Interlinkage between Natural Resources Accounts (NRA) and Development Policy Options:

Case:
Indonesia Intended Nationally Determined Contribution (INDC)

Medrilzam

Ministry of National Development Planning (BAPPENAS)

Buyung Airlangga

BPS- Statistics Indonesia

The Hague, 22-23 November 2016

WAVES Indonesia

Kementerian PPN/ Bappenas

Wealth Accounting and the Valuation of Ecosystem Services **www.wavespartnership.org** WORLD BANK GROUP
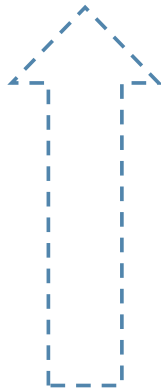
Current Status:

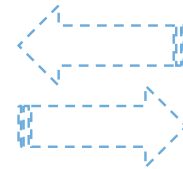BPS-Statistics Indonesia has been producing asset accounts for selected natural resources since 1997.

Line ministries produce their own data

NCA/ SISNERLING

Forest inventory, agriculture statistics, energy statistics

Missing Link...??

Long-list of development priorities – Competing sectoral agendas
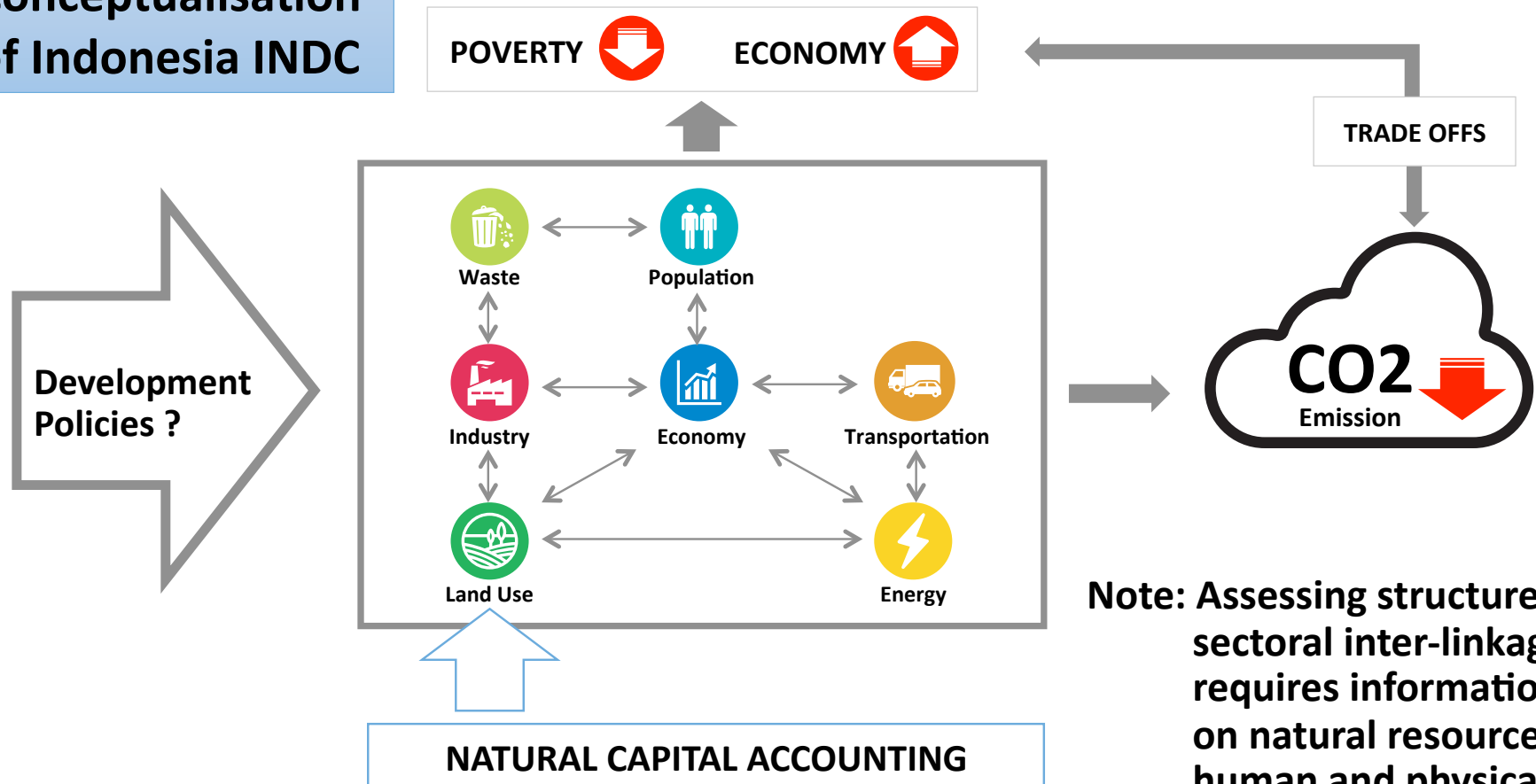
DEVELOPMENT PLAN

How to create linkage between NCA and Development Policy Exercise (among competing sectoral agendas) in Indonesia?

