



Vanuatu

Dipatmen blong Klaemet Jenis



AGRIKALJA, FORESTRI MO OL NARAFALA YUS BLONG GRAON SEKTA (AFOLU SEKTA)

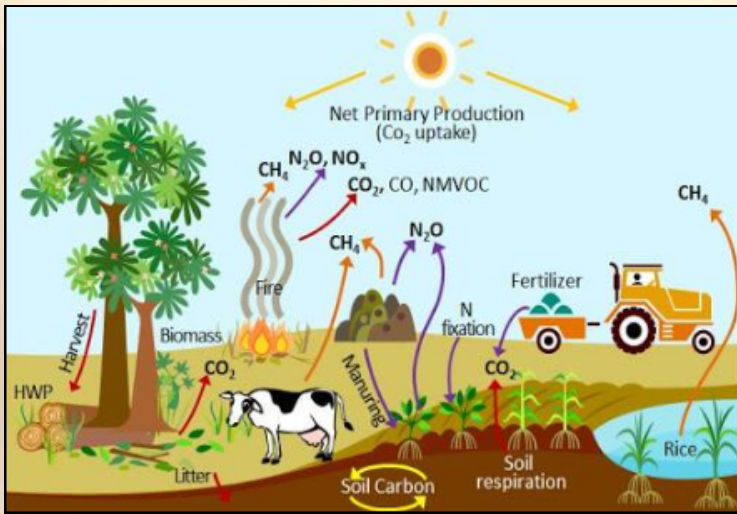


Pablikesen mo Print blong Dipatmen blong Klaemet Jenis, Vanuatu

AFOLU Sekta

IPCC (2006) i defaenem sekta blong agrikalja, forestri mo ol narafala yus blong Graon (AFOLU) olsem olgeta manej lan we i rilet long ol daerek human-induced efekt long ol GHG emisen mo rimuvol. Long Revised 1996 Guidelines, Land-Use Change mo Forestry (LUCF) i identifaem ol bigfala posibol sos blong yus blong graon. Guidance blong 2006 Good Practice mo Uncertainty Management i mekem wan gudfala praktis blong manajemen Land-Use, Land-Use Change mo Forest (LULUCF) wetem wan niufala aproj long olgeta graon mo Kabon Pools. Gaedlaen blong 2006 IPCC blong Nasonal GHG Inventori i joenem Agrikalja mo LULUCF mo i kolem olsem AFOLU (Agrikalja, Foresri mo ol Narafala Yus blong Graon). Hem i tekem infomesen long Laefstok (Enteric Fermentesen mo Manua Manejmen), Lan/ Graon (Graon long Fores, Graon blong planem kakae, olgeta graon we gras l kavremap olgeta, olgeta ples we l gat wota long hem olsem riva,solwota, mo ol narafala, olgeta ples we ol man oli live long hem mo mekem bisnis mo narafala eria long graon), Olgeta sos mo ol narafala sos we i no givim aot CO₂ emisen long lan (Emisen we l kam long burning blong biomas, fasin blong adem calcium i go long graon, fasin blong adem urea long graon we i givim N₂O long graon, Direct N₂O emisen we l kam aot long ol graon we oli manajemen, Indirect N₂O emisen we l kam long ol manej graon, Indirect N₂O emisen we l kamaot long manua manajemen, mo plantesen blong rice. Mo narafala samting olsem ol harvested wud prodak.

Wan totol blong 3715.567 Gg CO₂e (be ekskludem rimuvols) i kam aot long AFOLU sekta. Ol sub-sektoral GHG emisen blong Vanuatu long ol yia 2007–2015 i soem se Laefstok Enteric Fementesen mo Manua Manejmen hem i stap olsem ol bigfala sos blong GHG emisen. Ol avrej emisen long ol sab-sekta ia hemi 51.46% (Enteric Fementesen) mo 20.18% (Manua Manejmen).

