Understanding the Prevalent Use of GDP as an Indicator of Development Progress

The Case of Indonesia's National Development Plan

Rahmah Ulfah
860308679100
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MSc Thesis Environmental Policy Group

Supervisor
Prof. dr. ir. Arthur P.J. Mol

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Abstract

Gross domestic product (GDP) is an economic indicator that is regarded as one of the most widely known indicators in the world. Criticism and warning towards the use of GDP as an indicator for national welfare and human well being have been around for a long time, almost as old as its inception. Nevertheless, GDP is now being widely used not only to measure economic performance, but also to measure development progress of a country in general. Since the 1970s, numerous alternative indicators have been proposed and developed. However, none of these indicators are able to match the mainstream use of GDP.

This study aims to understand the mechanisms and factors that induce the prevalent use of GDP as an indicator for development progress, taking the national development plan of Indonesia (RPJMN) as a case study. In addition to that, this study also aims to understand the inability of the current alternative indicators to challenge the mainstream use of GDP in order to find the opportunities to foster these alternatives indicators to replace or to be adopted and to be used equally alongside GDP. This study uses the socio-technological transition theory as its conceptual framework.

The result shows that within the RPJMN, GDP is being used as the operationalization of welfare. Furthermore, the analysis of the positioning of GDP within RPJMN indicates a condition that is referred to as the 'confusion between ends and means'. It is also found that the prevalent use of GDP and the stability of this practice come from the alignment of several factors and elements that creates a configuration that maintains and reproduces this practice. These include factors related to the production of GDP (such as infrastructure and methodology aspect), the application domain (such as user preference) and the rules that influence and vessel such practice. Wider context, such as the international influence and society concern, also play a role in maintaining this practice. It is also found that the current alternative indicators are unable to challenge the prevalent use of GDP as it still faces several mismatches with these factors or the current configuration. It also reveals that the user needs as well as the functionality of an indicator has not been well addressed in the development of alternative indicators. This study also shows that the establishment of a common framework, improvement in regulations, pilot implementation, synchronization strategies, internalization of values as well as the political will and leadership aspect can be used as the strategies or the leverage points that might help foster the development of alternative indicators. In addition to that, it is also found that in general, the transition theory is found to be helpful in providing a guidance and framework for this study.

Key words: GDP, economic growth, sustainable development, transition theory, Indonesia, national development plan.

Preface

The initial idea for this thesis might have started to emerge several years ago, during a class in my last year of college. I remember that at that time we were discussing about the green GDP calculation and how an early green GDP project conducted at that time faced several difficulties, not only from the technical calculation aspect but also from political aspect. Many years later, the condition of this indicator has not changed much. It always makes me wonder why some indicator, like GDP, can be so popular, while some others remain in the background. Thus, when the time to do my thesis research had come, I decided to propose this topic for my thesis. And to my surprise it was quickly accepted.

The research process itself was not an easy process. Not only because I was not accustomed to the research method that I choose and used in this thesis but also many other factors that interfere along the way. Nevertheless, I was able to learn many things during this period.

Hence, I would like to express my thanks to those who have been greatly contributed to the completion of this research. I would like to express my deepest appreciation to my supervisor, Prof. dr. ir. Arthur P. J. Mol, for his guidance, advice, and patience during my thesis research. His, encouragements and understanding have helped me through the ups and downs during this research. I also would like to express my gratitude to all the interviewee that participated in this research for welcoming and sharing their knowledge with me. Finally, I would like to express a special thank you for my beloved family and friends, for their support, encouragements, and love. Thank you for providing me comfort and strength to get through all the trouble times.

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CSO	Civil Society Organizations
BAPPENAS	*Badan Perencanaan Pembagunan Nasional* (National Development Planning Agency)
BEA	Bureau of Economic Affair
BPS	*Badan Pusat Statistik* (BPS-Statistics Indonesia or formerly known as Central Bureau of Statistics)
DAU	*Dana Alokasi Umum* (General Allocation Fund)
DPR	*Dewan Perwakilan Rakyat* (House of Representatives)
GBHN	*Garis Garis Besar Haluan Negara* (Broad National Policy Guidelines)
GDI	Gender Development Index
GDP	Gross Domestic Product
GHG	Green House Gasses
GNI	Gross National Income
GNP	Gross National Product
HDI	Human Development Index
IBRD	International Bank for Reconstruction and Development
IKLH	*Indeks Kualitas Lingkungan Hidup* (Environmental Quality Index)
IKRAR	*Indeks Kesejahteraan Rakyat* (People's Welfare Index)
IMF	International Monetary Fund
IPB	*Indeks Pembangunan Berkelanjutan* (Sustainable Development Index)
KPPN	*Kementrian Perencanaan Pembangunan Nasional* (Ministry of National Development Planning)
K/L	*Kementrian/Lembaga* (Ministries and or Agencies)
MDGs	Millennium Development Goals
MLP	Multi-level Perspective
MPR	*Majelis Permusyawaratan Rakyat* (People's Consultative Assembly)
MPS	Material Product System
MUSRENBANGNAS	*Musyawarah Perencanaan Pembangunan Nasional* (National Development Planning Meeting)
NBER	National Bureau of Economic Research
NIPAs	National Income and Product Accounts
NGO	Non Governmental Organization
NRR	Net Reproduction Rate
OECD	Organization for Economic Co-operation and Development
OEEC	Organization for European Economic Co-operation
OPACS	Office for Price Administration and Civilian Supply
P3S	*Pusat Penelitian dan Pengembangan Statistik* (Centre for Research and Development of Statistics)

