	13
China	Ningxia-Hui	5	11
China	Qinghai	1	36
China	Shaanxi	15	7
China	Shandong	15	1
China	Shanghai	7	39
China	Shanxi	13	8
China	Sichuan	7	46
China	Tianjin	6	3
China	Xinjiang Uygur	0	11
China	Xinjiang Uygur	0	0
China	Xinjiang Uygur	0	0
China	Xizang	1	23
China	Xizang	0	0
China	Xizang	0	0
China	Yunnan	10	22
China	Zhejiang	12	56
India	Andaman and Nicobar	28	100
India	Andhra Pradesh	6	31
India	Arunachal Pradesh	27	100
India	Arunachal Pradesh	28	85
India	Assam	24	46
India	Bihar	5	35
India	Chandigarh	2	29
India	Chhattisgarh	12	39
India	Dadra and Nagar Haveli	19	38
India	Daman and Diu	4	50

Country	Sub-Regional	INRB_2020_2030_mean	INRB_2020_2030_sd
India	Goa	33	69
India	Gujarat	4	24
India	Haryana	9	60
India	Himachal Pradesh	17	67
India	Himachal Pradesh	0	0
India	Himachal Pradesh	0	0
India	Jammu and Kashmir	10	65
India	Jharkhand	16	31
India	Karnataka	5	74
India	Kerala	34	69
India	Lakshadweep	0	0
India	Madhya Pradesh	4	48
India	Maharashtra	4	30
India	Manipur	25	68
India	Meghalaya	28	82
India	Mizoram	31	100
India	Nagaland	27	56
India	NCT of Delhi	0	70
India	Odisha	19	34
India	Puducherry	13	73
India	Punjab	1	51
India	Rajasthan	0	23
India	Sikkim	23	45
India	Tamil Nadu	6	43
India	Telangana	2	50
India	Tripura	22	100
India	Uttar Pradesh	2	25
India	Uttarakhand	23	41
India	Uttarakhand	0	0
India	Uttarakhand	0	0
India	West Bengal	15	30
Indonesia	Aceh	10	100
Indonesia	Bali	6	97
Indonesia	Bangka Belitung	11	100
Indonesia	Banten	9	100
Indonesia	Bengkulu	11	100
Indonesia	Gorontalo	8	100
Indonesia	Jakarta Raya	0	86
Indonesia	Jambi	12	100
Indonesia	Jawa Barat	9	90
Indonesia	Jawa Tengah	8	99
Indonesia	Jawa Timur	8	100

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Indonesia	Kalimantan Barat	11	100
Indonesia	Kalimantan Selatan	9	100
Indonesia	Kalimantan Tengah	12	100
Indonesia	Kalimantan Timur	11	100
Indonesia	Kalimantan Utara	12	100
Indonesia	Kepulauan Riau	8	100
Indonesia	Lampung	7	100
Indonesia	Maluku	12	100
Indonesia	Maluku Utara	12	100
Indonesia	Nusa Tenggara Barat	6	100
Indonesia	Nusa Tenggara Timur	3	100
Indonesia	Papua	10	100
Indonesia	Papua Barat	12	100
Indonesia	Riau	12	100
Indonesia	Sulawesi Barat	11	100
Indonesia	Sulawesi Selatan	7	100
Indonesia	Sulawesi Tengah	11	100
Indonesia	Sulawesi Tenggara	10	100
Indonesia	Sulawesi Utara	11	100
Indonesia	Sumatera Barat	11	100
Indonesia	Sumatera Selatan	10	100
Indonesia	Sumatera Utara	10	100
Indonesia	Yogyakarta	7	100
Malaysia	Johor	38	35
Malaysia	Kedah	32	27
Malaysia	Kelantan	35	26
Malaysia	Kuala Lumpur	9	67
Malaysia	Labuan	19	38
Malaysia	Melaka	29	40
Malaysia	Negeri Sembilan	39	32
Malaysia	Pahang	47	28
Malaysia	Perak	40	27
Malaysia	Perlis	18	26
Malaysia	Pulau Pinang	12	26
Malaysia	Putrajaya	3	46
Malaysia	Sabah	47	26
Malaysia	Sarawak	46	29
Malaysia	Selangor	29	27
Malaysia	Trengganu	44	28
Armenia	Aragatsotn	9	100

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Armenia	Ararat	0	100
Armenia	Armavir	0	100
Armenia	Erevan	0	100
Armenia	Gegharkunik	0	38
Armenia	Kotayk	0	100
Armenia	Lori	1	47
Armenia	Shirak	0	100
Armenia	Syunik	1	1
Armenia	Tavush	4	41
Armenia	Vayots Dzor	0	100
Azerbaijan	Absheron	0	1
Azerbaijan	Aran	0	0
Azerbaijan	Daglig-Shirvan	1	0
Azerbaijan	Ganja-Qazakh	1	21
Azerbaijan	Kalbajar-Lachin	7	14
Azerbaijan	Lankaran	3	42
Azerbaijan	Nakhchivan	0	100
Azerbaijan	Quba-Khachmaz	2	0
Azerbaijan	Shaki-Zaqatala	4	0
Azerbaijan	Yukhari-Karabakh	2	8
Georgia	Abkhazia	2	100
Georgia	Ajaria	1	100
Georgia	Guria	1	100
Georgia	Imereti	1	100
Georgia	Kakheti	0	0
Georgia	Kvemo Kartli	1	8
Georgia	Mtskheta-Mtianeti	1	33
Georgia	Racha-Lechkhumi-Kvemo-Svaneti	0	2
Georgia	Samegrelo-Zemo-Svaneti	0	100
Georgia	Samtskhe-Javakheti	0	100
Georgia	Shida Kartli	0	100
Georgia	Tbilisi	4	0
Iraq	Al-Anbar	0	0
Iraq	Al-Basrah	0	0
Iraq	Al-Muthannia	0	0
Iraq	Al-Qadisiyah	0	0
Iraq	An-Najaf	0	0
Iraq	Arbil	2	63
Iraq	As-Sulaymaniyah	2	69
Iraq	At-Ta'mim	1	88

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Iraq	Babil	0	0
Iraq	Baghdad	0	0
Iraq	Dhi-Qar	0	0
Iraq	Dihok	6	36
Iraq	Diyala	1	100
Iraq	Karbala	0	0
Iraq	Maysan	0	100
Iraq	Ninawa	1	83
Iraq	Sala-ad-Din	0	100
Iraq	Wasit	0	100
Jordan	Ajlun	8	4
Jordan	Amman	1	36
Jordan	Aqaba	0	0
Jordan	Balqa	1	36
Jordan	Irbid	1	25
Jordan	Jarash	8	22
Jordan	Karak	0	67
Jordan	Ma'an	0	0
Jordan	Madaba	2	60
Jordan	Mafraq	0	62
Jordan	Tafilah	0	0
Jordan	Zarqa	0	67
Syrian Arab Republic	Al-Hasakah	0	73
Syrian Arab Republic	Aleppo	2	42
Syrian Arab Republic	Ar-Raqqah	0	53
Syrian Arab Republic	As-Suwayda'	7	18
Syrian Arab Republic	Damascus	1	50
Syrian Arab Republic	Dar'a	2	54
Syrian Arab Republic	Dayr Az Zawr	1	55
Syrian Arab Republic	Hamah	3	24
Syrian Arab Republic	Hims	4	35
Syrian Arab Republic	Idlib	6	49
Syrian Arab Republic	Lattakia	13	29

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Syrian Arab Republic	Quneitra	6	47
Syrian Arab Republic	Rif Dimashq	4	23
Syrian Arab Republic	Tartus	14	48
Turkey	Adana	9	46
Turkey	Adiyaman	9	38
Turkey	Afyon	10	23
Turkey	Agri	11	23
Turkey	Aksaray	6	24
Turkey	Amasya	13	14
Turkey	Ankara	13	15
Turkey	Antalya	12	19
Turkey	Ardahan	8	29
Turkey	Artvin	18	14
Turkey	Aydin	10	28
Turkey	Balikesir	14	7
Turkey	Bartın	28	7
Turkey	Batman	4	42
Turkey	Bayburt	11	31
Turkey	Bilecik	20	9
Turkey	Bingöl	12	33
Turkey	Bitlis	9	26
Turkey	Bolu	25	8
Turkey	Burdur	15	15
Turkey	Bursa	20	4
Turkey	Çanakkale	15	16
Turkey	Çankiri	13	23
Turkey	Çorum	12	11
Turkey	Denizli	15	11
Turkey	Diyarbakir	4	46
Turkey	Düzce	28	6
Turkey	Edirne	7	26
Turkey	Elazığ	11	29
Turkey	Erzincan	11	31
Turkey	Erzurum	11	28
Turkey	Eskisehir	11	19
Turkey	Gaziantep	6	36
Turkey	Giresun	25	20
Turkey	Gümüşhane	13	26
Turkey	Hakkari	12	36