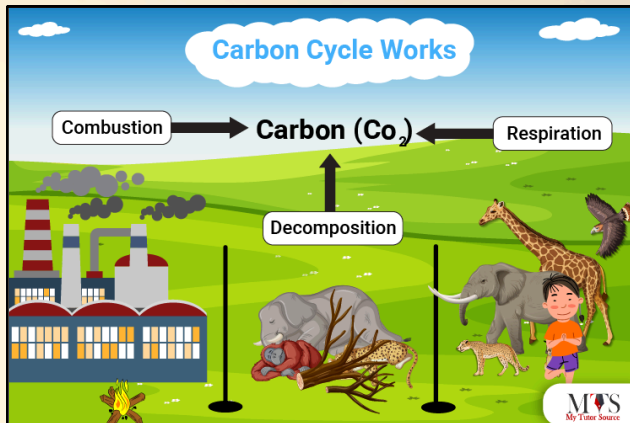


Mein GHG long AFOLU Sekta

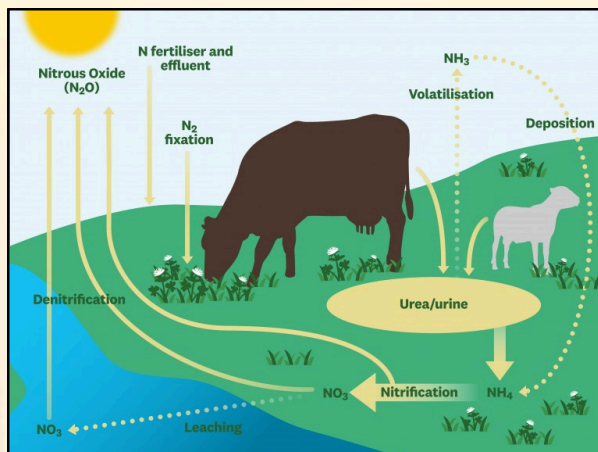
Taep blong Gas	Kemikel Fomula	GWP (ARS)
Miten (Methane)	CH ₄	28
Nitros Oksaed (Nitrous Oxide)	N ₂ O	265
Kabon Daeoksaed (Carbon Dioxide)	CO ₂	1

Sos: IPCC AR5 Report (3)

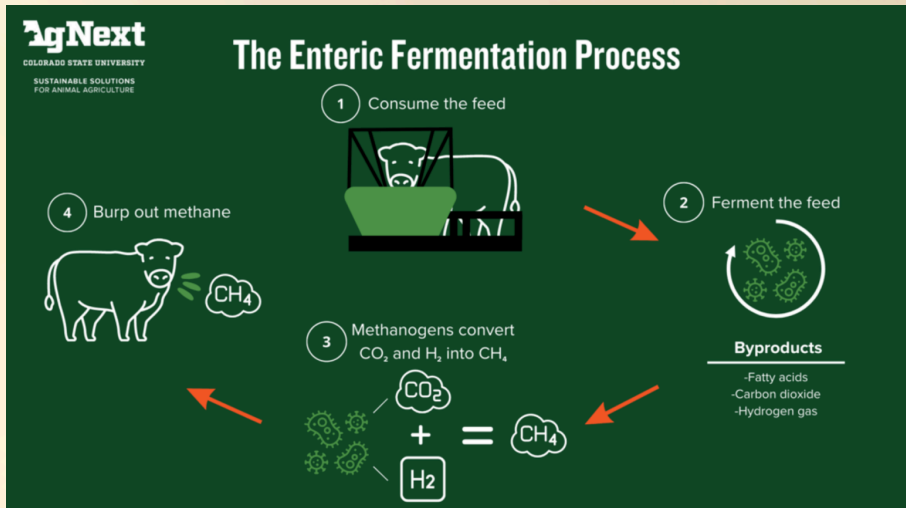
CO₂: Ol plant oli absobem kabon daeoksaed long proses blong fotosintesis mo i kam out bakegen long respireesen, decomposisen mo time yumi bonem organic mata. Hem i muv go bitwin atmosfera mo ekosistem.



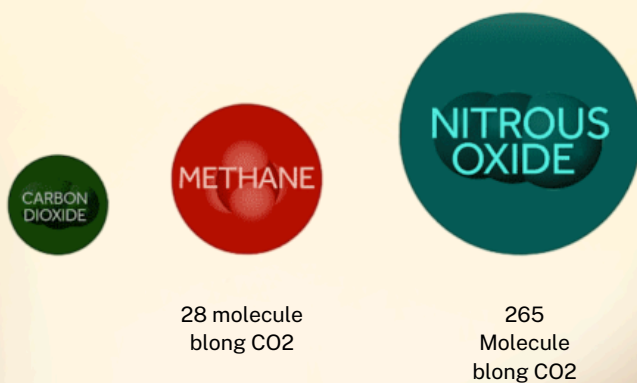
N₂O: Hem i wan narafala produk blong nitrifikasi mo denitrifikasi blong organic mata mo i kamaot I go long atmosfera.