Addressing the Missing Link (Case of INDC)

Conceptualisation of Indonesia INDC

POVERTY ⬇ ECONOMY ⬆

TRADE OFFS

Development Policies ?

Waste ↔ Population

Industry ↔ Economy ↔ Transportation

Land Use ↔ Energy

NATURAL CAPITAL ACCOUNTING

CO2 Emission ⬇

Note: Assessing structure of sectoral inter-linkage requires information on natural resources, human and physical capital stock and flow

INDC MODELING EXERCISE AS THE BRIDGE BETWEEN NCA AND POLICY OPTIONS
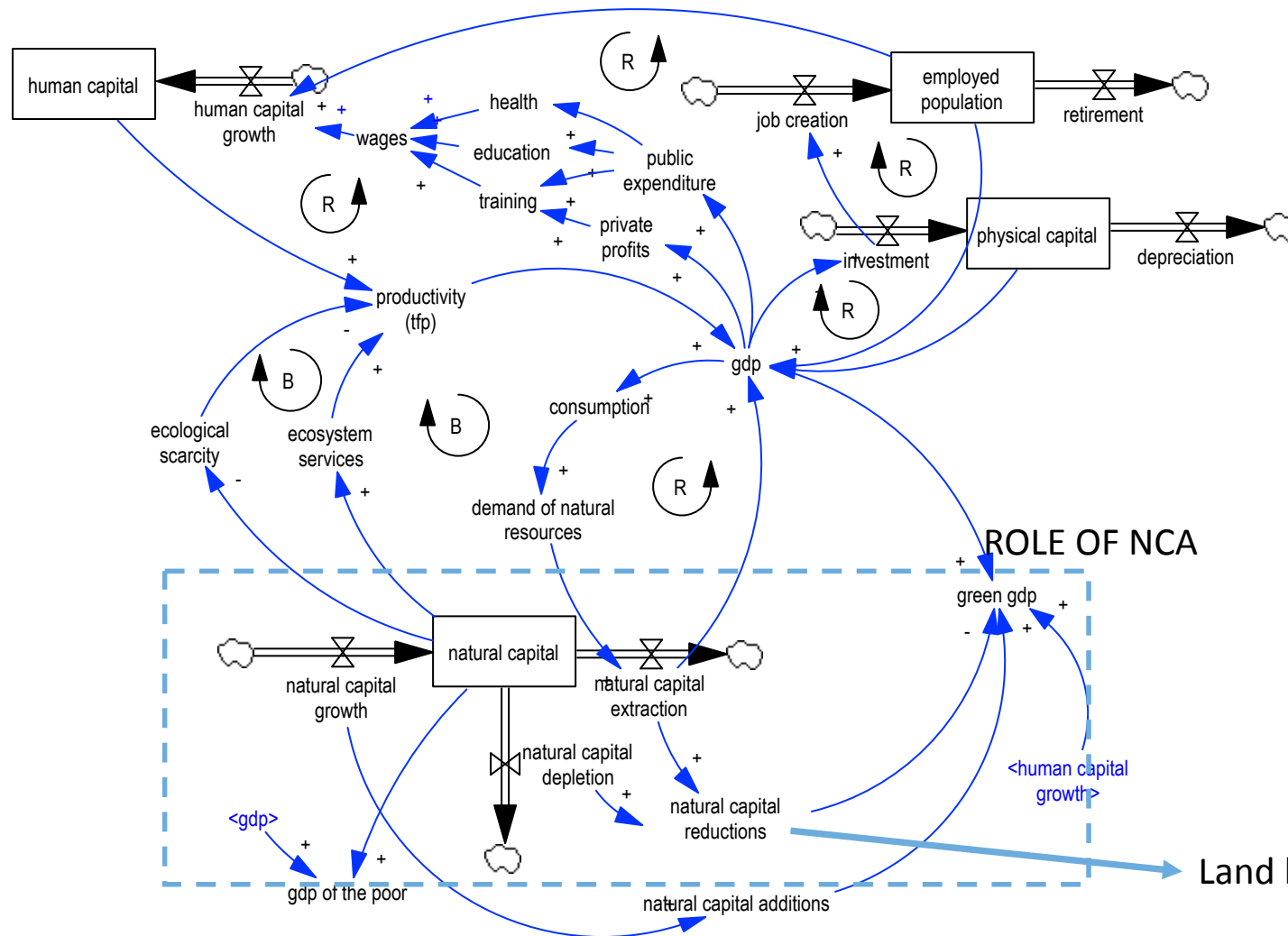
INTEGRATED POLICY ASSESSMENT OF ECONOMIC, SOCIAL and GHG USING SYSTEM DYNAMICS MODELING

ROLE OF NCA

Land based Emission

Scope of INDC Indonesia

SECTORS:

Energy

- Energy Combustion
  - Transport
  - Manufacture
  - Energy industry
  - Others

- Fugitive Emission

Agriculture, Forestry, adn Other Land Use (AFOLU)

