



# UN-REDD approach to GHG inventory component of an NFMS

## FAO UN-REDD

#### African Regional Workshop on REDD+ National Forest Monitoring Systems and Greenhouse Gas (GHG) National Inventory Systems Livingstone, Zambia

25-28 February 2014

# UN-REDD MRV components



The MRV function consists of three main components or 'pillars':

- 1. The satellite land monitoring system (SLMS)
  - To collect Activity Data (AD) on forest area change
- 2. The national forest inventory (NFI)
  - To gather information to obtain Emission Factors (EFs)
- 3. The national GHG inventory (GHG-I)
  - To provide emissions & removals estimates for national GHG inventory report

#### UN-REDD PROGRAMME Systems for REDD+





#### UN-REDD PROGRAMME MEASURING & Reporting forest carbon emissions and removals





Area change data from satellite remote sensing Forest carbon stock change data from a national forest inventory Inventory of greenhouse gas **emissions** from the forest sector

Initial Area

CO<sub>2</sub>



#### Report on <u>Changes</u> in the OGRAMME **Five Forest Carbon Pools**



- Above-ground biomass
  Below-ground biomass
- 3. Deadwood dead organic matter 4. Litter
- mineralorganic 5. Soil
  - $\Delta Carbon = \Delta C_{AB} + \Delta C_{BB} + \Delta C_{DW} + \Delta C_{LI} + \Delta C_{SO}$