CH₄: Hem i kamaot long metanogenesis long ol anaerobic kondisen long graon mo long manejmen blong manua. Hem tu i kamaot long enteric fermentesen, mo long taem we oganic mata i bon long wei we i no fulwan (kombasten we l no finis/ komplit).



Pawa blong ol Grinhaus Gas



Ol Sab-Sekta Emisen Blong Vanuatu

Folem ol AFOLU sub-kategori, ol samting we i moa impoten long emisen i olsem Laefstok (Enteric Fermentesen mo Manua Manejmen), Lan (Forest Lan), Agregated Sos mo Non- CO₂ Emisen Sos Long Lan (Indaerek N₂O emisen we i kamaot long manua manejmen). Ol narafala sub-kategori blong AFOLU sekta we i no gat estimatesen hemi from i no stap hapen long Vanuatu mo i gat relevans be i no gat enaf data blong mekem estimet blong emisen.

Ol Data Sos

Ol data we oli yusum blong estimet ol GHG emisen long agrikalja sekta oli kam long Nasonal Laefstok Statistik mo Dipatmen blong Agrikalja. Ol data ia oli bin jekem tu wetem data blong FAO. From Vanuatu i no yusum tumas fertiliza mo i no gat ol rikod blong yia 2007-2015, emisen blong yus blong fertiliza i no bin estimet long agrikalja sekta. Ol data blong populesen blong laefstok mo ol praktis blong famem laefstok hemi limited nomo long Vanuatu. I gat moa infomesen long laefstok populesen mo ekspot blong beef we hemi availabol. Ol data we oli yusum long inventri yia 2007-2015 oli stap long National Agriculture Census 2007, Census blong Populesen mo Housing 2009, mo ol data long FAO pablikesen.

GHG Emisen Long AFOLU Sekta Blong Vanuatu

1. Laefstok

Ol populesen blong laefstok i kavremap Cattle (Buluk), Goats (Nani), Horses (Hos), Swine (Pig) mo Poultry (Faol); mo i soem se namba blong laefstok I stap go antap evri yia olsem long tebol i stap daon. Ripot blong poultry (faol) nomo 70% we hemi moa long ol anrafala animol. Wan problem we Laefstok Sekta I stap fesem hemi, I nogat enaf data mo infomesen long saed blong laefstok sekta mo I mekem se umi no save seraute total blong populesen blong ol buluk I go long ol difren brid mekem se I stap nomo olsem ol narafala buluk. I nogat enaf infomesen too long saed blong animol grazing, pasture mo ol sistem manejmen blong pasture we I mekem se umi usum ol standed valu blong IPCC blong mekem estimet blong emisen.

Tebol 1: Populesen blong Laefstok (2007-2015)

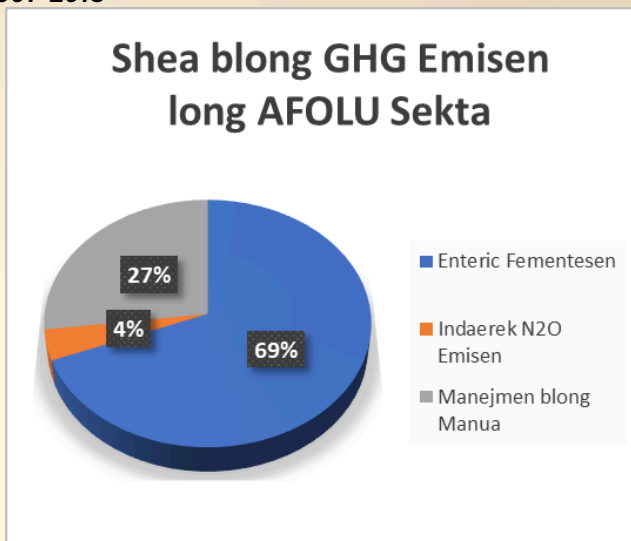
Populesen blong Laefstok	2007	2008	2009	2010	2011	2012	2013	2014	2015
Buluk/ Katel	174,152	175,000	105,051	165,000	170,000	172,000	173,000	175,000	176,674
Nanigot	8,792	19,500	34,068	22,000	24,000	25,000	25,000	26,000	26,803
Hos	4,000	4,500	5,559	6,000	6,000	6,000	6,200	6,500	6,778
Pig	86,698	89,000	108,056	92,000	92,000	93,000	94,000	94,000	94,216
Faol	368,251	804,000	468,779	700,000	700,000	700,000	750,000	800,000	819,000
Total	641,893	1,092,000	721,531	992,000	992,000	996,000	1,048,200	1,101,500	1,123,471