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Turkey	Hatay	10	32
Turkey	Iğdır	6	47
Turkey	Isparta	12	20
Turkey	İstanbul	23	0
Turkey	İzmir	13	18
Turkey	K. Maras	11	21
Turkey	Karabük	28	8
Turkey	Karaman	9	23
Turkey	Kars	8	16
Turkey	Kastamonu	24	8
Turkey	Kayseri	12	26
Turkey	Kilis	7	53
Turkey	Kırıkkale	9	18
Turkey	Kırklareli	13	0
Turkey	Kırşehir	9	17
Turkey	Kocaeli	22	0
Turkey	Konya	8	21
Turkey	Kütahya	15	16
Turkey	Malatya	11	27
Turkey	Manisa	11	23
Turkey	Mardin	4	79
Turkey	Mersin	10	25
Turkey	Mugla	11	34
Turkey	Mus	10	20
Turkey	Nevşehir	10	19
Turkey	Nigde	11	29
Turkey	Ordu	26	14
Turkey	Osmaniye	13	22
Turkey	Rize	32	16
Turkey	Sakarya	23	4
Turkey	Samsun	15	15
Turkey	Sanliurfa	2	60
Turkey	Siirt	8	39
Turkey	Sinop	22	10
Turkey	Sirnak	9	32
Turkey	Sivas	12	27
Turkey	Tekirdag	9	4
Turkey	Tokat	15	12
Turkey	Trabzon	25	22
Turkey	Tunceli	11	34
Turkey	Usak	10	14
Turkey	Van	10	33

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Turkey	Yalova	27	0
Turkey	Yozgat	9	15
Turkey	Zonguldak	28	3
Mongolia	Arhangay	9	12
Mongolia	Bayan-Ölgiy	10	9
Mongolia	Bayanhongor	9	9
Mongolia	Bulgan	10	9
Mongolia	Darhan-Uul	9	13
Mongolia	Dornod	1	5
Mongolia	Dornogovi	9	9
Mongolia	Dundgovi	9	9
Mongolia	Dzavhan	12	10
Mongolia	Govi-Altay	5	9
Mongolia	Govisumber	9	9
Mongolia	Hentiy	15	53
Mongolia	Hovd	5	9
Mongolia	Hövsögöl	15	16
Mongolia	Ömnögovi	9	9
Mongolia	Orhon	13	10
Mongolia	Övörhangay	8	12
Mongolia	Selenge	7	12
Mongolia	Sühbaatar	9	9
Mongolia	Töv	17	45
Mongolia	Ulaanbaatar	28	31
Mongolia	Uvs	6	9
Myanmar	Ayeyarwady	33	36
Myanmar	Bago	33	28
Myanmar	Chin	36	29
Myanmar	Kachin	49	29
Myanmar	Kayah	32	33
Myanmar	Kayin	36	37
Myanmar	Magway	26	25
Myanmar	Mandalay	33	25
Myanmar	Mon	34	43
Myanmar	Naypyitaw	37	35
Myanmar	Rakhine	32	48
Myanmar	Sagaing	35	21
Myanmar	Shan	41	25
Myanmar	Tanintharyi	40	41
Myanmar	Yangon	25	32
Nepal	Central	45	11
Nepal	East	43	14

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Nepal	Far-Western	45	7
Nepal	Mid-Western	47	7
Nepal	West	47	6
Pakistan	Azad-Kashmir	44	11
Pakistan	Balochistan	4	22
Pakistan	Federally Administered Tribal Ar	13	14
Pakistan	Gilgit-Baltistan	39	9
Pakistan	Islamabad	6	23
Pakistan	Khyber-Pakhtunkhwa	22	9
Pakistan	Punjab	1	16
Pakistan	Sindh	0	0
Philippines	Abra	63	10
Philippines	Agusan del Norte	49	23
Philippines	Agusan del Sur	49	31
Philippines	Aklan	53	18
Philippines	Albay	53	23
Philippines	Antique	48	13
Philippines	Apayao	55	27
Philippines	Aurora	57	29
Philippines	Basilan	49	32
Philippines	Bataan	70	6
Philippines	Batanes	48	26
Philippines	Batangas	70	6
Philippines	Benguet	64	16
Philippines	Biliran	49	28
Philippines	Bohol	47	27
Philippines	Bukidnon	46	21
Philippines	Bulacan	50	9
Philippines	Cagayan	56	18
Philippines	Camarines Norte	55	27
Philippines	Camarines Sur	52	18
Philippines	Camiguin	49	32
Philippines	Capiz	52	19
Philippines	Catanduanes	49	33
Philippines	Cavite	41	5
Philippines	Cebu	49	31
Philippines	Compostela Valley	54	23
Philippines	Davao del Norte	51	20
Philippines	Davao del Sur	53	21
Philippines	Davao Oriental	52	29

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Philippines	Dinagat Islands	49	28
Philippines	Eastern Samar	49	35
Philippines	Guimaras	46	23
Philippines	Ifugao	62	14
Philippines	Ilocos Norte	60	8
Philippines	Ilocos Sur	64	9
Philippines	Iloilo	53	17
Philippines	Isabela	55	21
Philippines	Kalinga	63	16
Philippines	La Union	71	6
Philippines	Laguna	57	9
Philippines	Lanao del Norte	49	24
Philippines	Lanao del Sur	54	18
Philippines	Leyte	49	23
Philippines	Maguindanao	47	20
Philippines	Marinduque	49	27
Philippines	Masbate	40	28
Philippines	Metropolitan Manila	9	14
Philippines	Misamis Occidental	52	23
Philippines	Misamis Oriental	46	23
Philippines	Mountain Province	63	16
Philippines	Negros Occidental	50	11
Philippines	Negros Oriental	46	21
Philippines	North Cotabato	50	20
Philippines	Northern Samar	49	33
Philippines	Nueva Ecija	58	15
Philippines	Nueva Vizcaya	61	15
Philippines	Occidental Mindoro	49	11
Philippines	Oriental Mindoro	49	19
Philippines	Palawan	50	16
Philippines	Pampanga	28	6
Philippines	Pangasinan	60	6
Philippines	Quezon	62	20
Philippines	Quirino	59	20
Philippines	Rizal	59	10
Philippines	Romblon	49	24
Philippines	Samar	49	29
Philippines	Sarangani	42	26
Philippines	Siquijor	43	33
Philippines	Sorsogon	51	27
Philippines	South Cotabato	47	21
Philippines	Southern Leyte	50	30

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Philippines	Sultan Kudarat	48	20
Philippines	Sulu	50	32
Philippines	Surigao del Norte	49	28
Philippines	Surigao del Sur	49	33
Philippines	Tarlac	66	6
Philippines	Tawi-Tawi	50	32
Philippines	Zambales	66	7
Philippines	Zamboanga del Norte	47	26
Philippines	Zamboanga del Sur	46	24
Philippines	Zamboanga Sibugay	51	29
Cambodia	Bântéay Méanchey	11	51
Cambodia	Batdâmbâng	15	46
Cambodia	Kâmpóng Cham	14	38
Cambodia	Kâmpóng Chhnang	13	48
Cambodia	Kâmpóng Spœ	16	49
Cambodia	Kâmpóng Thum	20	36
Cambodia	Kâmpôt	17	42
Cambodia	Kânda	10	66
Cambodia	Kaôh Kong	41	44
Cambodia	Kep	10	59
Cambodia	Kràchéh	27	33
Cambodia	Krong Pailin	23	44
Cambodia	Krong Preah Sihanouk	33	42
Cambodia	Môndôl Kiri	40	18
Cambodia	Otdar Mean Chey	17	67
Cambodia	Phnom Penh	6	64
Cambodia	Pouthisat	19	45
Cambodia	Preah Vihéar	29	27
Cambodia	Prey Vêng	14	44
Cambodia	Rôtânôkiri	38	22
Cambodia	Siemréab	17	34
Cambodia	Stœng Trêng	31	28
Cambodia	Svay Rieng	34	27
Cambodia	Takêv	11	66
Cambodia	Tbong Khmum	24	26
Lao People's Democratic Republic	Attapu	54	15
Lao People's Democratic Republic	Bokeo	48	16

