

# WAVES Indonesia

Presented by: Buyung Airlangga  
BPS-Statistics Indonesia

Costa Rica, May 31<sup>st</sup> – June 2<sup>nd</sup> 2016



Wealth Accounting and the Valuation of Ecosystem Services  
[www.wavespartnership.org](http://www.wavespartnership.org)



# SEEA Implementation in Sisnerling

Sisnerling- Green Economy (published 2015)

Improvements: inclusion of (experimental) land account

## Module 1

- Flow accounts
- Environmental PSUT

## Module 2

- Environmental activity accounts
- Pilot survey EPEA/EGSS

## Module 3

- (Sisnerling) Asset accounts

## Module 4

- Ecosystem accounts

IEA Energy flow account (work in progress)

### *Capacity building*

2015:

- UNSD ~ Ecosystem Accounting Regional Workshop (Jakarta)
- Waves-ABS ~SEEA & Land Account Training (Bandung)

2016:

- ABS-BPS ~ Land Account Internship (Canberra)
- Waves-ABS ~ Water Account Training (Bandung)



# Sisnerling-Asset Accounts for Timber

Physical Asset Accounts (million m3) 2014	Type of timber resources		
	Javanese Teakwood	Javanese Forest Wood	Non-Javanese Forest Wood
Opening Stock	108.51	461.66	4,803.42
Addition to Stock	6.20	42.32	27.76
Natural Growth	6.17	42.28	23.65
Plantation	0.02	0.04	4.11
Reduction in Stock	8.91	7.85	393.73
Removals	0.46	0.46	41.22
Catastrophic Losses	8.45	7.39	352.51
Closing stock	105.79	496.13	4,437.45

Monetary Asset Accounts (trillion Rp) 2014	Type of timber resources		
	Javanese Teakwood	Javanese Forest Wood	Non-Javanese Forest Wood
Opening Stock	12,120.14	201,397.87	100,700.62
Addition to Stock	106.84	4,088.34	544.08
Natural Growth	106.44	4,084.74	463.57
Plantation	0.40	3.60	80.51
Reduction in Stock	153.62	758.46	7,716.32
Removals	7.86	44.69	807.89
Catastrophic Losses	145.76	713.77	6,908.44
Revaluation	-10,249.50	-156,801.78	-6,563.36
Closing stock	1,823.86	47,925.96	86,965.02

## Issues:

- Unsustainable timber resources due to higher reduction in stocks compare with addition to stocks
- especially for non-Javanese forest and Javanese teakwood



# Sisnerling-Asset Accounts for Mineral and Energy Resources

Physical Asset Account, 2014	Type of Mineral and Energy Resources							
	Crude Oil	Natural gas	Coal	Bauxite	Tin	Gold	Silver	Nickel
	(million Barrel)	(million Mmscf)	(million ton)	(million ton)	(million ton)	(thousand ton)	(thousand ton)	(million ton)
Opening Stock	3,693	101,500	11,581	582.62	0.273	3.53	13.68	1,155.11
Addition to Stock	222	1,861	279	12.43	0.038	(0.88)	0.30	305.75
Reduction in Stock	290	3,101	458	9.43	0.029	0.07	0.21	10.33
Closing Stock	3,624	100,260	11,401	585.62	0.282	2.57	13.77	1,450.52

Monetary Asset Accounts (trillion Rp), 2014	Type of Mineral and Energy Resources							
	Crude Oil	Natural gas	Coal	Bauxite	Tin	Gold	Silver	Nickel
Opening Stock	3,553.36	8,595.61	5,596.24	38.78	27.41	1,083.53	68.20	221.32
Addition to Stock	221.67	152.93	140.92	1.51	4.40	(248.08)	1.37	54.92
Reduction in Stock	289.84	254.81	231.67	1.14	3.36	19.04	0.98	1.84
Revaluation	137.77	(256.31)	260.16	31.29	4.11	(93.89)	(6.05)	(16.20)
Closing Stock	3,622.96	8,237.41	5,766.66	71.07	32.56	722.52	62.51	257.58