# Changes in Forest Carbon Pools





#### **UN-REDD Activity** Data in a GHG Inventory report



	A TABLE 5(KP-I)	B A.2. SUPPLE	C MENTARY B	DACKG	E ROUND	F DATA (	G DN CAF	H BON S	і ТОСК С	J HANG	K ES AND I	L M N O	P Q R	S T U		٧	W	×	Y	Z AUSTRALIA
2	REMOVALS FO	OR LAND USE,	LAND-USE (	CHANG	E AND	FORES	TRY AC	TIVITIE	S UNDE	ER THE	куото				-					Inventory 2011
3	Article 3.3 acti	vities: Defores	tation <sup>14</sup>									NSW .		1,020.73					:	Submission 2013 v1.1
;	GEOGRAPHIC AL LOCATION <sup>121</sup>	PHIC ACTIVITY DATA				MPLIED	CARPON STOCK CHANGE FA			ANGE F/		Acacia Forest and Woodland	61.17		N STOCK <sup>IEI</sup>					
5	Identification	Subdivision	Area subject to	Area of organ	Ca char i groun	rbon st ige is al a bioma	oek bove- ass per	Ca chan groun	rbon sto ge in be d bioma	ock low- ss per	Net carbon stock chang		Acacia Open Woodland	0.44		Net carbon stock	Net carbon stock change in	Net car stock cha soils	rbon inge in 141   Urga	Net CO2 emissions/ removals <sup>111</sup>
,	code	3J	C MENTARY I LAND-USE tation I <sup>11</sup> VITY DATA Subject to the activity (kha) 6.501.52 1.020.73 61.17 0.44 93.21 48.32 51.32 1.38 243.31 82.39 20.71 338.73 1.62 1.98 69.97 0.79	soils य	Gains	Losse s	Net chang e	Gains	Losse s	Net chang e	e in litter per		Acacia Shrubland	93.21		change in litter <sup>141</sup>	dead wood <sup>141</sup>	Mineral soils	nic soils 141	
3	Total for		(kha) 0.501.52	(kha)	0.00	0.29	0.20	0.00	(Mg	0 17	0.15		Callitris Forest	48.22		959.47	2 105 00	2 044 52	NO	(Gg CO <sub>2</sub> )
	activity A.2.		6.301.32		0.00	-0.33	-0.33	0.00	-0.17	-0.17	-0.15		and Woodland 📋	T0.06		-336.47	-2,103.30	-3,044.32	NO	36,244.32
5	105 11	Acacia Forest and Woodland	61.17	10	IE	-0.80	-0.80	IE	-0.34	-0.34	-0.33	¥	Casuarina	E1 22		-331.81	-416.51	-556.38	NO	9,049.08 127.18
,		Acacia Open Woodland	0.44	Jo.	IE	-0.52	-0.52	IE	-0.50	-0.50	-0.22		Forest and	01.02		-0.10	-0.15	0.02	NO	2.49
в		Acacia Shrubland	93.21	IO	IE	-0.12	-0.12	IE	-0.12	-0.12	-0.15		Eucayptus	1.38		-14.21	-5.86	-1.38	NO	159.82
a		Callitris Forest and Woodland	48.32	Jo.	IE	-0.46	-0.46	IE	-0.21	-0.21	-0.29		<u>гож Црел</u>			-14.15	-7.29	-9.17	NO	229.99
0		Casuarina Forest and	51.32	Jo	IE	-0.39	-0.39	IE	-0.18	-0.18	-0.23		Eucalyptus	243.31		-11.68	-23.06	-2.53	NO	243.29
4		Eucalyptus Low Open	1.38	JO	0.19	IE	0.19	0.09	IE	0.09	-0.20		LipenForest			-0.28	-0.69	-0.32	NO	3.31
2		Eucalyptus Open Forest	243.31	JO	IE	-1.39	-1.39	IE	-0.63	-0.63	-0.58		Eucalyptus	82.39		-140.17	-265.00	-299.61	NO	4,386.28
3		Eucalyptus Oben	82.39	JO	IE	-1.58	-1.58	IE	-0.66	-0.66	-0.30		Lipen			-24.56	7.77	-43.77	NO	896.73
4		Eucalyptus Tall Open Forest	20.71	10	IE	-2.37	-2.37	IE	-0.31	-0.31	-0.76		Eucalyptus / all	20.71		-15.80	-42.64	-28.29	NO	522.03
5		Eucalyptus Woodland	338.73	l lo	IE	-0.62	-0.62	IE	-0.26	-0.26	-0.26		LipenForesr			-89.27	-50.82	-134.55	NO	2,103.99
6		Heath	1.62	0	IE	-1.38	-1.38	IE	-1.35	-1.35	-0.59		Eucayprus	338.73		-0.96	-0.81	-2.57	NO	32.09
7		Low Liosed Forest and	1.98	o.	IE	-0.29	-0.29	IE	-0.28	-0.28	-0.14		<i>\$\$17.70810</i>			-0.27	-0.08	-0.61	NO	7.70
8		Mallee Woodland and	69.97	0	IE	-0.08	-0.08	IE	-0.08	-0.08	-0.11		Land	1.62		-7.74	-5.47	-25.31	NO	181.40
		Theraieuca	0.79	L	IF	-2.35	-2.35	F	-108	-108	-0.19					-0.15	0.26	-0.98	L NO L	13 15
													Forest and	1.98						
											-		Nallee Woodland and	69.97						
							-	Sec.			100		Nielaleuca	0.79	Γ				*	