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Lao People's Democratic Republic	Bolikhamxai	50	25
Lao People's Democratic Republic	Champasak	46	12
Lao People's Democratic Republic	Houaphan	56	21
Lao People's Democratic Republic	Khammouan	49	24
Lao People's Democratic Republic	Louang Namtha	55	17
Lao People's Democratic Republic	Louangphrabang	47	17
Lao People's Democratic Republic	Oudômxai	53	13
Lao People's Democratic Republic	Phongsali	53	22
Lao People's Democratic Republic	Saravan	40	17
Lao People's Democratic Republic	Savannakhet	37	17
Lao People's Democratic Republic	Vientiane	45	14
Lao People's Democratic Republic	Vientiane [prefecture]	45	13
Lao People's Democratic Republic	Xaignabouri	46	14
Lao People's Democratic Republic	Xaisômboun	55	22
Lao People's Democratic Republic	Xékong	54	13
Lao People's Democratic Republic	Xiangkhoang	54	16
Thailand	Amnat Charoen	13	53

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Thailand	Ang-Thong	17	69
Thailand	Bangkok-Metropolis	15	51
Thailand	Bueng-Kan	28	44
Thailand	Buri-Ram	11	57
Thailand	Chachoengsao	17	51
Thailand	Chai-Nat	10	73
Thailand	Chaiyaphum	16	59
Thailand	Chanthaburi	25	52
Thailand	Chiang-Mai	36	21
Thailand	Chiang-Rai	29	30
Thailand	Chon-Buri	13	48
Thailand	Chumphon	33	58
Thailand	Kalasin	15	73
Thailand	Kamphaeng-Phet	15	69
Thailand	Kanchanaburi	21	40
Thailand	Khon-Kaen	13	71
Thailand	Krabi	30	71
Thailand	Lampang	33	20
Thailand	Lamphun	33	22
Thailand	Loei	30	22
Thailand	Lop-Buri	12	57
Thailand	Mae-Hong-Son	39	20
Thailand	Maha-Sarakham	11	74
Thailand	Mukdahan	21	40
Thailand	Nakhon-Nayok	25	37
Thailand	Nakhon-Pathom	23	65
Thailand	Nakhon-Phanom	36	30
Thailand	Nakhon-Ratchasima	15	78
Thailand	Nakhon-Sawan	11	68
Thailand	Nakhon-Si- Thammarat	27	51
Thailand	Nan	41	17
Thailand	Narathiwat	31	51
Thailand	Nong-Bua-Lam-Phu	29	31
Thailand	Nong-Khai	36	21
Thailand	Nonthaburi	24	61
Thailand	Pathum-Thani	23	65
Thailand	Pattani	22	51
Thailand	Phangnga	36	44
Thailand	Phatthalung	23	50
Thailand	Phayao	31	29
Thailand	Phetchabun	20	34

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Thailand	Phetchaburi	26	32
Thailand	Phichit	14	89
Thailand	Phitsanulok	24	34
Thailand	Phra Nakhon Si Ayutthaya	17	53
Thailand	Phrae	29	26
Thailand	Phuket	35	38
Thailand	Prachin Buri	23	47
Thailand	Prachuap Khiri Khan	32	36
Thailand	Ranong	37	42
Thailand	Ratchaburi	16	56
Thailand	Rayong	17	66
Thailand	Roi Et	11	76
Thailand	Sa Kaeo	17	50
Thailand	Sakon Nakhon	27	25
Thailand	Samut Prakan	23	40
Thailand	Samut Sakhon	19	52
Thailand	Samut Songkhram	18	65
Thailand	Saraburi	16	42
Thailand	Satun	31	48
Thailand	Si Sa Ket	12	48
Thailand	Sing Buri	13	88
Thailand	Songkhla	26	51
Thailand	Sukhothai	16	56
Thailand	Suphan Buri	15	53
Thailand	Surat Thani	30	60
Thailand	Surin	10	45
Thailand	Tak	35	21
Thailand	Trang	30	59
Thailand	Trat	27	53
Thailand	Ubon Ratchathani	16	31
Thailand	Udon Thani	28	27
Thailand	Uthai Thani	17	40
Thailand	Uttaradit	28	24
Thailand	Yala	33	50
Thailand	Yasothon	12	81
Viet Nam	An Giang	15	56
Viet Nam	Bà Rịa – Vũng Tàu	34	19
Viet Nam	Bắc Giang	45	17
Viet Nam	Bắc Kạn	45	18
Viet Nam	Bạc Liêu	39	20
Viet Nam	Bắc Ninh	4	30

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Viet Nam	Bến Tre	18	54
Viet Nam	Bình Định	43	15
Viet Nam	Bình Dương	35	22
Viet Nam	Bình Phước	39	22
Viet Nam	Bình Thuận	34	16
Viet Nam	Cà Mau	52	27
Viet Nam	Cần Thơ	20	59
Viet Nam	Cao Bằng	30	26
Viet Nam	Đà Nẵng	36	37
Viet Nam	Đắk Lắk	31	23
Viet Nam	Đắk Nông	35	22
Viet Nam	Điện Biên	41	22
Viet Nam	Đồng Nai	40	16
Viet Nam	Đồng Tháp	26	29
Viet Nam	Gia Lai	40	20
Viet Nam	Hà Giang	44	14
Viet Nam	Hà Nam	33	14
Viet Nam	Hà Nội	22	15
Viet Nam	Hà Tĩnh	40	33
Viet Nam	Hải Dương	25	10
Viet Nam	Hải Phòng	11	14
Viet Nam	Hậu Giang	24	76
Viet Nam	Hồ Chí Minh	27	19
Viet Nam	Hoà Bình	43	17
Viet Nam	Hưng Yên	2	28
Viet Nam	Khánh Hòa	34	15
Viet Nam	Kiên Giang	27	30
Viet Nam	Kon Tum	46	16
Viet Nam	Lai Châu	44	22
Viet Nam	Lâm Đồng	39	21
Viet Nam	Lang Sơn	43	18
Viet Nam	Lào Cai	44	17
Viet Nam	Long An	41	17
Viet Nam	Nam Định	10	28
Viet Nam	Nghệ An	43	16
Viet Nam	Ninh Bình	41	14
Viet Nam	Ninh Thuận	32	16
Viet Nam	Phủ Thọ	44	18
Viet Nam	Phủ Yên	33	15
Viet Nam	Quảng Bình	47	34
Viet Nam	Quảng Nam	43	25
Viet Nam	Quảng Ngãi	41	23

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Viet Nam	Quảng Ninh	42	17
Viet Nam	Quảng Trị	39	30
Viet Nam	Sóc Trăng	18	42
Viet Nam	Sơn La	42	16
Viet Nam	Tây Ninh	32	26
Viet Nam	Thái Bình	6	36
Viet Nam	Thái Nguyên	46	18
Viet Nam	Thanh Hóa	42	17
Viet Nam	Thừa Thiên Huế	41	35
Viet Nam	Tiền Giang	22	51
Viet Nam	Trà Vinh	20	46
Viet Nam	Tuyên Quang	45	19
Viet Nam	Vĩnh Long	19	56
Viet Nam	Vĩnh Phúc	45	14
Viet Nam	Yên Bái	43	18
Sri Lanka	Ampara	40	16
Sri Lanka	Anuradhapura	44	12
Sri Lanka	Badulla	43	21
Sri Lanka	Batticaloa	48	14
Sri Lanka	Colombe	36	28
Sri Lanka	Galle	46	30
Sri Lanka	Gampaha	49	23
Sri Lanka	Hambantota	28	28
Sri Lanka	Jaffna	25	55
Sri Lanka	Kalutara	45	30
Sri Lanka	Kandy	47	29
Sri Lanka	Kegalle	47	34
Sri Lanka	Kilinochchi	23	51
Sri Lanka	Kurunegala	48	15
Sri Lanka	Mannar	28	28
Sri Lanka	Matale	49	16
Sri Lanka	Matara	49	15
Sri Lanka	Moneragala	38	15
Sri Lanka	Mullaitivu	35	15
Sri Lanka	Nuwara-Eliya	51	23
Sri Lanka	Polonnaruwa	45	13
Sri Lanka	Puttalam	41	17
Sri Lanka	Ratnapura	47	20
Sri Lanka	Trincomalee	48	14
Sri Lanka	Vavuniya	44	12
Timor-Leste	Aileu	40	22
Timor-Leste	Ainaro	43	19