Ol Buluk long Bernie Bay, Aore Aelan. PC: firstnationalsanto.com/

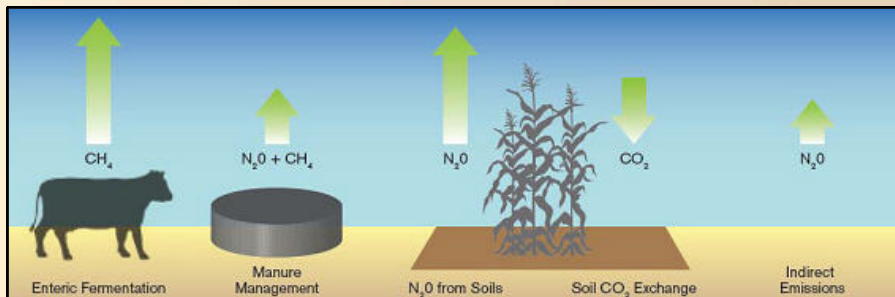
GHG emisen blong sabseкта blong laefstok blong inventri yia hemi samaraes andanit:

Figa 1: Shea blong GHG Emisen long AFOLU Sekta (i no inkludum rimuvol): 2007-2015



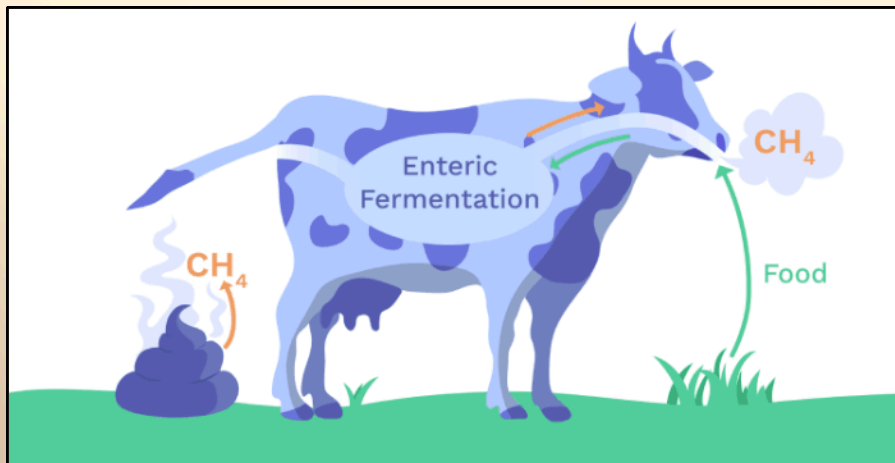
Olgeta emisen blong agrikalja sekta hemi mainly miten mo nitros oksaed. Be ol indaerek GHG emssions olsem karbon monoksaed mo nitrogen oksaed I nogat ol estimet blong tufala from yumi konsidarem tufala olsem tufala I no impoten from amaon blong tufala I smol nomo. Olsem we umi save luk long graf, bigfala shea blong emisen long Sekta blong AFOLU hemi kamaot long fam blong laefstok we yumi lukim se 69% hemi kamaot long enteric fementesen. Enteric fementesen hem i wan proses long olgeta ruminant animol olsem buluk, bafalo, sipsip mo nani mo i rilisim mitein I go ol atmosferia mo proses ia hemi kam bigwan ova long ol yia we I mekem se enteric fementesen now hemi bigfala sos blong GHG emisen long Vanuatu. Manejmen blong Manua hemi kavremap 27% nomo blong emisen mo Vanuatu hemi no praktisim manua manejmen sistem be yumi usum ol difolt blong blong IPCC Guidelines; Buluk (0.5), Nani (1.42), Hos (0.3), Pig (0.46) mo poltri (0.82). Narafala 4% blong emisen I kamaot long indaerek nitros oksaed long manejmen blong manua or gran. Wes blong ol animol nomo I gat estimet blong hem be yumi no estimetem yus blong fetilaesa from se I nogat inaf data long yus blong fetilaesa long Vanuatu.