## Issues:

- Limited asset life for mineral and energy resources due to lack of new discovery
  - Tin ore = 9.7 years
  - Crude oil = 12.7 years
  - Coal = 25.3 years
  - Natural gas = 32.7 years
- Decrease monetary value at closing stocks because of prices have drop





# Current Condition of Reporting Assets in Indonesia

- Directorate General of State Asset Management with the Ministry of Finance of Indonesia has currently been reporting current assets, long-term investment, fixed assets (including land), long-term receivables and other state assets in the National Government Balance Sheet
  - **Current Assets:**
    - Cash and Cash equivalent
    - Short-term Investment
    - Tax Receivables, etc.
  - **Long-term Investment:**
    - Investment in State-Owned Enterprises, etc.
  - **Fixed Assets:**
    - Land
    - Machine and Equipment
    - Building
    - Construction in Progress, etc.
  - **Long-term Receivables**
  - **Other State Assets:**
    - Intangible Assets
    - Assets from oil and gas companies, etc.





# Plan to Reporting and Disclosure of Natural Capital

- In line with WAVES Programme, Ministry of Finance plans to disclose natural capital in the consolidated report (assets accounts), as a follow-up action from fiscal transparency review by **Supreme Audit Board** and **House of Representatives** of Indonesia
- In short-term, Ministry of Finance plans to conduct piloting of the valuation and reporting on mineral properties:
  - The current methods applied for valuation:
    - **Market Approach**
    - **Cost Approach**
    - **Income/Revenue Approach**
  - WAVES Indonesia conducts the valuation of land, water and mineral. These accounts produced provide data for Ministry of Finance (either physical or monetary terms)
- In long-term, the report (assets accounts) of Natural Capital is expected to be integrated into the National Government Balance Sheet (as non-produced assets)
- **Focus of reporting on natural capital:**
  - fiscal analysis
  - financing analysis for conservation of natural resources
  - data support for Government Finance Statistics of Indonesia
  - net worth (non-financial assets)