Forestry:
- Production
- Conservation
- Protected Forest

Agriculture:
- Agriculture
- Plantation
- Livestock

Peatland:
- Decomposition
- Fires

Waste

Wate:
- Solid
- Liquid

Industrial Process and Other Products Unit (IPPU)

Industry:
- Cement
- Ammonia
- Others

Other Determining Factors

Wealth Accounting and Valuation of Ecosystem Services (WAVES) Indonesia

ulation:
y
Village

1. SISNERLING
2. Land Accounts
3. Pilot Water Accounts

Greenhouse Gas

CO_2 CH_4 N_2O

THRESHOLD OF INDC MODEL SUPPORTED BY NRA

Economic Sector

SUPPORTED BY NRA

- **Economic Models limited by resource availability** → energy availability, land availability dan raw materials for industry availability

Energy Sector

SUPPORTED BY NRA

- Energy availability limited by energy stock and production. Must import if domestic energy not available

- Energy import limited by financial power → represent by exogenous variable *'foreign exchange effect to import'*

Peatland, Land, and Forest Sector

SUPPORTED BY NRA

- Total land area is preserved constantly in 186.3 million Ha, → mineral land area (172 million Ha) and peatland area (14.3 million Ha)

- Transformation period from land category into secondary forest and "Hutan Tanaman":
  - 30 years for baseline calculation
  - 10 years for policy simulation calculation
  - Peak peat fire estimation based on El-Nino cycle in 8 years

Waste and IPPU Sector

- GHG emission limited by economic growth (endogenous) and population growth (exogenous) in national development scenario
  - Economic growth → 5-6% per year in simulation period
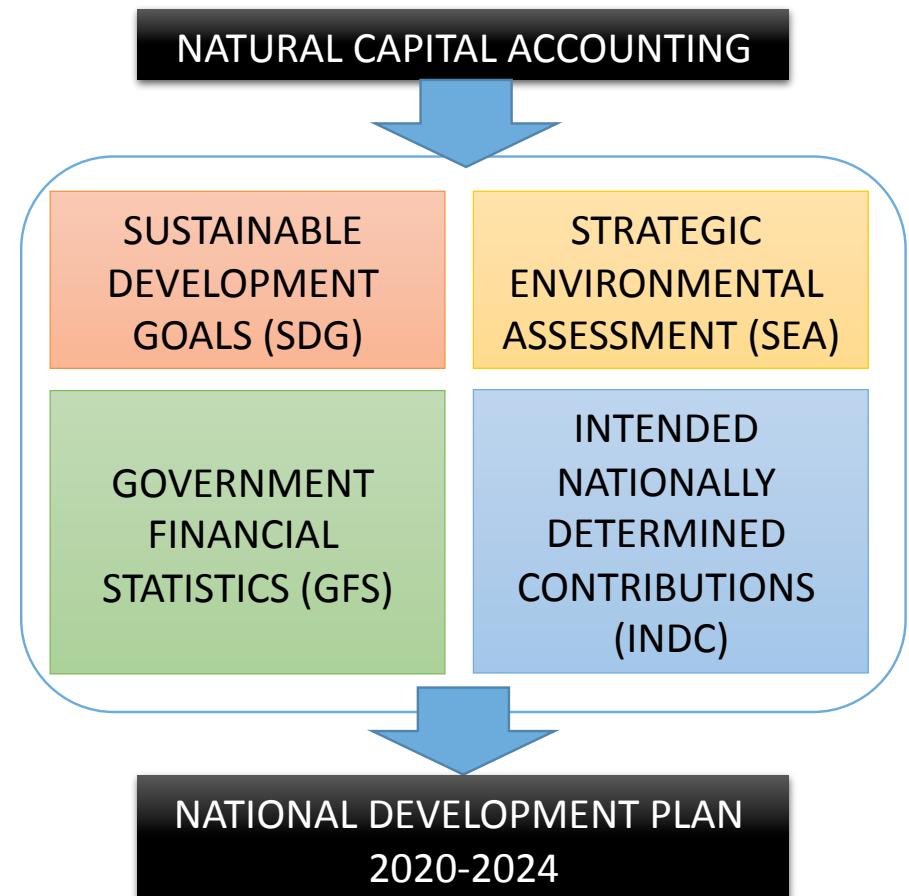 - Average population growth → 1,3% per year until 2030

Challenges and Opportunities

Challenges:

- Data Reliability

- Willingness to data sharing among line ministries

- Understanding the modelling tool

- Communicating the result of modelling exercise to the decision makers

- Mainstream NCA exercise into the Next Development Planning 2020-2024

Opportunities:

NATURAL CAPITAL ACCOUNTING

SUSTAINABLE DEVELOPMENT GOALS (SDG)	STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)
GOVERNMENT FINANCIAL STATISTICS (GFS)	INTENDED NATIONALLY DETERMINED CONTRIBUTIONS (INDC)

NATIONAL DEVELOPMENT PLAN 2020-2024

Thank You