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Timor-Leste	Ambeno	28	28
Timor-Leste	Baucau	34	20
Timor-Leste	Bobonaro	39	17
Timor-Leste	Covalima	43	23
Timor-Leste	Dili	24	32
Timor-Leste	Ermera	42	18
Timor-Leste	Lautém	40	19
Timor-Leste	Liquiçá	33	25
Timor-Leste	Manatuto	39	15
Timor-Leste	Manufahi	43	16
Timor-Leste	Viqueque	42	26
Plurinational State of Bolivia	Beni	15	78
Plurinational State of Bolivia	Chuquisaca	9	82
Plurinational State of Bolivia	Cochabamba	21	45
Plurinational State of Bolivia	La Paz	18	54
Plurinational State of Bolivia	Oruro	10	73
Plurinational State of Bolivia	Pando	26	73
Plurinational State of Bolivia	Potosí	10	88
Plurinational State of Bolivia	Santa Cruz	11	35
Plurinational State of Bolivia	Tarija	11	50
Brazil	Acre	14	46
Brazil	Alagoas	9	86
Brazil	Amapá	15	41
Brazil	Amazonas	17	49
Brazil	Bahia	12	46
Brazil	Ceará	11	69
Brazil	Distrito Federal	3	69
Brazil	Espírito Santo	12	47
Brazil	Goiás	8	48
Brazil	Maranhão	15	48
Brazil	Mato Grosso	12	28
Brazil	Mato Grosso do Sul	10	40
Brazil	Para	16	32
Brazil	Paraíba	11	93
Brazil	Paraná	17	26

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Brazil	Pernambuco	11	75
Brazil	Piauí	13	39
Brazil	Rio de Janeiro	13	42
Brazil	Rio Grande do Norte	11	100
Brazil	Rio Grande do Sul	17	43
Brazil	Rondônia	12	52
Brazil	Roraima	18	33
Brazil	Santa Catarina	21	24
Brazil	São Paulo	11	21
Brazil	Sergipe	9	99
Brazil	Tocantins	10	61
Costa Rica	Alajuela	9	70
Costa Rica	Cartago	15	40
Costa Rica	Guanacaste	8	65
Costa Rica	Heredia	13	52
Costa Rica	Limón	12	60
Costa Rica	Puntarenas	12	49
Costa Rica	San José	10	56
Guatemala	Alta Verapaz	30	27
Guatemala	Baja Verapaz	31	16
Guatemala	Chimaltenango	52	10
Guatemala	Chiquimula	33	25
Guatemala	El Progreso	39	20
Guatemala	Escuintla	30	14
Guatemala	Guatemala	36	11
Guatemala	Huehuetenango	42	15
Guatemala	Izabal	31	25
Guatemala	Jalapa	35	24
Guatemala	Jutiapa	35	24
Guatemala	Petén	28	23
Guatemala	Quezaltenango	47	8
Guatemala	Quiché	45	13
Guatemala	Retalhuleu	36	14
Guatemala	Sacatepéquez	56	6
Guatemala	San Marcos	47	10
Guatemala	Santa Rosa	32	18
Guatemala	Sololá	54	9
Guatemala	Suchitepéquez	33	20
Guatemala	Totonicapán	62	10
Guatemala	Zacapa	36	15
Honduras	Atlántida	34	23
Honduras	Choluteca	31	41

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Honduras	Colón	30	30
Honduras	Comayagua	34	21
Honduras	Copán	31	33
Honduras	Cortés	32	19
Honduras	El Paraíso	31	21
Honduras	Francisco Morazán	34	17
Honduras	Gracias a Dios	26	24
Honduras	Intibucá	36	20
Honduras	Islas de la Bahía	33	32
Honduras	La Paz	35	20
Honduras	Lempira	33	30
Honduras	Ocotepeque	34	17
Honduras	Olancho	32	17
Honduras	Santa Bárbara	34	21
Honduras	Valle	31	47
Honduras	Yoro	35	15
Nicaragua	Atlántico Norte	27	22
Nicaragua	Atlántico Sur	19	36
Nicaragua	Boaco	24	44
Nicaragua	Carazo	32	26
Nicaragua	Chinandega	23	33
Nicaragua	Chontales	20	55
Nicaragua	Estoli	25	23
Nicaragua	Granada	31	25
Nicaragua	Jinotega	26	25
Nicaragua	Lago Nicaragua	17	29
Nicaragua	León	26	31
Nicaragua	Madriz	29	39
Nicaragua	Managua	27	23
Nicaragua	Masaya	37	19
Nicaragua	Matagalpa	25	25
Nicaragua	Nueva Segovia	28	19
Nicaragua	Río San Juan	20	50
Nicaragua	Rivas	28	30
Panama	Bocas del Toro	32	30
Panama	Chiriquí	21	23
Panama	Coclé	24	32
Panama	Colón	25	22
Panama	Darién	28	25
Panama	Emberá	38	28
Panama	Herrera	24	44
Panama	Kuna Yala	37	38

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Panama	Los Santos	21	47
Panama	Ngöbe-Buglé	27	21
Panama	Panamá	19	24
Panama	Panamá-Oeste	20	40
Panama	Veraguas	20	52
Colombia	Amazonas	7	100
Colombia	Antioquia	10	68
Colombia	Arauca	7	100
Colombia	Atlántico	3	100
Colombia	Bogotá-DC	3	95
Colombia	Bolívar	5	78
Colombia	Boyacá	7	67
Colombia	Caldas	10	91
Colombia	Caquetá	9	78
Colombia	Casanare	3	100
Colombia	Cauca	9	68
Colombia	Cesar	4	91
Colombia	Chocó	14	59
Colombia	Córdoba	2	100
Colombia	Cundinamarca	7	81
Colombia	Guainía	7	100
Colombia	Guaviare	9	100
Colombia	Huila	8	65
Colombia	La Guajira	4	83
Colombia	Magdalena	2	74
Colombia	Meta	5	49
Colombia	Nariño	9	72
Colombia	Norte de Santander	10	53
Colombia	Putumayo	12	67
Colombia	Quindío	8	84
Colombia	Risaralda	12	74
Colombia	San Andrés y Providencia	8	100
Colombia	Santander	9	74
Colombia	Sucré	1	100
Colombia	Tolima	6	71
Colombia	Valle del Cauca	7	70
Colombia	Vaupés	7	100
Colombia	Vichada	3	94
Dominican Republic	Azua	46	40

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Dominican Republic	Bahoruco	46	37
Dominican Republic	Barahona	46	39
Dominican Republic	Dajabón	62	21
Dominican Republic	Distrito Nacional	11	52
Dominican Republic	Duarte	34	47
Dominican Republic	El Seybo	13	83
Dominican Republic	Española	34	56
Dominican Republic	Hato Mayor	23	77
Dominican Republic	Independencia	59	22
Dominican Republic	La Altagracia	11	100
Dominican Republic	La Estrella	56	26
Dominican Republic	La Romana	17	74
Dominican Republic	La Vega	52	34
Dominican Republic	María Trinidad Sánchez	26	53
Dominican Republic	Monseñor Nouel	41	46
Dominican Republic	Monte Cristi	50	35
Dominican Republic	Monte Plata	34	61
Dominican Republic	Pedernales	47	40
Dominican Republic	Peravia	37	40
Dominican Republic	Puerto Plata	45	48
Dominican Republic	Salcedo	33	58
Dominican Republic	Samaná	4	100
Dominican Republic	San Cristóbal	38	45

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Dominican Republic	San José de Ocoa	39	50
Dominican Republic	San Juan	48	29
Dominican Republic	San Pedro de Macorís	28	48
Dominican Republic	Sánchez Ramírez	35	53
Dominican Republic	Santiago	46	38
Dominican Republic	Santiago Rodríguez	47	37
Dominican Republic	Santo Domingo	39	43
Dominican Republic	Valverde	50	33
Haiti	Centre	61	94
Haiti	Grand'Anse	65	43
Haiti	L'Artibonite	43	100
Haiti	Nippes	69	73
Haiti	Nord	71	81
Haiti	Nord-Est	64	90
Haiti	Nord-Ouest	63	68
Haiti	Ouest	25	33
Haiti	Sud	61	46
Haiti	Sud-Est	66	80
Guyana	Barima-Waini	0	100
Guyana	Cuyuni-Mazaruni	0	100
Guyana	Demerara-Mahaica	0	0
Guyana	East Berbice-Corentyne	0	100
Guyana	Essequibo Islands-West Demerara	0	100
Guyana	Mahaica-Berbice	0	0
Guyana	Pomeroon-Supenaam	0	100
Guyana	Potaro-Siparuni	0	100
Guyana	Upper Demerara-Berbice	0	100
Guyana	Upper Takutu-Upper Essequibo	0	100
Jamaica	Clarendon	34	21
Jamaica	Hanover	39	16
Jamaica	Kingston	41	18
Jamaica	Manchester	35	21