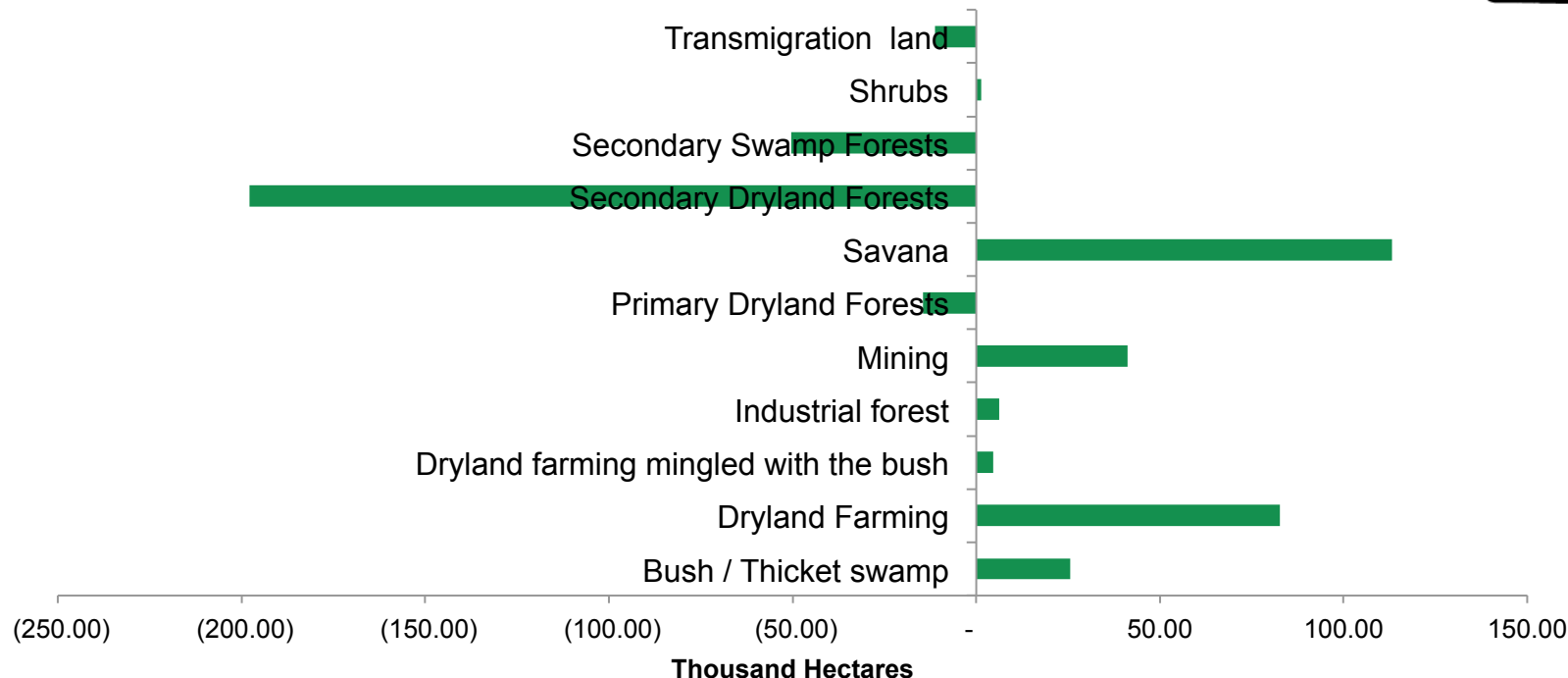




# Land Cover findings



## Net Change for Land Cover 2000-2012, West Sumatera



The greatest net change between 2000-2012 in West Sumatera was 'Savana' with a net change of -113,290 hectares. 'Savana' included 137,455 hectares of additions and 20,635 hectares of reductions. The change to this land cover class was largely driven by net addition from 'Secondary dryland forest' with 124,997 hectares and 'Primary dryland forest' with 11,164 hectares.

'Dryland farming' also showed a large percentage change in area with an increase of 82,770 hectares between 2000 and 2012. This included 86,210 hectares of additions and 3,440 hectares of reductions. This included net gains from 'Dryland farming mingle with the bush' (+28,029 ha), 'Bush/ticket swamp' (+27,840 ha) and 'Transmigration land' (+13,964 ha).