So olgeta narafala kos blong GHG emisen hemi enteric fermentesen mo iindaerek nitros oksaed long ol activities blong ol manajemen blong manua mo graon be Vanuatu hemi no praktisim manua manajemen.



Eksplenesen Blong Enteric Fermentation

Enteric fermentation hem wan najurel proses we i stap hapen insaed long digestive sistem blong ol ruminant animol olsem buluk, sipsip, nani, mo bafalo. Ol mikrob long rumen (bel blong ol ruminant animol) oli brekemdaon mo fermentem kakae, mo hemia i mekem methane olsem wan by-prodak.



2. Forestri

GHG Inventori blong 2007 kasem 2015 I showem se I gat rikod blong estimatesen blong CO₂ emisen mo rimuval long olgeta jenjes long fores, ol narafala wud biomass mo komesel logging. Be long inventori ia I nogat estimatesen blong CO₂ emisen mo rimuval long fasin blong kliarem fores mo grassland blong narafala aktiviti, long olgeta graon we oli no manejem gud mo CO₂ we I kam aot long graon. Data blong estimatesen blong CO₂ rimuval long fores I base long ol ripot we I kam long Dipatmen blong Fores mo Ripot blong Vanuatu we FAO I mekem.

Tebol 2: Sekta blong Forestry: CO₂ Rimuval: 2007-2015

	Anual inkris long stock blong biomas kabon folem gru blong biomas	Annual loss blong kabon folem olgeta rimuval blong biomas	Net annual Kabon absopsen (+) mo emisen (-)	Konvesen I go long CO ₂ annual emisen (-) o rimuval (+)
	(tonnes C an ⁻¹)	(tonnes C an ⁻¹)	(tonnes C an ⁻¹)	(Gg CO ₂)
2007-2009	2109800	194938.45	1914861.55	(+) 7021.15
2010-2015	2109800	207884.95	1901915.05	(+) 6973.68

Impotens blong kabon sekwestresen long nasonal GHG inventri hemi riflektem Nasonal Fores Polisi. Polisi ia i luksave se forest oli impoten blong givim ol samting we ol man Vanuatu oli nidim olsem wud, kakae, gras blong animol I kakae mo ol tradisenel meresin.

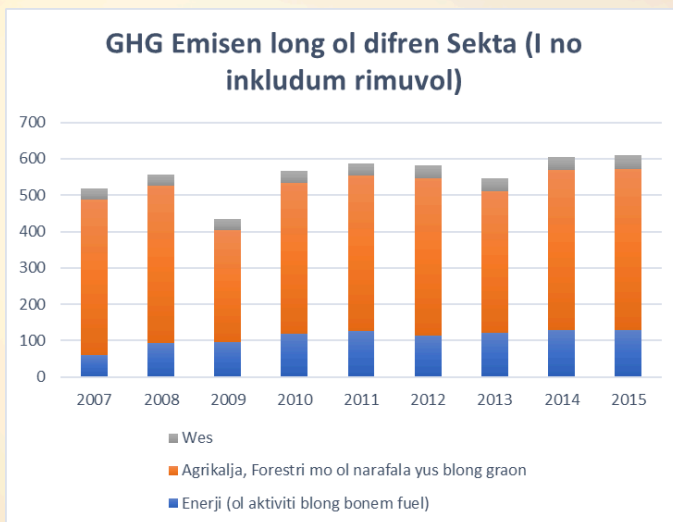


Kontribusen blong Ol Difren Sub-Sekta Long Vanuatu GHG Emisen hemi go olsem:

Tebol 3: GHG Emisen blong Vanuatu long evri Sekta (i no inkludum removol), Gg CO2eq: 2007-2015