RAN-GRK	*Rencana Aksi Nasional-Gas Rumah Kaca* (National Action Plan-Green House Gasses)
RENSTRA	*Rencana Strategis* (Strategic Work Plan)
REPELITA	*Rencana Pembangunan Lima Tahun* (Five Year Development Plan)
RKP	*Rencana Kerja Pemerintah* (Government Work Plan)
RPJMN	*Rencana Pembangunan Jangka Menengah Nasional* (National Medium-term Development Plan)
RPJP	*Rencana Pembangunan Jangka Panjang Nasional* (National Long-term Development Plan)
SBY	Susilo Bambang Yudhoyono (President of Republic of Indonesia for 2004-2009 and 2009-2014 period)
SCP	Sustainable Consumption and Production
SEEA	System of Environmental-Economic Accounting
SNA	System of National Accounts
SPPN	*Sistem Perencanaan Pembangunan Nasional* (National Development Planning System)
SPTK	*Study Pengukuran Tingkat Kebahagian* (Study measuring the Happiness level)
ST	Socio Technical/Technological
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Program
USA	United States of America
USSR	Union of Soviet Socialist Republics
WW II	World War II
YFP	Year Framework of Program

Chapter 1: Introduction

1.1. Problem description

Gross domestic product (GDP) is an economic indicator that measures the total market value of final goods and services that are produced within a certain area over a given period of time (European Commission et al., 2009; Van den Bergh, 2009; Costanza et al., 2009). In the United States of America (USA), one of the first countries that use GDP, GDP was developed in the midst of the Great Depression as well as the World Wars. At that time, the existing data were disorganized and difficult to compare (Fioramonti, 2013). Hence, more systematic and reliable data was urgently needed to guide and justify the government's policies to salvage this country from economic depression as well as to navigate their economy in war time (Costanza et al., 2009; Fioramonti, 2013; Marcuss and Kane, 2007). These events were mentioned as the important aspects that induced the use of GDP (ibid).

At the introduction of GDP in the USA, Simon Kuznets, one of the key initiator of GDP in the USA, emphasized clearly that this indicator was not a comprehensive measurement of the whole production of economic systems (Fioramonti, 2013). Ever since, Kuznets and other economists have highlighted the limitation of GDP and gave cautious remark regarding its use as an indicator for national welfare and human wellbeing (Costanza et al., 2009). One of GDP's limitation as the measurement of welfare or economic wellbeing is the fact that GDP measures only partial aspects of the systems functioning within the human economy in general (Costanza et al., 2009). Economy is part of a larger system (figure 1), that operates within social, human and natural capital (ibid). It obtains resources from this larger system; it is being affected and affects the system (ibid). Thus, GDP is a 'specialized tool' designated only to measure monetary economic activities; it does not cover social and natural resources in which the basis of societies' existence and well being relies (ibid).

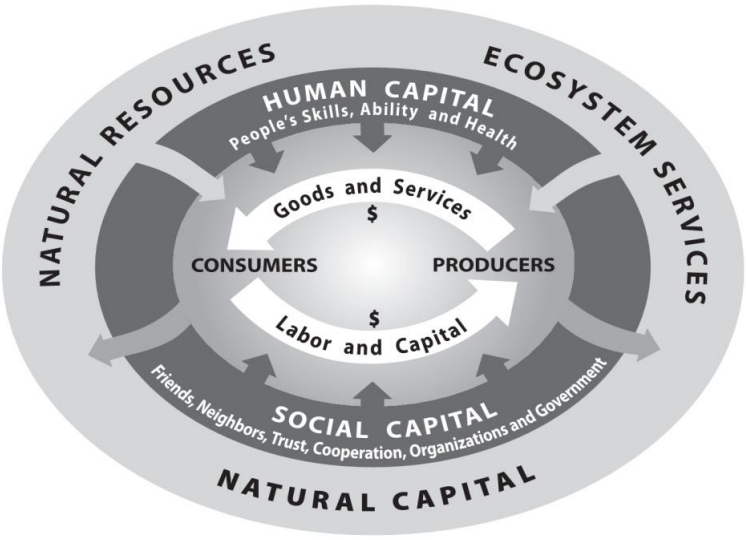

Figure 1. Economy as part of broader system (©M. Hart cited in Costanza et al., 2009, p.8)

Nevertheless, nowadays, GDP is considered as one of the most widely known indicators. It is being used not only as the economic indicator but also as the key indicator for development progress. It is widely used by analysts, politicians, journalists, businessmen and societies in general as a global indicator to measure economic performance and welfare, and to evaluate the success or failure of governments' economic policies and even the societal development and progress of a country (European Commission et al., 2009; Costanza et al., 2009). GDP is also used to compare and rank countries around the world (Fioramonti, 2013). The labeling of nations with terms 'super power', 'emerging power' or 'developed' and 'developing' are mainly used GDP as it basis (ibid). Thus, it shows how influential this GDP's information is. Access to join some global governance institutions or organizations (such as G8 or G20) is also based on the nations' GDP performance (Fioramonti, 2013). Hence it is claimed that GDP has dominated policy and decision making processes (Fioramonti, 2013). Within the handbook of System of National Accounts (SNA), an international guideline in the calculation of SNA from which GDP is derived, it is even mentioned that:

> GDP is often taken as a measure of welfare, but the SNA makes no claim that this is so and indeed there are several conventions in the SNA that argue against the welfare interpretation of the accounts (European Commission et al., 2009, p.12).

The use of GDP in such a manner is mentioned to bring implication on the excessive fixation on GDP growth within development policies or strategies, which in turn affecting other aspects of development such as the social or natural environmental aspect, which is not well accommodated within GDP measurement, hence it poses risks in the downplaying of these aspects. For example, it is mentioned that GDP information is indicated to have an implication in the environmental policy formulation. Van den Bergh (2009) illustrates the indirect impact of GDP to the climate policy. He describes how a famous study by Nordhaus that analyzed the tradeoff between adopting the climate policy and GDP might be one of the motivations that discourage the USA to ratify the Kyoto protocol (Van den Bergh, 2009).

Since the 1970s, numerous alternative and or complement indicators have been proposed and developed. However, none of these indicators are able to match the mainstream use of GDP. It is said that these alternative indicators are not yet a perfect indicators to measure the welfare. However, GDP as an indicator also not free from criticism, especially regarding its use in measuring human welfare, and its limitation in measuring economic quantity.