Country	Sub-Regional	INRB_2020_2030_mean	INRB_2020_2030_sd
Jamaica	Portland	47	20
Jamaica	Saint Andrew	44	12
Jamaica	Saint Ann	38	24
Jamaica	Saint Catherine	39	18
Jamaica	Saint Elizabeth	34	19
Jamaica	Saint James	38	18
Jamaica	Saint Mary	43	18
Jamaica	Saint Thomas	44	11
Jamaica	Trelawny	39	19
Jamaica	Westmoreland	34	19
Mexico	Aguascalientes	19	17
Mexico	Baja California	15	26
Mexico	Baja California Sur	5	48
Mexico	Campeche	40	17
Mexico	Chiapas	34	14
Mexico	Chihuahua	21	25
Mexico	Coahuila	13	36
Mexico	Colima	32	18
Mexico	Distrito Federal	27	16
Mexico	Durango	27	20
Mexico	Guanajuato	17	24
Mexico	Guerrero	39	13
Mexico	Hidalgo	32	14
Mexico	Jalisco	27	15
Mexico	México	36	13
Mexico	Michoacán	34	13
Mexico	Morelos	31	20
Mexico	Nayarit	35	15
Mexico	Nuevo León	22	29
Mexico	Oaxaca	38	10
Mexico	Puebla	33	12
Mexico	Querétaro	25	17
Mexico	Quintana Roo	45	25
Mexico	San Luis Potosí	31	8
Mexico	Sinaloa	22	26
Mexico	Sonora	14	25
Mexico	Tabasco	29	28
Mexico	Tamaulipas	29	16
Mexico	Tlaxcala	35	24
Mexico	Veracruz	36	16
Mexico	Yucatán	30	23
Mexico	Zacatecas	19	17

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Ecuador	Azuay	29	29
Ecuador	Bolivar	33	30
Ecuador	Cañar	30	30
Ecuador	Carchi	34	24
Ecuador	Chimborazo	29	34
Ecuador	Cotopaxi	32	19
Ecuador	El Oro	21	16
Ecuador	Esmeraldas	29	16
Ecuador	Galápagos	18	43
Ecuador	Guayas	21	33
Ecuador	Imbabura	34	20
Ecuador	Loja	18	42
Ecuador	Los Rios	25	38
Ecuador	Manabi	23	36
Ecuador	Morona Santiago	45	20
Ecuador	Napo	39	17
Ecuador	Orellana	36	30
Ecuador	Pastaza	43	21
Ecuador	Pichincha	31	18
Ecuador	Santa Elena	21	31
Ecuador	Santo Domingo de los Tsachilas	33	16
Ecuador	Sucumbios	38	22
Ecuador	Tungurahua	31	28
Ecuador	Zamora Chinchipe	34	29
Peru	Amazonas	10	66
Peru	Ancash	2	100
Peru	Apurímac	1	100
Peru	Arequipa	1	100
Peru	Ayacucho	1	100
Peru	Cajamarca	5	91
Peru	Callao	0	0
Peru	Cusco	5	100
Peru	Huancavelica	1	100
Peru	Huánuco	2	100
Peru	Ica	0	100
Peru	Junin	5	92
Peru	La Libertad	2	72
Peru	Lambayeque	4	86
Peru	Lima	3	100
Peru	Lima Province	0	41
Peru	Loreto	9	100

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Peru	Madre de Dios	4	100
Peru	Moquegua	4	100
Peru	Pasco	2	100
Peru	Piura	6	62
Peru	Puno	8	100
Peru	San Martín	7	79
Peru	Tacna	0	100
Peru	Tumbes	5	100
Peru	Ucayali	4	100
Papua New Guinea	Bougainville	4	24
Papua New Guinea	Central	2	24
Papua New Guinea	Chimbu	0	0
Papua New Guinea	East New Britain	4	24
Papua New Guinea	East Sepik	18	20
Papua New Guinea	Eastern Highlands	0	100
Papua New Guinea	Enga	0	18
Papua New Guinea	Gulf	59	20
Papua New Guinea	Hela	0	0
Papua New Guinea	Jiwaka	0	0
Papua New Guinea	Madang	9	14
Papua New Guinea	Manus	3	23
Papua New Guinea	Milne Bay	4	23
Papua New Guinea	Morobe	4	3
Papua New Guinea	National Capital District	12	28
Papua New Guinea	New Ireland	3	24
Papua New Guinea	Oro	0	25
Papua New Guinea	Sandaun	4	23

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Papua New Guinea	Southern Highlands	4	7
Papua New Guinea	West New Britain	1	22
Papua New Guinea	Western	2	23
Papua New Guinea	Western Highlands	0	0
Angola	Bengo	26	29
Angola	Benguela	28	18
Angola	Bié	28	20
Angola	Cabinda	30	28
Angola	Cuando Cubango	25	19
Angola	Cuanza Norte	28	18
Angola	Cuanza Sul	30	19
Angola	Cunene	20	52
Angola	Huambo	25	27
Angola	Huíla	22	24
Angola	Luanda	23	39
Angola	Lunda Norte	30	20
Angola	Lunda Sul	34	18
Angola	Malanje	31	19
Angola	Moxico	36	18
Angola	Namibe	26	28
Angola	Uíge	28	23
Angola	Zaire	22	37
Benin	Alibori	25	0
Benin	Atakora	32	0
Benin	Atlantique	30	0
Benin	Borgou	31	0
Benin	Collines	42	0
Benin	Donga	35	0
Benin	Kouffo	30	0
Benin	Littoral	0	0
Benin	Mono	28	0
Benin	Ouémé	31	0
Benin	Plateau	40	0
Benin	Zou	34	0
Burkina Faso	Boucle-du-Mouhoun	28	48
Burkina Faso	Cascades	26	19
Burkina Faso	Centre	30	45
Burkina Faso	Centre-Est	29	61
Burkina Faso	Centre-Nord	55	15

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Burkina Faso	Centre-Ouest	28	55
Burkina Faso	Centre-Sud	29	60
Burkina Faso	Est	35	35
Burkina Faso	Haut-Bassins	25	35
Burkina Faso	Nord	47	17
Burkina Faso	Plateau-Central	33	47
Burkina Faso	Sahel	63	18
Burkina Faso	Sud-Ouest	26	24
Burundi	Bubanza	37	24
Burundi	Bujumbura Mairie	14	22
Burundi	Bujumbura Rural	38	27
Burundi	Bururi	38	27
Burundi	Cankuzo	35	35
Burundi	Cibitoke	35	29
Burundi	Gitega	34	30
Burundi	Karuzi	35	26
Burundi	Kayanza	34	27
Burundi	Kirundo	29	34
Burundi	Makamba	39	13
Burundi	Muramvya	34	30
Burundi	Muyinga	36	23
Burundi	Mwaro	34	30
Burundi	Ngozi	37	29
Burundi	Rutana	38	22
Burundi	Ruyigi	42	19
Democratic Republic of the Congo	Bas-Uele	49	30
Democratic Republic of the Congo	Équateur	50	32
Democratic Republic of the Congo	Haut-Katanga	49	11
Democratic Republic of the Congo	Haut-Lomami	37	15
Democratic Republic of the Congo	Haut-Uele	43	24
Democratic Republic of the Congo	Ituri	41	23

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Democratic Republic of the Congo	Kasai	39	20
Democratic Republic of the Congo	Kasai-Central	36	19
Democratic Republic of the Congo	Kasai-Oriental	34	23
Democratic Republic of the Congo	Kinshasa	26	33
Democratic Republic of the Congo	Kongo-Central	27	22
Democratic Republic of the Congo	Kwango	34	17
Democratic Republic of the Congo	Kwilu	32	22
Democratic Republic of the Congo	Lomami	28	30
Democratic Republic of the Congo	Lualaba	44	11
Democratic Republic of the Congo	Mai-Ndombe	43	24
Democratic Republic of the Congo	Maniema	44	25
Democratic Republic of the Congo	Mongala	47	28
Democratic Republic of the Congo	Nord-Kivu	42	18
Democratic Republic of the Congo	Nord-Ubangi	37	24
Democratic Republic of the Congo	Sankuru	46	27
Democratic Republic of the Congo	Sud-Kivu	42	21