# UN-REDD GHG Inventory report



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A TABLE 5(KP-0/	B 4.2. SUF	C PLEMENTAR		E	F DATA (	G ON CAF	H RBON S	TOCK C	J CHANGE	K ES AND	L NET CO	M EMISS	N SIONS A	O ND	P	Q	R	S	Т	U	V	₩	X	Y	Z AUSTRALIA
REMOVALS FO	RLAND	USE, LAND-U	SE CHAN	GE AND	FORES	TRY AC	TIVITIE	ES UNDI	er the	куото	PROTO	COL													Inventory 2011
Article 3.3 activ	ities: De	forestation <sup>m</sup>																						9	Submission 2013 v1.1
GEOGRAPHIC AL LOCATION <sup>121</sup>	RAPHIC AL ACTIVITY DATA IMPLIED CARBON STOCK CHANGE FACTORS <sup>[4]</sup> Implied CHANGE IN CARBON STOCK <sup>[4]</sup>																								
		Area	A e of orga	a Ca chai ni groun	rbon st nge in al d bioma	ock bove- ass per	Ca char groun	Carbon stock change in below- ground biomass per		Net carbon r stock	Net carbon stock	Net c stock in soi	arbon change ils per	ł removal factor	Carb above	on stock ( -ground b 151	change in Itemass <sup>141.</sup>	Carb below	Carbon stock change in below-ground biomass <sup>141,</sup> 151 Gain Losses Net change		Net carbon stock	Net carbon	Net carbon stock change i soils <sup>141</sup>		Net CO <sub>2</sub> emissions/ removals <sup>101</sup>
Identification code	Subdivis 11	the activ	vitr soil: 71	<sup>51</sup> Gains	s Losse s	;e Net chang e	g Gains	; Losse s	Net chang e	e in litter per	e in dead wood	Minera I soils	Organi c soils	per area <sup>141</sup>	Gains	Losses Net change		Gain S			change in litter <sup>141</sup>	dead wood <sup>141</sup>	Mineral soils	nic soils 191	
		(kha	(kha	1			_	(Mo	C/ha)			_		Ma CO <sub>2</sub> /b						(Gg C	<u>)</u>				(Gg COz)
Total for activite A.2.		6,501.5	i2 NO	0.00	-0.39	-0.39	0.00	-0.17	-0.17	-0.15	-0.34	-0.47	NO	5.57	0.50	-2,561.09	-2,560.59	0.23	-1,135.73	-1,135.50	-958.47	-2,185.90	-3,044.52	NO	36,244.92
NSW	denois Er	1 20.7	3 NO	0.00	-0.80	-0.80	0.00	-0.34	-0.34	-0.33	-0.41	-0.55	NO	8.87	0.27	-812.57	-812.30	0.12	-350.44	-350.32	-331.81	-416.51	-556.98	NO	9,049.08