This study is taking Indonesia as the unit of analysis. Indonesia is selected as this country has been labeled as one of developing countries and has been experienced the ups and downs in its development performance especially when it is measured in term of GDP. Indonesia was once mentioned as one of the countries that were labeled as the miracle of East Asian due to the rapid and massive expansion of its economy (Hill, 1997) before the late 1990s crisis happened and sent this country into severe economic crisis and turbulence. Furthermore, it is also mentioned that back then the development plan of Indonesia was

highly influenced by the pro growth principle, focusing the development strategies to pursue high economic growth (in which being measured by GDP). Currently, Indonesia has adopted the sustainable development principle within its national development planning and policy. Within its national development plans, four major principles (the pro-growth, pro-poor, pro-job and pro-environment) become the basis for the implementation of development strategies in Indonesia. As an example, it is mentioned that the development policy of Indonesia has been incorporated the national action plans to reduce the green house gas emission (RAN-GRK). However, in practice these principles might not have the same weight, as KPPN/BAPPENAS (2012) listed one of the basic principles of the implementation of RAN-GRK; that it should not hinder the economic growth, hence, depicting the prevalent use of GDP.

With regards to the development of alternative indicators, in Indonesia several institutions such as BPS-Statistics Indonesia, the national statistics office of Indonesia, have developed several alternative indicators of GDP. For example since 1990s, BPS-Statistics Indonesia has been involved in the development of System of Environmental-Economic Accounting (SEEA), a statistical system developed by UN to monitor the interaction between environment and economy in order to provide better information for decision-making (United Nations et al., 2014). Basically, it aims to correct the SNA by adding the environmental aspect into this economic accounting system, hence enable the calculation of 'green GDP'. Since then, BPS-Statistics Indonesia has published this information at national level annually. However, it remains unpopular and significant development of this indicator, such as the calculation for regional level, and the usage of this SEEA information as part of government policy are really limited.

Scope and limitation

This study will focus on analyzing the medium-term of national development plan of Indonesia (RPJMN). It will examine the formulation and interpretation of the RPJMN. This regulation was chosen due to its importance as one of the fundamental policies that will further be interpreted and implemented as the guidance of the national development program in Indonesia.

RPJMN listed the general vision and mission and provides comprehensive priorities of Indonesia's development goals. However, it is also noticed that within this regulation, GDP has been prevalently used as the measurement for welfare or as the direct or indirect objective for several sectors or area of development, outside the economic sectors.

1.2. Research objectives

The main objective of this study is to understand the prevalent use of GDP by analyzing the placement and the use of GDP information within the national development plan in order to find the opportunities or possible strategies to foster the current alternative indicators to

replace or to be adopted alongside GDP (reducing the prevalent use of GDP) or to play more central use within RPJMN.

To reach this objective, the analysis is divided into two parts. The first part examines the positioning of GDP information within RPJMN as well as the factors or mechanism or institutional arrangement that enable and maintain the prevalent use of this indicator within RPJMN. The second part focuses in the specific area to further examine conditions that hinder the adoption or more central use of these alternatives within RPJMN as well as to identify the possible strategies to breakthrough from GDP domination (the transition). Prior to above discussion, to enhance and provide understanding of the global widespread use of GDP, the historical chapter that discusses the early development and institutionalization of GDP in global level will also be presented.

1.3. Research questions

General research question:

Why has GDP (growth) become and remain the prevalent indicator in measuring development progress within Indonesia's national development plan?

Specific research questions:

- What are the influences of GDP information in the formulation of Indonesia's national development plan?
- What factors cause the prevalent use of GDP as an indicator?
- What are current alternatives indicators for GDP?
- Why have these alternatives been unable to challenge the prevalent use of GDP?
- What factors and conditions foster alternative indicators to be adopted alongside GDP or even replacing it?

1.4. Methodology

Study design

This research aims to understand the prevalent use of GDP and possible pathway to breakthrough from this condition. To investigate this issue, a case study design was used. According to Yin (2009) case study approach is commonly useful when the 'how' or 'why' question is being posed, and the focus of the study is the contemporary phenomenon within the context of reality and when the events cannot be controlled by the researcher. Furthermore, Kumar (2011) describes that case study is particularly helpful when the aims of the study is to gain comprehensive understanding of phenomenon, community or situation and have it focus on exploration rather than quantification. Hegger (2007) points out that within this approach, the theoretical framework is usually being developed prior to

the data collection, as the theory will serve as the guidance in the empirical research in making strategic decision about what kind of information is needed or giving the point of view on 'where to look'.

As explained in the scope and limitation section, this research takes RPJMN of Indonesia as the case study. The rationale for choosing this case study is based on Yin (2009) rationale for single case study design. According to Yin (2009), one of the rationales for single case study design is when it poses as the representative or typical case. The purpose of this case study is to apprehend the circumstances of commonplace situation or typical case, where the lesson learned is assumed to represent the experience of average person or institutions (Yin, 2009). The RPJMN as the single case study falls into this category as it contains and represents the common practices of prevalent use of GDP within the policy formulation domain. Furthermore, as RPJMN is served as the guidance for other national development programs, the lesson learned from this study is expected to be informative for other policy formulation process.

Data collection and analysis

This research uses literature study and interview as it main tools to gather the required information. In terms of data collections, this research utilizes the primary and secondary data collection methods. The primary data is obtained from in-depth interview with experts and other relevant stakeholders in the respective areas. In addition to that, secondary data from literature and documents analysis is also used. Interviews are conducted through face to face interview, Skype conference as well as written emails.

In regard with primary data collection using interview, the list of interviewee needs to be constructed. Hence, relevant actors or stakeholders need to be identified. In identifying these relevant actors, key concept from theory played an important role as it distinguished the involved actors or stakeholders.

Based on the involvement of the actors or other stakeholders within the formulation of RPJMN, several actors can be identified such as; the Ministry of National Development planning/National Development Planning Agency (KPPN/BAPPENAS), ministries and other governmental agency, BPS-Statistics Indonesia, universities, and others nongovernmental organizations (NGO). KPPN/BAPPENAS and BPS-Statistics Indonesia are considered as two main important actors. KPPN/BAPPENAS is the government agency that is mandated to coordinate the formulation of RPJMN, while BPS-Statistics Indonesia is the governmental agency that is authorize to handle the general data and statistics required by the government of Indonesia. For other involved actors such as ministries and other governmental agency, universities and NGO, non probability sampling method, the purposive sampling, is used to select the sample (see appendix I for the list of interviewees).