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Democratic Republic of the Congo	Sud-Ubangi	39	24
Democratic Republic of the Congo	Tanganyika	39	11
Democratic Republic of the Congo	Tshopo	50	30
Democratic Republic of the Congo	Tshuapa	51	32
Rwanda	Amajyaruguru	36	30
Rwanda	Amajyepfo	34	25
Rwanda	Iburasirazuba	35	26
Rwanda	Iburerengerazuba	35	33
Rwanda	Umujiyi wa Kigali	21	37
Chad	Barh-el-Ghazel	59	26
Chad	Batha	62	33
Chad	Berkou	0	34
Chad	Chari-Baguirmi	33	22
Chad	Ennedi Est	0	28
Chad	Ennedi Ouest	1	32
Chad	Guéra	28	28
Chad	Hadjer-Lamis	62	26
Chad	Kanem	56	14
Chad	Lac	65	17
Chad	Logone Occidental	27	23
Chad	Logone Oriental	28	22
Chad	Mandoul	26	20
Chad	Mayo-Kebbi Est	21	47
Chad	Mayo-Kebbi Ouest	22	30
Chad	Moyen-Chari	21	23
Chad	Ouaddai	65	27
Chad	Salamat	17	39
Chad	Sila	39	24
Chad	Tandjilé	21	34
Chad	Tibesti	0	0
Chad	Ville de N'Djamena	30	12
Chad	Wadi Fira	51	31
Côte d'Ivoire	Abidjan	14	100
Côte d'Ivoire	Bas-Sassandra	18	78
Côte d'Ivoire	Comoe	17	87
Côte d'Ivoire	Denguélé	19	36

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Côte d'Ivoire	Gôh-Djiboua	19	97
Côte d'Ivoire	Lacs	18	97
Côte d'Ivoire	Lagunes	19	68
Côte d'Ivoire	Montagnes	23	52
Côte d'Ivoire	Sassandra-Marahoué	20	94
Côte d'Ivoire	Savanes	19	32
Côte d'Ivoire	Vallée du Bandama	19	54
Côte d'Ivoire	Woroba	19	35
Côte d'Ivoire	Yamoussoukro	19	100
Côte d'Ivoire	Zanzan	17	51
Djibouti	Ali Sabieh	0	0
Djibouti	Arta	0	0
Djibouti	Dikhil	1	25
Djibouti	Djibouti	0	0
Djibouti	Obock	0	0
Djibouti	Tadjoura	3	22
Eritrea	Anseba	24	22
Eritrea	Debub	18	38
Eritrea	Debubawi Keyih Bahri	3	24
Eritrea	Gash Barka	53	23
Eritrea	Maekel	15	48
Eritrea	Semenawi Keyih Bahri	18	19
Ethiopia	Afar	50	16
Ethiopia	Amhara	23	38
Ethiopia	Benshangul-Gumuz	29	29
Ethiopia	Dire Dawa	19	47
Ethiopia	Gambela Peoples	40	21
Ethiopia	Harari People	18	55
Ethiopia	Oromia	30	22
Ethiopia	Somali	56	16
Ethiopia	Southern Nations Nationalities	29	25
Ethiopia	Tigray	29	27
Somalia	Awda	39	21
Somalia	Bakeel	66	13
Somalia	Bari	14	27
Somalia	Bay	68	18
Somalia	Galguduud	62	16
Somalia	Gede	66	15
Somalia	Hiiraan	64	16

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Somalia	Jubbada Dhexe	68	21
Somalia	Jubbada Hoose	65	19
Somalia	Mudug	37	18
Somalia	Nugaal	44	24
Somalia	Sanaag	23	22
Somalia	Shabeellaha Dhexe	52	9
Somalia	Shabeellaha Hoose	71	14
Somalia	Seel	41	23
Somalia	Togdheer	53	21
Somalia	Woqooyi Galbeed	57	18
Ghana	Ahafo	35	29
Ghana	Ashanti	38	23
Ghana	Bono	31	47
Ghana	Bono East	40	21
Ghana	Central	35	25
Ghana	Eastern	38	25
Ghana	Greater Accra	28	30
Ghana	North East	33	23
Ghana	Northern	39	22
Ghana	Oti	32	22
Ghana	Savannah	33	24
Ghana	Upper East	22	38
Ghana	Upper West	26	26
Ghana	Volta	35	39
Ghana	Western	32	31
Ghana	Western North	31	35
Kenya	Baringo	21	43
Kenya	Bomet	26	32
Kenya	Bungoma	22	43
Kenya	Busia	18	48
Kenya	Elgeyo-Marakwet	22	46
Kenya	Embu	34	25
Kenya	Garissa	47	27
Kenya	Homa Bay	19	34
Kenya	Isiolo	46	22
Kenya	Kajiado	30	25
Kenya	Kakamega	21	53
Kenya	Kericho	23	53
Kenya	Kiambu	23	51
Kenya	Kilifi	22	30
Kenya	Kirinyaga	26	35
Kenya	Kisii	20	55

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Kenya	Kisumu	26	24
Kenya	Kitui	45	30
Kenya	Kwale	20	26
Kenya	Laikipia	17	59
Kenya	Lamu	20	31
Kenya	Machakos	25	52
Kenya	Makueni	34	28
Kenya	Mandera	50	21
Kenya	Marsabit	46	25
Kenya	Meru	27	28
Kenya	Migori	22	43
Kenya	Mombasa	13	37
Kenya	Murang'a	25	55
Kenya	Nairobi	11	42
Kenya	Nakuru	21	48
Kenya	Nandi	24	48
Kenya	Narok	22	38
Kenya	Nyamira	21	84
Kenya	Nyandarua	21	51
Kenya	Nyeri	25	41
Kenya	Samburu	24	25
Kenya	Siaya	22	42
Kenya	Taita Taveta	49	23
Kenya	Tana River	42	31
Kenya	Tharaka-Nithi	49	20
Kenya	Trans Nzoia	20	52
Kenya	Turkana	42	24
Kenya	Uasin Gishu	21	54
Kenya	Vihiga	20	56
Kenya	Wajir	50	24
Kenya	West Pokot	22	21
Madagascar	Antananarivo	26	41
Madagascar	Antsiranana	32	20
Madagascar	Fianarantsoa	32	21
Madagascar	Mahajanga	33	16
Madagascar	Toamasina	36	26
Madagascar	Toliary	54	15
Mozambique	Cabo Delgado	43	14
Mozambique	Gaza	29	20
Mozambique	Inhambane	33	15
Mozambique	Manica	33	26
Mozambique	Maputo	36	13

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Mozambique	Maputo City	34	14
Mozambique	Nampula	39	13
Mozambique	Nassa	46	10
Mozambique	Sofala	36	15
Mozambique	Tete	38	13
Mozambique	Zambezia	38	21
Malawi	Balaka	62	17
Malawi	Blantyre	55	13
Malawi	Chikwawa	38	16
Malawi	Chiradzulu	49	43
Malawi	Chitipa	35	25
Malawi	Dedza	49	11
Malawi	Dowa	61	17
Malawi	Karonga	43	13
Malawi	Kasungu	55	9
Malawi	Likoma	9	9
Malawi	Lilongwe	55	20
Malawi	Machinga	46	9
Malawi	Mangochi	45	9
Malawi	Mchinji	60	14
Malawi	Mulanje	36	22
Malawi	Mwanza	52	13
Malawi	Mzimba	45	15
Malawi	Neno	53	10
Malawi	Nkhata Bay	56	9
Malawi	Nkhotakota	54	9
Malawi	Nsanje	33	21
Malawi	Ntcheu	54	11
Malawi	Ntchisi	52	11
Malawi	Phalombe	39	31
Malawi	Rumphi	41	14
Malawi	Salima	56	11
Malawi	Thyolo	40	21
Malawi	Zomba	49	26
Mali	Bamako	4	22
Mali	Gao	28	26
Mali	Kayes	39	22
Mali	Kidal	1	31
Mali	Koulikoro	45	17
Mali	Mopti	70	18
Mali	Ségou	46	21
Mali	Sikasso	35	24