Kategori	Total CO ₂ Emisen (CO ₂ Ekwivalen Gg)								
	2007	2008	2009	2010	2011	2012	2013	2014	2015
1- Eneji	60.42	92.31	95.10	119.66	127.53	114.87	121.54	128.55	129.55
2- Industrial Proses mo Prodak Yus									
3- Agrikalja, Forestry mo ol narafala yus blong Graon	427.45	433.32	309.22	414.91	427.07	432.11	388.60	439.51	443.38
4- Wes	29.55	30.43	31.33	42.24	33.18	34.15	35.16	36.20	37.28
Total GHG Emisen be i no inkludum rimuvol	517.41	556.06	435.65	566.82	587.79	581.13	545.30	604.26	610.20

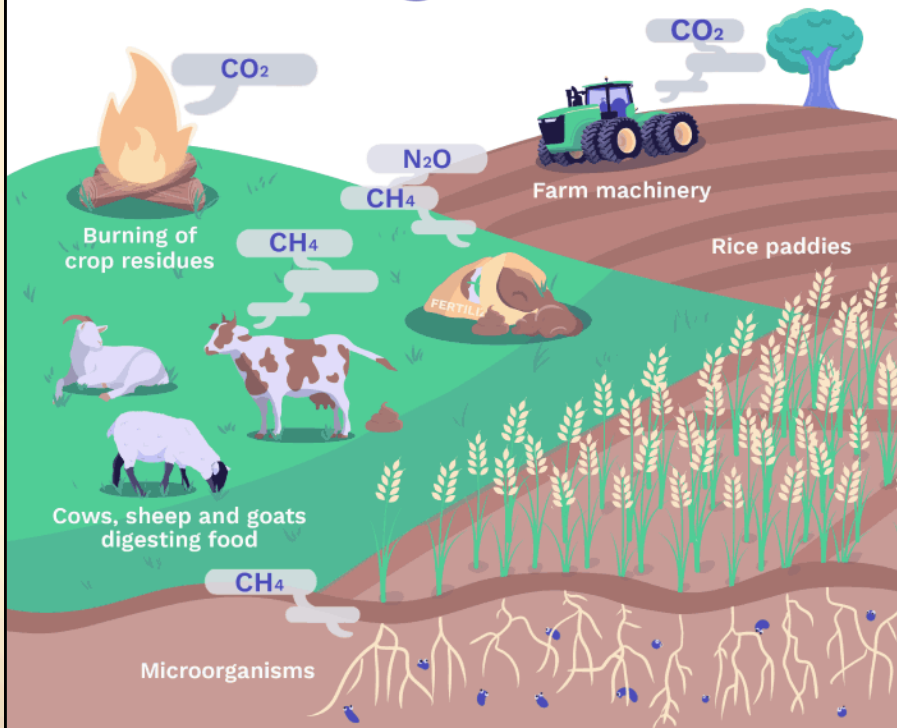
Figa 2: GHG Emisen blong Vanuatu long evri Sekta - i no inkludum rimuvol (Gg)



Ol mein sekta we oli mekem bigfala kontribusen long total GHG emisen long Vanuatu hemi sekta blong akrikalja (laefstock wetem lan), sekta blong eneji mo sekta blo west. Averej kontribusen blong ol sekta ia blong yia 2007 kasem 2015 hemi go olsem, Agrikalja (Forestri mo Lan) hemi kontribut long 74.2%, Sekta blong Eneji hemi kontribut 19.2%, mo Wes Sekta hemi kontribut long 6%. I no gat kontribusen we i kam long Industrial Process, Solvent mo narafala yus blong prodak (IPPU). Enteric fermentation mo manure management oli mekem bigfala emisen long AFOLU sekta.

**Wan simpol pikja daegram blong samfal aktiviti long Agrikalja Sekta
we i save kontribut long emisen blong GHG**

Greenhouse Gas Emissions from Agriculture



(1) <http://www.environnet.in.th/en/archives/1367>

(2) Vanuatu TNC

(3) http://www.ipcc-nggip.iges.or.jp/EFDB/find_ef_s1.php

(4) <http://www.environnet.in.th/en/archives/1367>

(5) Vanuatu TNC

(6) Vanuatu TNC



Blong Save Moa, Yu Save Konektem Mifala Long:
Dipatmen Blong Klaemet Jenis (DOCC)
Ministri Blong Klaemet Jenis mo Najurel Disasta (MOCC)
Mail : VA0059
Email: docc@vanuatu.gov.vu
Fon: +678 22160
Websaet: docc.gov.vu