Qualitative method was used to analyze the data. Data from interview, document analysis and literature were categorized into different theme to allow for meaningful analysis. These data were evaluated and analyzed using the theory from the conceptual framework section.

1.5. Thesis Outline

This thesis is organized into six chapters. The first chapter is started by briefly describes the GDP and some criticisms related to how this indicator is intended to be used and how it is generally being perceived and used nowadays. In addition to that, it also highlights the implication of such application as well as the issues on the development of alternative indicators. In doing so, it also narrow down the scope and focus of this study into the case of Indonesia's national development plan. Furthermore, the research objectives and research questions as well as the methodology are also being presented. The second chapter contains the conceptual framework which provides the overview of theory and concepts that are being used within this study. This chapter is then finalized by the operationalization of such theory and concepts.

In order to better understand the origin and the depth of the problems, chapter three discuss the history and early development and application of GDP. In doing so, it also underlines the circumstances and conditions that enable the widespread use of GDP.

Chapter four focuses on the placement of GDP within the medium term of national development plan of Indonesia (RPJMN). This chapter is started by providing a brief overview on the system of national development plan in Indonesia. Subsequently, the discussion then focuses on how GDP is being positioned and used within the RPJMN. At the end of this chapter, factors or conditions that maintain the prevalent use of GDP within RPJMN are being presented.

Chapter five focuses its discussion on the alternative indicators for GDP. It highlights several proposed alternatives for GDP as well as presents several aspects and conditions that hamper the further development or more central use of those indicators within RPJMN. In addition to that, this chapter also provides several conditions and possible strategies that could help encourage or promote the development and more central use of alternative indicators.

The last chapter, chapter six, presents general discussion on the research findings as well as discussion and reflection on the utilization of the selected theory within this study. Lastly, overall conclusion and recommendations are being presented at the end of this chapter.

Chapter 2: Conceptual framework

2.1. Overview of transition theory: technological transition

Introduction

The transition theory emanates as a way to comprehend the socio-technical change (Oyake-Ombis, 2012). Loorbach (2007) defines transitions as "transformation processes in which existing structures, institutions, culture and practices are broken down and new ones are established" (Loorbach, 2007, p.17). Historically, this terminology is originated from the physical change of substance from solid to liquid or to gas, however, today this concept has been widely applied to different types of systems and fields such as technology, sustainable development, governance and policy (Geels, 2002a; Loorbach, 2007; Rotmans et al., 2001). The overall goal of transition study is to elucidate how transitions mechanism from certain equilibrium to other equilibrium could took place in society and to find a solution for the problem which related to it (Hegger, 2007).

Socio technical configuration

The conceptual framework used for this study is based on the transition theory especially in the domain of technological transition. Geels (2002b) proposes a concept of socio technical configuration that carries out certain societal function in order to understand the technological transition. The formulation of this socio technical configuration is largely based on conceptualization of technology in science and technology study (STS) (Geels, 2002b; Geels, 2005b). He mentions that despite the wide range of STS school, notion of technology can be identified as follow: technology is heterogeneous, it is not only material device or but consists of other elements, and for technology to be able to serve its function, the heterogeneous elements need to be linked and work together (Geels, 2005b). Terms such as seamless web (Hughes, 1986) and configuration that works (Rip and Kemp, 1998) are among this type of conceptualization of technology. The former term describes how different elements (such as material artifacts, social and economic aspects and so on) are being combined together in order to perform its function (Hughes, 1986), which also implies that there is co-evolution process between these elements (Rip and Kemp, 1998). Rip and Kemp (1998) frame technology as configuration that works, portraying it as the arrangement of elements that are aligned and interrelated together thus enabling it to perform certain function.

Geels (Geels, 2002b) then proposes the concept of "socio technical configuration which fulfill certain function" (Geels, 2002b, p.13). He distinguishes two clusters of ST configuration: technology in use (application domain) and the design, development, and production of technology (technological knowledge), in which artifacts are being part of both clusters (Geels, 2002b). This categorization also emphasizes the contextual placement of technologies as it describes that "artifacts are never used in vacuum, but always in an

application domain or context" (Geels, 2002b, p.13). Building upon this conceptualization, Geels (2002b) defines technological transition as the shift from one socio technological configuration to another stable configuration. He distinguishes seven elements of ST configuration: artifacts, user practices, markets and distribution networks, infrastructure, policy and laws and regulations, symbolic and cultural meaning, and maintenance and distribution (ibid).

Multi level perspective on transition

Furthermore, Geels (2002a) describes the multi-level perspective (MLP) as a way to frame the transitions process. MLP perceives transitions as the results of adjusting process of development in multiple levels which resulted in the shift of one ST regime to another ST regime (Geels and Schot, 2007). MLP is regarded as suitable approach to analyze long term development in various levels of system and it has been largely applied in transitions process where the new regime gradually took place the old dominant regime (Oyake-Ombis, 2012). MLP differentiates three heuristic levels and concepts: niche innovation, socio technical regime, and socio technical landscape (Geels and Schot, 2007).

Niche

Niche refers to the protected space where innovations are fostered, it is where the radical novelties rise (Geels and Schot, 2007; Hegger, 2007). Niche provides the place for learning process and building social network to support new innovation (Geels, 2002a). Initially, these novelties are unstable; hence, niche also acts as the incubation rooms (Geels and Schot, 2007). Analysts that study the development of innovation in niches propose three processes of niche development (Kemp et al., 1998; Schot and Geels, 2008):

1. Articulation and converging of expectations or visions; Expectation is regarded as a way to attract attention, funding and other forms of support from other actors, as well as to gives direction in innovation activities. In the initial stage of innovation development, the advantages of new innovation may not yet pronounced and shared among the involved actors, thus converging the expectation is an important aspect for the success of the development of niche innovations.
2. Establishment of network and increasing the involvement of more actors. This is seen as necessary aspects in facilitating the interaction with relevant actors in order to gain the necessary support and spread the acceptance of new innovations.
3. Learning process and articulation of necessary process. There are numerous stumbling blocks in the introduction and implementation of new innovation, such as the uncertainties and perceptions. Thus, learning and identifying important aspects within this process (such as consumer needs problems and opportunities) are important to determine what kind of requirements, adjustments or changes are needed for new innovation to be adopted and become socially embedded.