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Mali	Timbuktu	54	22
Mauritania	Adrar	0	50
Mauritania	Assaba	67	32
Mauritania	Brakna	54	25
Mauritania	Dakhlet Nouadhibou	0	0
Mauritania	Gorgol	66	17
Mauritania	Guidimaka	71	24
Mauritania	Hodh ech-Chargui	67	40
Mauritania	Hodh el-Charbi	69	36
Mauritania	Inchiri	0	0
Mauritania	Nouakchott	0	0
Mauritania	Tagant	29	32
Mauritania	Tiris-Zemmour	0	0
Mauritania	Trarza	64	16
Niger	Agadez	10	20
Niger	Diffa	65	9
Niger	Dosso	64	8
Niger	Maradi	76	26
Niger	Niamey	6	32
Niger	Tahoua	70	6
Niger	Tillabéry	53	8
Niger	Zinder	66	4
Sudan	Al-Jazirah	65	12
Sudan	Al-Qadiriif	63	13
Sudan	Blue Nile	59	23
Sudan	Central-Darfur	49	34
Sudan	East-Darfur	53	28
Sudan	Kassala	46	13
Sudan	Khartoum	2	3
Sudan	North-Darfur	53	27
Sudan	North-Kurdofan	54	16
Sudan	Northern	0	26
Sudan	Red-Sea	2	27
Sudan	River Nile	7	17
Sudan	Sennar	67	12
Sudan	South-Darfur	43	28
Sudan	South-Kurdofan	54	27
Sudan	West-Darfur	53	36
Sudan	West-Kurdofan	53	28
Sudan	White Nile	65	15
South-Sudan	Central-Equatoria	37	14
South-Sudan	Eastern-Equatoria	40	16

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
South Sudan	Jungoli	28	27
South Sudan	Lakes	34	14
South Sudan	North Bahr-al-Ghazal	25	20
South Sudan	Unity	23	29
South Sudan	Upper Nile	33	21
South Sudan	Warap	27	18
South Sudan	West Bahr-al-Ghazal	32	17
South Sudan	West Equatoria	37	15
Gambia	Banjul	39	19
Gambia	Lower River	60	14
Gambia	Maccarthy Island	50	21
Gambia	North Bank	64	10
Gambia	Upper River	48	30
Gambia	Western	59	13
Senegal	Dakar	5	24
Senegal	Diourbel	12	94
Senegal	Fatick	59	9
Senegal	Kaffrine	66	39
Senegal	Kaolack	65	35
Senegal	Kédougou	46	30
Senegal	Kolda	53	18
Senegal	Louga	87	13
Senegal	Matam	84	7
Senegal	Saint-Louis	87	11
Senegal	Sédhiou	55	16
Senegal	Tambacounda	52	25
Senegal	Thiès	45	20
Senegal	Ziguinchor	55	17
Botswana	Central	27	32
Botswana	Chobe	19	56
Botswana	Francistown	10	60
Botswana	Gaborone	18	37
Botswana	Ghanzi	50	31
Botswana	Jwaneng	25	36
Botswana	Kgalagadi	49	29
Botswana	Kgatleng	43	37
Botswana	Kweneng	44	34
Botswana	Lobatse	7	40
Botswana	North-East	18	59
Botswana	North-West	24	26
Botswana	Selibe Phikwe	10	59
Botswana	South-East	41	39

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Botswana	Southern	45	31
Botswana	Sowa	9	67
Namibia	!Karas	15	31
Namibia	Erongo	41	23
Namibia	Hardap	43	26
Namibia	Kavango	23	32
Namibia	Khomas	33	23
Namibia	Kunene	31	23
Namibia	Ohangwena	16	51
Namibia	Omaheke	53	28
Namibia	Omusati	18	54
Namibia	Oshana	18	66
Namibia	Oshikoto	20	39
Namibia	Otjozondjupa	46	21
Namibia	Zambezi	17	61
Swaziland	Hhohho	17	35
Swaziland	Lubombo	14	57
Swaziland	Manzini	17	36
Swaziland	Shiselweni	16	42
South Africa	Eastern Cape	21	47
South Africa	Free State	14	82
South Africa	Gauteng	10	75
South Africa	KwaZulu-Natal	19	29
South Africa	Limpopo	14	54
South Africa	Mpumalanga	15	44
South Africa	North West	23	32
South Africa	Northern Cape	28	38
South Africa	Western Cape	16	41
Tanzania	Arusha	63	13
Tanzania	Dar es Salaam	34	43
Tanzania	Dodoma	71	14
Tanzania	Geita	43	13
Tanzania	Iringa	51	14
Tanzania	Kagera	34	26
Tanzania	Kaskazini Pemba	26	50
Tanzania	Kaskazini Unguja	26	45
Tanzania	Katavi	45	10
Tanzania	Kigoma	49	13
Tanzania	Kilimanjaro	67	11
Tanzania	Kusini Pemba	25	49
Tanzania	Kusini Unguja	34	38
Tanzania	Lindi	43	14

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Tanzania	Manyara	70	17
Tanzania	Mara	56	10
Tanzania	Mbeya	41	10
Tanzania	Mjini Magharibi	23	44
Tanzania	Morogoro	42	14
Tanzania	Mtwara	38	14
Tanzania	Mwanza	41	17
Tanzania	Njombe	34	24
Tanzania	Pwani	53	7
Tanzania	Rukwa	30	29
Tanzania	Ruvuma	38	20
Tanzania	Shinyanga	44	13
Tanzania	Simiyu	71	11
Tanzania	Singida	68	14
Tanzania	Songwe	40	11
Tanzania	Tabora	40	17
Tanzania	Tanga	58	8
Togo	Centre	48	20
Togo	Kara	48	17
Togo	Maritime	39	22
Togo	Plateaux	45	21
Togo	Savanes	51	17
Uganda	Adjumani	48	16
Uganda	Apac	36	35
Uganda	Arua	42	17
Uganda	Bugiri	35	26
Uganda	Bundibugye	46	14
Uganda	Bushenyi	37	39
Uganda	Busia	36	31
Uganda	Gulu	42	20
Uganda	Hoima	29	32
Uganda	Iganga	36	28
Uganda	Jinja	36	36
Uganda	Kabale	35	44
Uganda	Kabarole	40	23
Uganda	Kaberamaido	40	22
Uganda	Kalangala	11	22
Uganda	Kampala	0	100
Uganda	Kamuli	35	30
Uganda	Kamwenge	32	35
Uganda	Kanungu	35	37
Uganda	Kapchorwa	41	18

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Uganda	Kasese	36	21
Uganda	Katakwi	65	16
Uganda	Kayunga	34	38
Uganda	Kibale	46	30
Uganda	Kiboga	34	38
Uganda	Kisoro	33	43
Uganda	Kitgum	57	14
Uganda	Kotido	40	19
Uganda	Kumi	52	27
Uganda	Kyenjojo	40	30
Uganda	Lake Albert	0	0
Uganda	Lake Victoria	41	16
Uganda	Lira	52	13
Uganda	Luwero	40	30
Uganda	Masaka	29	32
Uganda	Masindi	35	31
Uganda	Mayuge	34	31
Uganda	Mbale	31	23
Uganda	Mbarara	34	30
Uganda	Moroto	46	12
Uganda	Moyo	52	21
Uganda	Mpigi	35	34
Uganda	Mubende	34	37
Uganda	Mukono	42	26
Uganda	Nakapiripirit	45	15
Uganda	Nakasongola	37	39
Uganda	Nebbi	44	20
Uganda	Ntungamo	34	30
Uganda	Pader	59	14
Uganda	Pallisa	36	37
Uganda	Rakai	33	26
Uganda	Rukungiri	37	43
Uganda	Sembabule	36	36
Uganda	Sironke	37	20
Uganda	Seroti	45	18
Uganda	Tororo	32	37
Uganda	Wakiso	35	26
Uganda	Yumbe	49	20
Central African Republic	Bamingui-Bangoran	40	18
Central African Republic	Bangui	25	20

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Central African Republic	Basse-Kotto	26	19
Central African Republic	Haut-Mbomou	51	12
Central African Republic	Haute-Kotto	52	9
Central African Republic	Kémo	45	8
Central African Republic	Lobaye	39	21
Central African Republic	Mambéré-Kadéï	43	12
Central African Republic	Mbomou	41	19
Central African Republic	Nana-Grébizi	48	14
Central African Republic	Nana-Mambéré	47	16
Central African Republic	Ombella-M'Poko	39	12
Central African Republic	Ouaka	35	14
Central African Republic	Ouham	47	15
Central African Republic	Ouham-Pendé	45	18
Central African Republic	Sangha-Mbaéré	42	34
Cameroon	Adamaoua	40	21
Cameroon	Centre	43	22
Cameroon	Est	43	27
Cameroon	Extrême-Nord	33	34
Cameroon	Littoral	44	23
Cameroon	Nord	32	35
Cameroon	Ouest	26	22
Cameroon	Sud	45	30
Cameroon	Sud-Ouest	45	22
Nigeria	Abia	23	32
Nigeria	Adamawa	32	29
Nigeria	Akwa Ibom	28	19
Nigeria	Anambra	20	20
Nigeria	Bauchi	38	19
Nigeria	Bayelsa	40	22
Nigeria	Benue	35	22
Nigeria	Borno	54	15