	and Wood	Vesr Vand 61.17	NO	IE	-0.18	-0.18	IE	-0.08	-0.08	-0.14	-0.18	0.01	NO	2.08	ΙE	-10.92	-10.92	IE	-4.95	-4.95	-8.59	-10.92	0.69	NO	127.18
	Noacia Ly Woodland	7697 1 0.44	NO	IE	-0.52	-0.52	IE	-0.50	-0.50	-0.22	-0.33	0.04	NO	5.61	IE	-0.23	-0.23	IE	-0.22	-0.22	-0.10	-0.15	0.02	NO	2.49
	Acacia Shrubland	, 93.21	NO	IE	-0.12	-0.12	IE	-0.12	-0.12	-0.15	-0.06	-0.01	NO	1.71	IE	-11.28	-11.28	IE	-10.86	-10.86	-14.21	-5.86	-1.38	NO	159.82
	Callitris Fo and Wood	cvelt fland 48.32	NO	IE	-0.46	-0.46	IE	-0.21	-0.21	-0.29	-0.15	-0.19	NO	4.76	ΙE	-22.01	-22.01	IE	-10.10	-10.10	-14.15	-1.99	-9.17	NO	229.99
Ĭ	Casuarina Forest a	51.32	NO	IE	-0.39	-0.39	IE	-0.18	-0.18	-0.23	-0.45	-0.05	NO	4.74	ΙE	-20.05	-20.05	IE	-9.03	-9.03	-11.68	-23.06	-2.53	NO	243.29
	Eucalypu Low Clen	5 1.38	NO	0.19	IE	0.19	0.09	IE	0.09	-0.20	-0.50	-0.23	NO	2.40	0.27	ΙE	0.27	0.12	IE	0.12	-0.28	-0.69	-0.92	NO	3.31
	Euca ptu Op	5 040.0			100	4.00		0.00	0.00	0.50	4.00	100		40.00		007.70	007.70	15	450.70	450.70		005.00	000.04	-p	4,386.28
	Éur Cipi																							Þ	896.73
	Éur Cin																							Þ	522.03
	Éur Wa				ЧP	LIE	D (	CAF	38(	DN	ST	DCI	KC	наћ	IGE	EFA	сто.	)R9	; •••			l Imn	lied	Þ	2,103.99
	He																								32.09
	Los														_								sion		7.70
	Alla Mo	Ca	rbol	n st	oci	C.			Cai	rboi	n sl	tock			Ne	t	Ne	t –	N	et c	arbon		•		181.40
	Ĩ.₩	chan	no i	n əl		1 <b>1</b> 0 -		e l	h a m	aa i	in h	مام	<b>-</b>	l ca	arb	on carb		DN	ctr	art d	- <b>h</b> anac	l ram	ادىيە	5	13 15
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		groun	a DI	oma	155	pe		gro			om	ass	pe	r >	-	- 8%.	-	r 24.		1 501	is per	rac	COL		
					1.	hlar	_						Bla	. C	hai	1g	char	۱g				D (	er		
			11 0	ZZP	1		-			11 6	55P		mer	-	e ii	• I	e ir	•	Min	ега	Ornar	si l			
		<b>Jains</b>			ch	han	g   I	Gai	ns			C	nan	g  .				<u> </u>				ri are	a		
				5		•					5		•		ICCE	:r	dea	a	ISC	)  5	c soii	s I			
						-							-		De		YOO	ud 📃							
A. C. C.											(M	lg C	:/ha	)								Mg C	Oz/h		<u>.</u>