Regime

Regime refers to dominant structures or practices or set of rules of societal system which enable and constrain activities in the society (Rotmans et al., 2001; Geels, 2002a; Loorbach, 2007). It explains the development along the trajectories and stabilizes the existing trajectories (Geels and Schot, 2007). With regards to the rule, three types of rules can be categorized as: regulative (refers to formal type of rules such as laws), normative (such as norms and values) and cognitive rules (such as problem agendas, beliefs and paradigms) (Scott, 2014; Geels, 2004). Furthermore, Geels (2002b) characterizes regime over several dimensions: technology, infrastructure, user practices and application domains (markets, user preferences, and competences), symbolic meaning of technology, industry structure (supply production and networks), policy (laws, regulation) and knowledge. In the later works (Geels, 2005a; Geels and Kemp, 2007) these dimensions are being adapted into: markets and user preferences, science, policy, technology, and culture. In addition to that, Geels (2011) also mention the notion about sub-regime. The sub-regime's notion highlights the perspective that tries to capture the dynamics within each dimension, as mention by Geels (2011) that:

> These trajectories occur not only in technology, but also in cultural, political, scientific, market and industrial dimensions. While science, technology, politics, markets, user preferences and cultural meanings have their own dynamics, coordinated by different sub-regimes, they also interpenetrate and co-evolve with each other . . . The socio-technical regime concept aims to capture the meta-coordination between different sub-regimes . . . (Geels, 2011, p. 27).

Landscape

Landscape is related to the societal setting, external structure or exogenous variables that channel the transition process, it contains slow changing variables (such as societal cultures and values) as well as shock variables (such as war and oil price) (Schot and Geels, 2008; Loorbach, 2007; Geels, 2004; Geels, 2002a). It is also mentioned that landscape has stronger structuration than regime, thus could hardly be changed at will or outside the direct influence of actors (Geels, 2004).

Typology of transition pathways

MLP approach has been criticized as putting too much emphasize on niche level and the bottom up approach and undermine the downwards aspects (Berkhout et al., 2004). In response to this criticism, Geels and Schot (2007) developed the typology of transitions pathway to enhance the understanding of transitions process and refine the MLP approach. Based on timing of interaction and the nature of interaction criteria, they propose four transition pathways with the fifth proposition as the zero proposition addressing stability and reproduction. These are summarized as follow (ibid):

- Zero Proposition: reproduction process; when there is no landscape pressure, hence, the regime will continue as dynamically stable and reproduce itself.
- First proposition: transformation path; when the moderate landscape pressure occur while the niche innovation has not maturely developed yet, then the regime actors will modify the development direction (cumulative adjustment and reorientations)
- Second proposition: de-alignment and re-alignment path; when landscape experience rapid, large and divergent changes, which de-aligns and erodes the regime, while there is no stable niche-innovation yet. This circumstance creates rooms for the multiple niche developments and then eventually one niche–innovation will become dominant and form the new regime.
- Third proposition: technological substitution; when a lot of landscape pressure exists, while the niche-innovations have been sufficiently developed, then this innovation will breakthrough and replace the existing regime.
- Fourth proposition: Reconfiguration pathway; when multiple component-innovations are developed in niches, and if these innovations have symbiotic relations with the existing regime then it will be easily adopted as complement or component replacement. Eventually, it will trigger major changes in the existing regime.

The overall process of transition on MLP can be summarized as in the figure 2.