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Nigeria	Cross River	33	12
Nigeria	Delta	29	19
Nigeria	Ebonyi	19	42
Nigeria	Edo	30	15
Nigeria	Ekiti	34	16
Nigeria	Enugu	29	24
Nigeria	Federal Capital Territory	41	18
Nigeria	Gombe	36	29
Nigeria	Imo	23	21
Nigeria	Jigawa	53	26
Nigeria	Kaduna	44	17
Nigeria	Kano	34	38
Nigeria	Katsina	46	15
Nigeria	Kebbi	48	13
Nigeria	Kogi	38	15
Nigeria	Kwara	42	13
Nigeria	Lagos	25	14
Nigeria	Nasarawa	47	22
Nigeria	Niger	48	15
Nigeria	Ogun	28	17
Nigeria	Ondo	34	14
Nigeria	Osun	33	16
Nigeria	Oyo	25	18
Nigeria	Plateau	33	18
Nigeria	Rivers	30	14
Nigeria	Sokoto	59	9
Nigeria	Taraba	38	16
Nigeria	Yobe	67	11
Nigeria	Zamfara	47	15
Guinea	Boké	32	22
Guinea	Conakry	42	25
Guinea	Faranah	41	25
Guinea	Kankan	39	22
Guinea	Kindia	28	28
Guinea	Labé	42	26
Guinea	Mamou	38	24
Guinea	Nzérékoré	37	14
Guinea-Bissau	Bafatá	33	24
Guinea-Bissau	Biombo	35	20
Guinea-Bissau	Bissau	18	21
Guinea-Bissau	Bolama	23	24

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Guinea-Bissau	Cacheu	34	26
Guinea-Bissau	Gabú	38	31
Guinea-Bissau	Oio	36	28
Guinea-Bissau	Quinara	23	25
Guinea-Bissau	Tombali	28	19
Liberia	Bomi	41	41
Liberia	Bong	40	43
Liberia	Gbapolu	41	40
Liberia	Grand Bassa	40	37
Liberia	Grand Cape Mount	40	36
Liberia	Grand Gedeh	40	42
Liberia	Grand Kru	37	39
Liberia	Lofa	42	34
Liberia	Margibi	37	36
Liberia	Maryland	34	33
Liberia	Montserrado	39	36
Liberia	Nimba	39	40
Liberia	River Gee	39	42
Liberia	Rivercess	41	41
Liberia	Sinoe	40	46
Sierra Leone	Eastern	52	14
Sierra Leone	Northern	37	17
Sierra Leone	Southern	39	33
Sierra Leone	Western	35	22
Republic of the Congo	Bouenza	13	52
Republic of the Congo	Brazzaville	4	100
Republic of the Congo	Cuvette	16	54
Republic of the Congo	Cuvette-Ouest	18	55
Republic of the Congo	Kouilou	22	44
Republic of the Congo	Lékoumou	21	72
Republic of the Congo	Likouala	24	71
Republic of the Congo	Niari	16	64
Republic of the Congo	Plateaux	11	51
Republic of the Congo	Pointe Noire	0	79

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Republic of the Congo	Pool	9	77
Republic of the Congo	Sangha	24	73
Gabon	Estuaire	20	74
Gabon	Haut-Ogooué	17	74
Gabon	Moyen-Ogooué	14	100
Gabon	Ngounié	16	93
Gabon	Nyanga	15	69
Gabon	Ogooué-Ivindo	18	93
Gabon	Ogooué-Lolo	18	100
Gabon	Ogooué-Maritime	13	100
Gabon	Wouleu-Ntem	24	60
Equatorial Guinea	Annobón	0	0
Equatorial Guinea	Bioko Norte	26	30
Equatorial Guinea	Bioko Sur	31	32
Equatorial Guinea	Centro Sur	32	49
Equatorial Guinea	Kiô-Ntem	29	44
Equatorial Guinea	Litoral	32	48
Equatorial Guinea	Wole-Nzas	31	46
Zambia	Central	42	16
Zambia	Copperbelt	52	11
Zambia	Eastern	34	29
Zambia	Luapula	44	15
Zambia	Lusaka	37	34
Zambia	Muchinga	38	18
Zambia	North-Western	55	14
Zambia	Northern	38	17
Zambia	Southern	30	39
Zambia	Western	38	17
Zimbabwe	Bulawayo	11	52
Zimbabwe	Harare	6	38
Zimbabwe	Manicaland	21	35
Zimbabwe	Mashonaland Central	22	37
Zimbabwe	Mashonaland East	21	49
Zimbabwe	Mashonaland West	24	30
Zimbabwe	Masvinge	21	44

Country	Sub-Regional	fNRB_2020_2030_mean	fNRB_2020_2030_sd
Zimbabwe	Matabeleland North	21	36
Zimbabwe	Matabeleland South	20	51
Zimbabwe	Midlands	21	45

5.6. Efficiency of pre-project cooking device

20. The default values for the efficiency of pre-project device used for cooking and/or water boiling applications are as follows:
- (a) For a three-stone fire using firewood (not charcoal), or a cookstove with no improved combustion air supply or flue gas ventilation (i.e. without a grate or a chimney), the default value is 0.15;
 - (b) For other type of devices, the default value is 0.25.

Appendix 1. Process, criteria and timeline for the update of the default values

1. The validity of the default values included in this tool shall be re-assessed by the Methodologies Panel (MP) every three years.
2. The MP shall initiate the analysis of the default values at least 365 days prior to the expiry date of the default values, as referred to in paragraph 6 of this tool.
3. The MP shall review relevant information pertaining to the default values and prepare a recommendation on the continuation or update to the default values for consideration by the Board.
4. The Board shall decide on the continuation or update to the default values.
5. The Board may include additional default values in this tool at any point in time. In such cases, the validity of the default values added is limited to the remaining valid period of the default values, as indicated in paragraph 6 of this tool, and those default values are subject to review, as indicated in paragraphs 1–3 of this appendix.
6. Stakeholders may propose addition of default values in this tool following the process in section 6 'Revision of approved methodology or methodological tool' of the "Procedure: Development, revision and clarification of baseline and monitoring methodologies and methodological tools".

Appendix 2. Principles of conservativeness

1. Background

1. This appendix provides guiding principles of conservativeness that were applied to determine the default values included in this tool, considering the level of uncertainty of underlying data.

2. Principles of conservativeness

2. When defining default factors in the CDM context, the principle of conservativeness seeks to ensure environmental integrity and avoid the overestimation of emission reductions, while considering the most up-to-date information available that are of unbiased sources and seeking to reflect conditions that are grounded in reality.
3. In developing and proposing default values, a literature review of relevant information is undertaken. The preferred information sources are trusted sources such as the Intergovernmental Panel on Climate Change (IPCC) literature, databases and reports of UN Agencies, the World Bank, International Energy Agency, International Renewable Energy Agency and other comparable sources including publications from scientific journals with high impact factor.
4. Where feasible, data that fulfils the requirements and quality assurance and quality control (QA/QC) for primary data specified under the standardised baseline framework is used (refer to, QA/QC guidelines at <https://cdm.unfccc.int/Reference/Guidclarif/index.html>).
5. In some cases there is a need to take a pragmatic approach without compromising the environmental integrity of the values developed. Noting the wide heterogeneity of data and information the original values require some process of transformation, i.e. conversion to a common format, using conversion factors and assumptions, etc.
6. After converting into the common format, the values from the most suitable dataset(s) that are relevant, complete, consistent, reliable, current, accurate and objective is considered. Where relevant, standard deviation of the data set is considered and adjustments to use the lower or higher bound values for conservative estimate of default values is undertaken.

- - - - -

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.1	9 May 2025	MP 97, Annex 1 The standard error values in Table 3: Default values for fraction of fNRB at National level have been removed.
03.0	8 May 2025	MP 97, Annex 1 A call for input will be issued for this draft document. If no input is received, the draft document will be considered by the Board at EB 125. The draft methodology includes updated default global, national and subnational fNRB values.
02.0	8 September 2022	EB 115, Annex 5 Revision to: <ul style="list-style-type: none"> • Elaborate the principles of conservativeness of values that will be applied depending on the level of uncertainty of underlying data; • Include new default values for: wood-to-charcoal conversion factor, average annual consumption of woody biomass per person for cooking, fraction of non-renewable biomass, and efficiency of pre-project cooking device.
01.0	11 March 2022	EB 113, Annex 9 Initial adoption
Decision Class: Regulatory Document Type: Tool Business Function: Methodology Keywords: calculations, CO ₂ emission factor		