# Carbon stock <u>change</u> for the 5 pools in GHG report

0.27

-812 57

-812.30

0.12

.350.44

.350.32

-331.81



A	В		С	D	E	F	G	Н	I	J	К	L	M	N	0	Р	Q	R	S	Т	U	V	W	X	Y	Z
TABLE 5(KP-I) REMOVALS F	A.2. SUPP DR LAND US	LEMENT SE. LANI	FARY BA D-USE CH	LCKGR HANGI	E AND I	DATA O FOREST	IN CAR	BON S	TOCK C	HANGI	ES AND E KYOTO	NET CO PROTO	), EMIS: )COL	SIONS A	ND											AUSTRALIA Inventoru 201
Article 3.3 acti	vities: Defo	restation	1 111																						:	Submission 2013 v1.
GEOGRAPHIC AL LOCATION <sup>121</sup>	AC	стічіту	DATA			IM	IPLIED	CARB	ON STO	СК СН	ANGE F	ACTOR	S 161		Implied emission					CHANG	E IN CARE	ON STOCK <sup>IN</sup>			Ζ	
	Subdivision N	A	rea c	Area of organi	change in above- ground biomass pe		ock ove- ss per	Carbon s change in f ground bion		ock Iow- ss per	Net carbon c stock s	Net carbon stock	Net o stock	arbon onange ils per	r removal factor	al above-ground biomas:			ass <sup>141,</sup> below-ground biom			Net carbon stock	Net carbon stock change in	stock mange in soils <sup>141</sup>		Net CO <sub>2</sub> emissions <del>/</del> removals <sup>141</sup>
Identification code		the a	ictivity :	c soils <sup>1</sup> ग	Gains	Losse s	Net chang e	Gains Losse Chang litte		e in litter	e in e in l litter dead	Minera I soils	Organi c soils	per area <sup>101</sup>	Gains	Losses	Net change	Gain s	Losses	Net change	change in litter <sup>141</sup>	dead wood <sup>141</sup>	dineral soils	nic soils 141		
		(kha) (kha) (Mg C/ha) Mg CO <sub>2</sub> /h													íGa C	i .				(Gg COz)						
Total for activity A.2.		6,5	01.52	NO	0.00	-0.39	-0.39	0.00	-0.17	-0.17	-0.15	-0.34	-0.47	NO	5.57	0.50	-2,561.09	-2,560.59	0.23	-1,135.73	-1,135.50	-958.47	-2,185,90	-3,044.52	NO	36,244.92
NSW	Nopoja Eoro	1,0	20.73	NO	0.00	-0.80	-0.80	0.00	-0.34	-0.34	-0.33	-0.41	-0.55	NO	8.87	0.27	-812.57	-812.30	0.12	-350.44	-350.32	-331.81	16.51	-556.98	NO	9,049.08
	and Woodlar	70 6	51.17	NO	IE	-0.18	-0.18	E	-0.08	-0.08	-0.14	-0.18	0.01	NO	2.08	ΙE	-10.92	-10.92	IE	-4.95	-4.95	-8.59	-10.92	0.69	NO	127.18
	Woodland	<u> </u>	).44	NO	IE	-0.52	0.52	IE	-0.50	-0.50	-0.22	-0.33	0.04	NO	5.61	IE	-0.23	-0.23	IE	-0.22	-0.22	-0.10	-0.15	0.02	NO	2.49
	Acacia Shrubland	s	13.21	NO	IE	0.12	-0.12	IE	-0.12	-0.12	-0.15	-0.06	-0.01	NO	1.71	IE	-11.28	-11.28	IE	-10.86	-10.86	-14.21	-5.86	-1.38	NO	159.82
	Callitris Fore	257 70 4	8.32	NO	ΙĒ	-0.46	-0.46	IE	-0.21	-0.21	-0.29	-0.15	-0.19	NO	4.76	ΙE	-22.01	-22.01	IE	-10.10	-10.10	-14 15	-7.29	-9.17	NO	229.99
	Casuarina Forest and	5	1.32	NO	IE	-0.39	-0.39	IE	-0.18	-0.18	-0.23	-0.45	-0.05	NO	4.74	IE	-20.05	-20.05	IE	-9.03	-9.03	-11.68	-23.06	-2.53	NO	243.29
	Eucalyptus Low Open		2	NO	0.19	IE	0.19	0.09	IE	0.09	-0.20	-0.50	-0.23	NO	2.40	0.27	ΙE	0.27	0.12	IE	0.12	-0.28	-0.69	-0.32	NO	3.31
	Eucalyptus Open Forest	243.31 NO IE				-1.39 -1.39		IE -0.63		-0.63	-0.58	-1.09	-1.23	NO	18.03	IE	-337.78	-337.78	IE	-153.70	-153.7	-140.17	-265.00	-299.61	NO	4,386.28
	Éucalyptus Open																				14	-24.56	7.77	-43.77	NO	896.73
	Eucalyptus Open Fore																				2	-15.80	-42.64	-28.29	NO	522.03
	Eucalyptus Woodland								сна	MGE	E IN C	'ARR	ON S	тось	7 191						79	-89.27	-50.82	-134.55	NO	2,103.99
	Hanth								CHIC	1404		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		1001	•						9	-0.96	-0.81	-2.57	NO	32.09
	Low Close																				6	-0.27	-0.08	-0.61	NO	7.70
	Nallee	Carb	on sto	ock	chan	ge in	10	Carbo	on sto	ock c	hang	e in							Net	: carbo	n 📘	-7.74	-5.47	-25.31	NO	181.40
	Welaleuca	above	-arou	nd b	ioma	15519	• be	elo <b>v</b> -	arou	nd bi	iomas	<sub>is</sub> 191	Mai	earb				s	tock	change	e in 🐻	-0.15	0.26	-0.98	NO	13 15
			3	151			1		3	151			1464	. varu		Net	carbo	n								
							+			1-1			5	TOCK	5	tock	change	e in ⊢	50		(Da					
													Ch	ange	in   -						i.					
		ains	Los	ses		Net	19	ain	Loss	ses	N	et	li	tter 🎮	•	dead	A000.	•	Minei	rai   "						
	I				ch	ange		s			cha	nge							soil	s so	DIIS					
																				1	31					
											(	Gg C	)													
1														The star	at estimate											

NO.