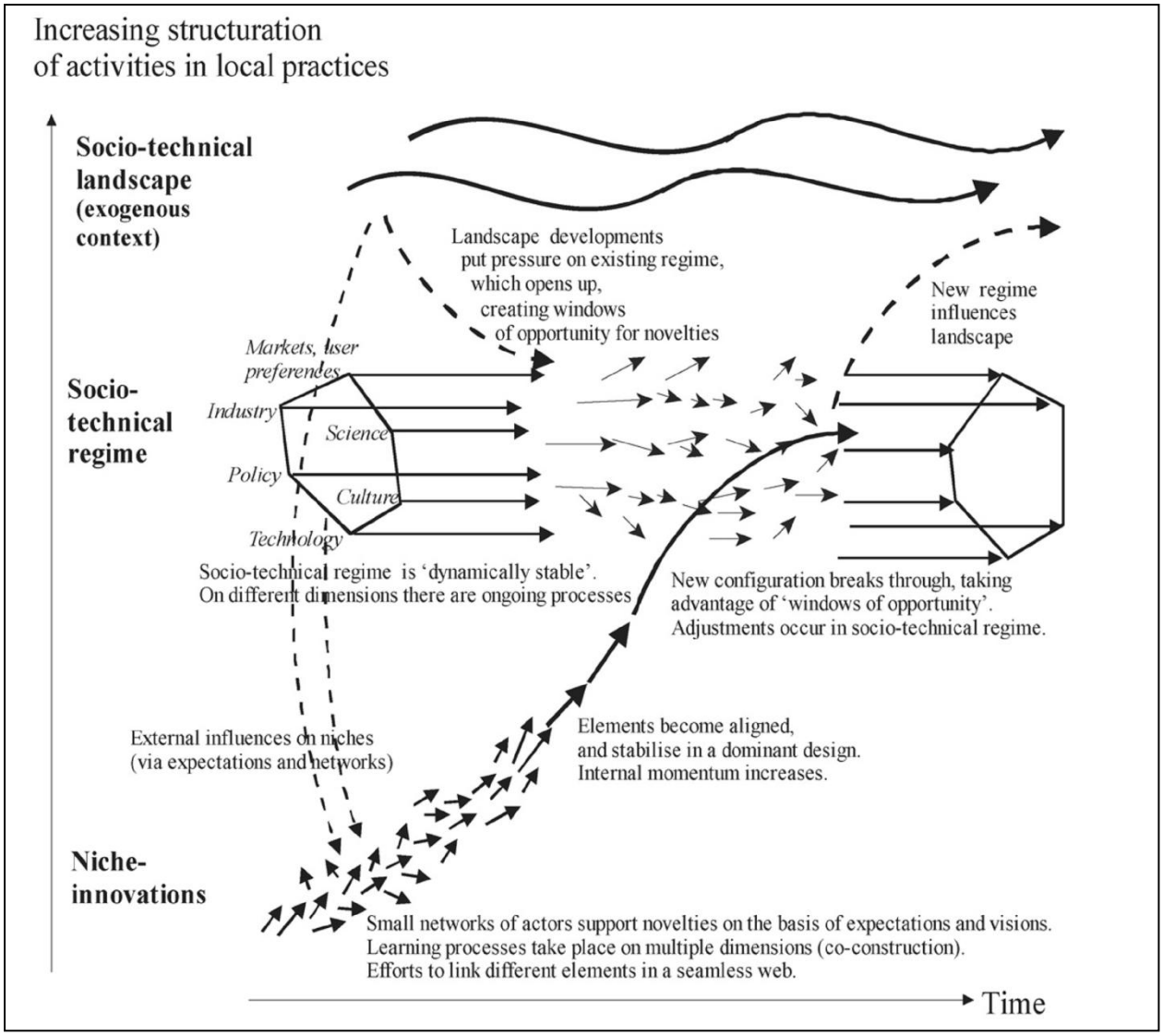

Figure 2. Multilevel perspective on transition (cited from Geels and Schot, 2007, p.401)

2.2. Operationalization of the theory

This research is based on the transition theory with the multi-level perspective framework to understand the prevalent use of GDP within society. It will utilize this theory to try to understand the mechanism and establishment of GDP trajectory as well as to assess opportunities for alternative indicators to breakthrough from its niche development. Thus, it will try to apply the socio-technological transition theory, which is usually used in physical types of system, towards the GDP indicators, which can be categorized as concepts or non-physical types of systems. It is expected that this aspect could be regarded as the novel contribution to theory of this study.

In doing so, the analysis focuses on two aspects. The first aspect is related to the dynamics that keep the prevalent use of GDP within RPJMN. Thus, it will first examine elements or configurations which resulted in the prevalent use of GDP. Hence, its focus will be on the mechanism or the underlying processes that cause the stability of this regime configuration.

The second aspect will examine the mismatch of the current configuration with the novelties (alternative indicators) that emerges from the niches. Here, the dynamics among niches, regime as well as landscape are expected to be able to explicate why such transition has yet to happen.

Furthermore, to operationalize the theories, several concepts will be identified in relation to the problem definition of the research.

- *Regime*

  Regime within this study is identified as the structures, rules, and routines that surrounded and reproduced the use of GDP within the RPJMN practices. In other words, it can also be translated as the 'configuration that works' which enable the prevalent and stable use of GDP within the RPJMN. It includes the already-established infrastructure, such as the institutions that provide the routine calculation of this indicator, as well as the routines where this practice will be reproduced and strengthen, the policy makers, and or the users. Several actors and routines can be identified within this regime, such as the Bappenas (National Development and Planning Agency), BPS, as well as other institutions including educational institutions.

- *Niche*

  Within this study, the niche of innovations can be identified as the locus where the alternatives indicators are being developed. It can refer to where this indicators is being developed (such as within BPS) and also within the novel concepts or initiatives which try to incorporate this alternatives within its domain (such as the green economic initiative that is nurtured by BAPPENAS/KPPN)

- *Landscape*

  Landscape within this study can be identified as the background variable such as the social, cultural, political or environmental variables that maintain the stability of regime or might also put pressure to it.

Chapter 3: History and establishment of GDP

3.1. Introduction

Gross domestic product (GDP) measures the market value of final goods and services. It counts all economic outputs that are produced within a certain region (European Commission et al., 2009). GDP is an aggregate statistics that is directly derived from the System of National Account (SNA), an internationally accepted recommended standard on how to compile economic activities data (European Commission et al., 2009). There are three approaches to measure GDP; value added approach, Income approach and final demand or expenditure approach (ibid). Value added approach uses the sum of gross value added (the difference between gross output and intermediate inputs), while the income approach measures GDP as the sum of domestic income that is earned. Lastly, the expenditure approach equals to the total final use of domestic goods and services (sum of consumer (C), investment (I) and government spending (G) and exports less imports (X-M)).

3.2. The early era of national income estimates

Before the birth of modern GDP, several early attempts to calculate national income had been made. A notable attempt came from England. In the end of seventeenth century, William Petty, British scientist and official, calculated the early national income estimation. He estimated income, expenditure, land, population and other assets in England and Wales used as the quantitative foundation for fiscal policy and utilization of resource in wartime (Maddison, 2003). Petty wanted to prove that England is still able to yield higher revenue from taxes and prove that England was not ruined by revolution and still capable of confronting Holland and France (Bos, 2008).

Another major contribution came from Gregory King. King was affected by Charles Davenant works that shows the possibilities of utilizing fiscal data for macroeconomic analysis. Several notable contribution of King's work in estimating the national income are the use of comprehensive concept of production and income and the wide range coverage of works that include not only the total national income but also their distribution and the breakdown of national income (Bos, 2008). Furthermore, his works also featured three approaches in estimating the domestic product; net production, distribution of income and expenditure (ibid). Apart from that he also used his time series data to do three years forecasting of income, tax revenue and expenditure (ibid).

The interest in national income estimation was also noticeable in France. Pierre de Boisguilbert anonymously published the assessments of France's economic condition that asserted a sharp decline of France's national income (Maddison, 2003). Boisguilbert's works attracted the interest of Sebastien le Prestre de Vauban, as he published a proposal that intended to reform the tax structure (Maddison, 2003). This proposal included the

assessment of possible revenue from the new tax structure. In order to estimate the potential revenue of the new tax system, he calculated the estimation of national income, population and area (ibid). However, his proposal received severe objection from elite class, and his publication was officially condemned and destroyed (ibid).

During this early estimate period, some inventions such as the first price index numbers and zigzag diagram and value added concept opened the possibility of further improvement in the calculation of national income.