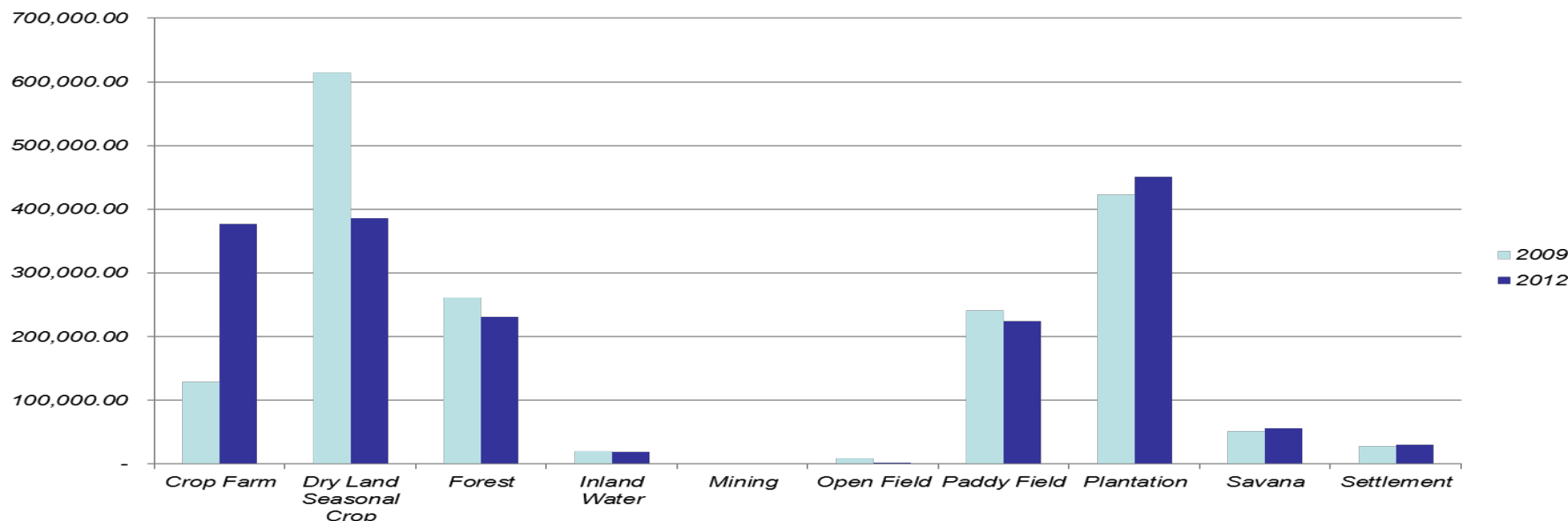




# Land Use findings



## Land use change between 2009 to 2012 in West Sumatra



In 2009 'Dry Land Seasonal Crop' was the most prominent land use type with 615,010 hectares. However this land use also experienced a considerable net change of -229,291 hectares which included 82,719 hectares of additions and 312,010 hectares of reductions between 2009 and 2012.

The 'Crop Farm' land use increased considerably from 128,357 hectares in 2009 to 376,625 hectares in 2012. Around 232,650 hectares of 'Dry Land Seasonal Crop' was reclassified to 'Crop Farm'.

'Forests' also showed a large net decrease of -30,509 from 261,012 to 230,503 hectares. This was driven by net losses to 'Plantation' (-18,358) and 'Crop Farm' (-8,295).







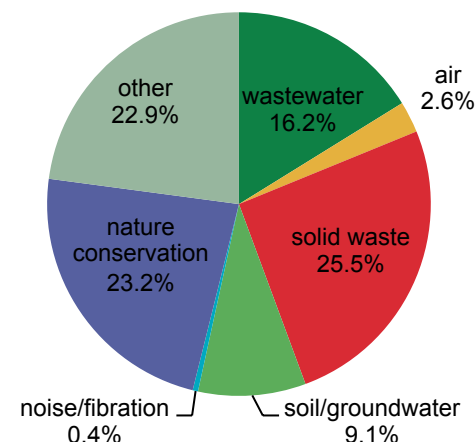
# Sisnerling-Green Economy

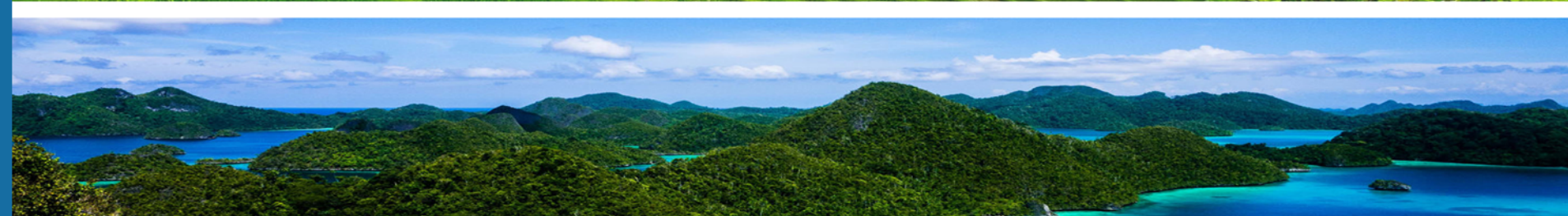
Government spending (trillion rp)	2013	2014
Environmental protection expenditure	11,880.78	14,900.54
Total expenditure	513,315.08	598,980.04
Percentage of environmental protection expenditure (%)	2.3	2.5

Type of expenditure in 2014	Institution	
(In trillion rupiah)	Government	Corporation
Environmental protection	14,900.54	27,866.77
End-of-pipe capital expenditure	n.a.	33.48
Integrated capital expenditure	n.a.	4.74

- Based on 2015 pilot survey in 3 provinces
- In 2016 the survey will be conducted in 16 peovinces

Portion of EP in 2014





# Thank you ~ Terimakasih

For more information, go to: [www.wavespartnership.org](http://www.wavespartnership.org)

***Contributor :***

***Buyung Airlangga ([air@bps.go.id](mailto:air@bps.go.id))***

***Purnama T. Sianturi ([purnama\\_sianturi@kemenkeu.go.id](mailto:purnama_sianturi@kemenkeu.go.id))***