.556.98

.416.51

# Net CO2 emissions &/or removals in GHG report



A TABLE 5(KP-I), REMOVALS FO Article 3.3 activ	B A.2. SUPPLE DR LAND USE, vities: Defores	C MENTARY E LAND-USE ( station <sup>191</sup>	D BACKGI CHANG	e Round Ie and	F DATA ( FORES	G DN CAF TRY AC	H RBON S CTIVITIE	TOCK O	, Chang Er The	K ES AND KYOTO	L NET CO PROTO	M )z EMISS )COL	N SIONS A	0 ND	P	Q	R	S	T	U	V	W	X	Y	Z AUSTRALIA Inventory 2011 Submission 2013 v1.1
GEOGRAPHIC AL LOCATION <sup>121</sup>	ACT	ACTIVITY DATA IMPLIED CARBON STOCK CHANGE FACTORS <sup>IN</sup> Implied emission													E IN CARE	ARBON STOCK <sup>161</sup>									
	Cutativisies	Area subject to	Area of organi	Ca chan groun	Carbon stock change in above- ground biomass per		change in below- ground biomass pr		ock elow- ass per	Net carbon stock chang	Net carbon stock chang	Net c stock in so	arbon change ils per	/ removal factor	Carb above	on stock c e-ground bi I <sup>SI</sup>	hange in omass <sup>141,</sup>	Carb below	on stock ( r-ground bi 151	change in iomass <sup>141,</sup>	Net carbon stock	Net carbon stock change	M car s sk cha soils	/bon inge it 141	Net CO <sub>2</sub> emissions <del>/</del> removals <sup>141</sup>
code	an a	the activity	c soils <sup>1</sup> ग	Gains	Losse s	Net chang e	Gains	Losse s	Net chang e	e in litter per	e in dead wood	Minera I soils	Organi c soils	area III	Gains	Losses	Net change	Gain s	Losses	Net change	change in litter <sup>141</sup>	dead wor	Mineral soils	nic soil: 14	
Total for		(kha)	(kha)			<del></del>	(Mg C/ha)							Mg CO₂/h	<u> </u>			(Gg			;) 				(6+00)
activity A.2.		6,501.52	NO	0.00	-0.39	-0.39	0.00	-0.17	-0.17	-0.15	-0.34	-0.47	NO	5.57	0.50	-2,561.09	-2,560.59	0.23	-1,135.73	-1,135.50	-958.47	-2,185.90	-3,044.52	NO	36,244.97
N/5W	Acacia Forest	1,020.73	NO	IE	-0.80	-0.80	IE	-0.34	-0.34	-0.33	-0.41	-0.55	NO	8.87	0.27 IE	-812.57	-812.30	0.12 IE	-350.44	-350.32	6.59	-416.51 -10.92	-556.98	NO	9,0 8
	and woodland Acacia Cipen	0.44	NO	IE	-0.52	-0.52	IE	-0.50	-0.50	-0.22	-0.33	0.04	NO	5.61	IE	-0.23	-0.23	IE	-0.22	-0.					2.49
	Acacia Shuubland	93.21	NO	IE	-0.12	-0.12	IE	-0.12	-0.12	-0.15	-0.06	-0.01	NO	1.71	ΙE	-11.28	-11.28	IE	-10.86	-10.					159.82
	Callitris Forest	48.32	NO	IE	-0.46	-0.46	IE	-0.21	-0.21	-0.29	-0.15	-0.19	NO	4.76	ΙE	-22.01	-22.01	IE	-10.10	-10				-	229.99
	Casuarina Entrest and	51.32	NO	IE	-0.39	-0.39	IE	-0.18	-0.18	-0.23	-0.45	-0.05	NO	4.74	ΙE	-20.05	-20.05	IE	-9.03	-9.	N	let CO		243.29	
	Eucalyptus Low Open	1.38	NO	0.19	IE	0.19	0.09	IE	0.09	-0.20	-0.50	-0.23	NO	2.40	0.27	IE	0.27	0.12	IE	0.	٥m	iccion	J		3.31
2	Eucaliptus Open Forest	243.31	NO	IE	-1.39	-1.39	IE	-0.63	-0.63	-0.58	-1.09	-1.23	NO	18.03	ΙE	-337.78	-337.78	IE	-153.70	-153		1221011			4,386.28
3	Eucalyptus Open	82.39	NO	IE	-1.58	-1.58	IE	-0.66	-0.66	-0.30	0.09	-0.53	NO	10.88	ΙE	-129.86	-129.86	IE	-54.14	-54	гел	novals			896.73
1	Éucalyptus Tall Open Forest	20.71	NO	IE	-2.37	-2.37	IE	-0.31	-0.31	-0.76	-2.06	-1.37	NO	25.21	ΙE	-49.12	-49.12	IE	-6.52	-6.					522.03
5	Eucalyptus Woodland	338.73	NO	IE	-0.62	-0.62	IE	-0.26	-0.26	-0.26	-0.15	-0.40	NO	6.21	ΙE	-210.38	-210.38	IE	-88.79	-88					2,103.99
5	Heath	1.62	NO	IE	-1.38	-1.38	IE	-1.35	-1.35	-0.59	-0.50	-1.58	NO	19.81	IE	-2.23	-2.23	IE	-2.19	-2.					32.09
,	Low Closed Forest and	1.98	NO	IE	-0.29	-0.29	IE	-0.28	-0.28	-0.14	-0.04	-0.31	NO	3.89	ΙE	-0.57	-0.57	ΙE	-0.56	-0.					7.70
3	Mallee Woodland and	69.97	NO	IE	-0.08	-0.08	IE	-0.08	-0.08	-0.11	-0.08	-0.36	NO	2.59	ΙE	-5.57	-5.57	ΙE	-5.40	-5,					181.40
	Melaleuca	0.79	L NO.	IF	-2.35	-2.35	IF	-108	-108	-0.19	0.32	-123	NO	16.55	IF	-186	-186	IF	-0.86	-0					13 15
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#### UN-REDD PROGRAMME GHG Inventory Reporting Principles: "TACC"