The invention of the first price index numbers by William Fleetwood in 1707 opened the possibility of deflating national income, thus calculating the national income in constant price. However, the application of price index in deflating national income was used much later than the early invention of the price index. It is mentioned that such utilization might start to be found on Lowe's calculation in 1823 that paid attention to the inflation effects in fiscal policy (Bos, 2008). The publication of *Tableau économique* that detailed the zigzag diagram by François Quesnay in 1760 also affected the development of national income estimation. *Tableau économique* is considered as the pioneer of the modern input-output table (ibid). Value added concept was originated from Arthur Young calculation on value added in agriculture sector (Stone, 1997). He deducted the cost of seed and other intermediate inputs such as maintenance and repair cost in producing the outputs (ibid).

Bos (2008) notifies several major characteristics of the early estimates period. He analyzes that the early estimates of national income calculation were usually practical and aimed to address concrete policy issues such as taxation, poverty, national economic power and public finance. He also mentions that the early estimates were largely stimulated by the circumstances at that time, such as war, economic decline, and poverty (Bos, 2008). Furthermore, he also stated that the ruling or elite class at that time, sometimes were not in agreement with the national incomes calculation that often channeled the reformation such as the tax reform system that usually put them in disadvantaged situation (Bos, 2008).

Furthermore, Coyle (2014) points out that the early version of national income accounts and others GDP predecessors indicate that the national income definition at that time was not uniform or fixed. The interpretation depends on intellectual tendency or subjective needs of the moments (such as the political or military needs) (ibid). Maddison (2003) also states that even though there were rapid increases in national incomes estimates, the improvement of their quality or comparability is little, especially the difference in coverage and methodology. However, an argument of Mitra-Kahn (2011) in the changes of economy definition over time might also serves as an explanation of this difference. He mentioned that the difference in the concept of economy has changed over the time, thus resulting in the different judgment of what to measure and what to include (Mitra-Kahn, 2011).

3.3. The emergence of the modern era of national income estimation

The discussion of the emergence of modern national income estimates will focus on the developments in the United Kingdom and the United States of America (USA), as the development of national income estimates in these countries are regarded as the main focal points towards the development of modern GDP and its widespread application.

The development of national income estimates in United Kingdom

Tily (2009) distinguishes three phases in the development of national accounting in Britain. The first phase marked by the works of Alfred Flux, Arthur Bowley and Josiah Stamp. They produced several series of national income estimates and several related discussions regarding the theory and techniques, which were often influenced by Alfred Marshall's influential works (Tily, 2009). In 1895, Bowley published the national income estimates based on total private income earned by the population, including the income paid as wages and the income not received as wages (Tily, 2009; Mitra-Kahn, 2011). Bowley referred to this figure as the whole national income (ibid). Furthermore, he also attempted to introduce the significance of national accounting to a wider audience by publishing a textbook titled: 'An Elementary Manual of Statistics' (Tily, 2009). Later on Bowley and Stamp work together in broadening the national income concept by including the income-equivalent consumption and private investment (Mitra-Kahn, 2011).

The administration of the first Census of Production in 1907 became one of significant event in the development of national accounting as it complemented the usual income-based technique, which used the tax data, with the production approach (Tily, 2009). In the final report of this census, Alfred Flux estimated the national income using the output measure rather than the usual income approach (Smith and Penneck, 2007). Despite the significant data improvement made by the census, official statistics was still regarded as insufficient (Tily, 2009). The need for improvement triggered the request for centralization of official statistics (ibid). Several statisticians and economists observed that the information needed for more accurate estimates of national accounts need to be consolidated by a central board that has the authority to compile the necessary data and information from private sector (ibid). Thus, several attempts had been made to achieve this goal, such as the petition to the government by several statisticians, including Bowles, Stamp and John Maynard Keynes, which unfortunately was rejected by the government (ibid). Tily (2009) asserted the possibility that the government at that time see that matter as unnecessary as they seem to be satisfied with the current arrangement. Keynes considered as one of the important figures that in the end successfully pushed this agenda through (ibid).

In the 1930s, Colin Clark can be regarded as one of the influential figure in national income estimation in the United Kingdom (Maddison, 2004; Coyle, 2014). This era was mentioned by Tily (2009) as the second phase of national accounting development in Britain. Clark's works was influenced by Keynes's fundamental equations and Richard Khan's multiplier

concept (Mitra-Kahn, 2011). Clark calculated the national income and expenditure and became the first person that calculated it in quarterly basis rather the usual annual basis (Coyle, 2014; Tily, 2009). Furthermore, Clark also discussed the adjustment of the national income for inflation and introduced the purchasing power parities concept, as well as demonstrated a way to make international comparison of a real income (Coyle, 2014; Bos, 2008). His work in 1937 titled 'National Income and Outlays' also included the depreciation concept (Maddison, 2004).

The occurrence of the Great Depression in the 1930s triggered the need of statistics that might help the government to overcome the dreary condition (Coyle, 2014). This prompted the creation of National Economic Advisory to provide professional and formal advice in economy (Coyle, 2014; Maddison, 2004). Colin Clark was chosen to provide the statistics information for this body (ibid).

Clark estimated the national income by using the total business investment and consumption (Mitra-Kahn, 2011). This concept defines the national income as the total private income earned by individuals from market activity or expenditure of private individuals to finance consumption and investment, thus, excluding the final government expenditure (ibid). Clark's definition was also in line with Marshallian theory (ibid). Clark's 1937 work, National Income and Outlays, showed the usefulness of national accounts in economic policy, and also influences Keynes publication in 1940 (Maddison, 2004).

In 1940, Keynes published the work called 'How to Pay for the War', a proposal about managing the economy during the wartime (Maddison, 2004). Within this publication, he also made a remark about the lack of statistics to estimate the ability of UK economy to produce, given the available resource, and to estimate the economic condition and the resource requirement in planning for war (Coyle, 2014).