# • Transparency

Assumptions/methods are clear; inventory can be replicated

# Accuracy

Reflect actual emissions and removals

# Consistency

Consistent methods so results reflect real emission differences

# Completeness

All relevant sources, sinks and geographic areas

# Comparability

Methodologies and reporting approach allows comparisons

### **IN-REDD Recommendations for developing GHG inventory**



- Establish needs: technology and capacities, incl. institutional arrangements to manage GHG inventory process;
- Establish a clear, realistic roadmap setting out the steps to follow to develop a full GHG inventory for the forest sector;
- Build up technology and capacities required for implementation of an GHG inventory, including: institutional arrangements, collection of information, archiving system;
- Implement GHG inventory and produce clear, measurable results (TACC)

Source Box 11: page 21 FAO NFMS approach document.

# UN-REDD Concluding comments ()

- GHG emissions in LULUCF or AFOLU are often some of the largest contributing sectors in developing countries – important to get right!
- GHG emissions = Activity Data X Emission factors
- Report changes in all five forest carbon pools
- Best to understand the principles (TACC) and Components of a GHG Inventory to plan system and BEFORE data collection, calculations or software entry
- REDD+ will take time for countries to learn and implement, = phased / stepwise approach of continual improvement recognised – just do it!





### **Thank you for your attention.** For more information go to our websites:

#### www.un-redd.org



# http://www.unredd.net/