Keynes' (and Edwin Rothbarth[1]) estimation on national income became conceptually different from previous work by Clark (Mitra-Kahn, 2011). Keynes includes the government expenditure in the calculation of national income, thus break away from Clark (and his predecessor) concepts that only take into account the private income and expenditure (Mitra-Kahn, 2011; Tily, 2009). This concept lay as a foundation of the current GDP calculation from expenditure approach (ibid). According to Mitra-Kahn (2011), war was one of the factors that motivated Keynes in developing this concept. Keynes wanted to calculate the government revenue needed to finance the war or how much government could afford (Mitra-Kahn, 2011). Hence, Clark's procedure that excludes the government expenditure will resulted in negative effect towards national income, as the more expenditure spent by government will lead to the reduction on the availability for private consumption and investment (ibid).

[1] Edwin Rothbarth was a statistician at Cambridge University

> For Keynes, the ability to tax and fund the war was of paramount importance, and to him, the government seemed a valid consumer of final output. So government should be considered part of the economy (Mitra-Kahn, 2011, p.213).

Austin Robinson, an officer in British Treasury, was interested in Keynes's proposal on 'How to Pay for the War' (Coyle, 2014). He instigated a project to develop the national income estimates (ibid). To complete this task, he hired James Meade and Richard Stone, while Keynes, although did not given official post, was provided with an office in Treasury to monitor the national income project and the following establishment of the new statistical body; the Central Statistical Office (Coyle, 2014; Mitra-Kahn, 2011). At that time, publication of such detailed national account was not common; however, due to the hard work of Keynes, the work was finally able to be published in 1941 (ibid). This was known as the 'White Paper', and it was acknowledged as the modern set of national account and GDP (ibid).

Keynes was an important figure in putting the fundamental structure of modern GDP (at that time it was still in the form of GNP) as well as in advocating its use and its official publication (Mitra-Kahn, 2011; Tily, 2009). Mitra-Kahn (2011) argues that the involvement and influence of Keynes in the development of national account in UK set down the new definition of economy, which overturn the Marshallian influence. Moreover, Mitra-Kahn (2011) also captures and describes the process of such changes overtime as follow:

> Since Adam Smith academics had set the agenda for what defined the economy, and since the 1840s they had done so by having their followers back theories with official definitions and official statistics. Where Smith had convinced the Prime Minister directly, Keynes, like Marshall (Tily 2009), had to convince the government administration to adopt his ideas. Keynes did so by publishing his papers to a wide academic audience and convincing his own government assistants, before working through the administration to change the office procedures for publishing national accounts. Keynes is really the last example to date of such individual effort to define the economy, at least in the UK. He is also the last economist who single-handedly defined an economy, backed it up with empirical evidence, and attempted to influence policy making through his own definition of the economy (Mitra-Kahn, 2011, p.234)

The development of national income estimates in the United States of America

During the World War I and the 1920s, there was a growing concern over national income estimates which marked the increasing practices of such estimation by organizations rather than only by individuals (Carson, 1975). Among the first attempt to produce the national income estimates in the US, was the work by Adolf C. Miller, board of federal reserve system 1914-1936, as he observed that there were no official figure for annual income of people at that time (ibid). The work was related to his effort to analyze the available surplus needed for war effort (ibid). Several years later, Federal Trade Commission published the

first national income in 1926, however, the continuation of this publication was terminated due to funding issue (ibid).

The great depression during the 1930s prompted the need for more comprehensive and reliable economic activity data. At that time the existing data were scrappy and difficult to compare. Hence, it induced the need of more systematic and reliable data (Costanza et al., 2009; Fioramonti, 2013). This data was urgently needed to help the government planned for the appropriate policies needed to save this country from the economic depression (ibid).

US senate mandated the Bureau of Foreign and Domestic Commerce (later renamed as Bureau of Economic Affair or BEA) to provide the estimates of total national income of the USA (Mitra-Kahn, 2011; Fioramonti, 2013). However, as BEA lacked of data and scientific expertise, they approached the National Bureau of Economic Research (NBER) to work on that project (ibid).

Simon Kuznets was entrusted to undertake the project with the help of Milton Gilbert and Robert Nathan. Kuznets's idea was to generate an aggregate measure that compile economic production into a single figure that should be able to follow the economic trend; rise in good condition and fall in bad circumstances (Fioramonti, 2013). As Kuznets's work attracted the interest from government official, NBER organized several conferences to foster closer relationship among academia and government (ibid). According to Fioramonti (2013) the compilation of national statistics account opened the room for closer cooperation between the economist and policy makers in designing the macroeconomic as well as development policy.

Kuznets presented the report of the project to the US Congress in 1934. His national account estimates, likewise the Clark's work, included only the private market sector, thus left out the government expenditure (Mitra-Kahn, 2011). The use of national income estimates increases significantly during the 1930s; it was usually cited as an indicator of economic activity and even being referenced in the campaign speech of President Roosevelt, thus indicating the growing familiarity of this measurement (Carson, 1975). In addition to that, broader and more complex applications of this measurement were also noticeable, as the quantitative analysis utilizing data of national income estimates was evolving, not only cover the micro economic but also started to venture into its linkages or effects within macroeconomic domain (ibid).

> During the early and mid-1930's quantitative analysis using national income estimates was essentially micro-economic . . . By the late 1930's greater sophistication in the uses is apparent, reflecting the impact of macro-economic theory, the greater detail in the available estimates, and the lengthened time span over which consistent series were available. There are several noteworthy examples. The National Resource Committee's Patterns of Resource Use attempted to discover what level of economic activity would absorb unemployment and what the market demand for the various industries would be at that level. National income and its components were used to aid in forecasting Federal tax

> yields. The "offset to savings" formulation of the full employment problem highlighted the possibility of alternative policies and helped quantify the magnitude of the problem (Carson, 1975, pp.160-161).

During the 1930s, the definition of national income in the USA was derived from Kuznets's concept on economy (Mitra-Kahn, 2011). As mentioned earlier, Kuznets's concepts of national income focuses on the individual income recipient and treats the government expenditure as intermediate cost, including only aspects that are needed or contributes directly to consumer (ibid). Kuznets is mentioned as the proponent of welfare measurement or the "socially desirable output" (Mitra-Kahn, 2011, p.240) and had an ambition to conceptualize such aspect within the national income estimates (Mitra-Kahn, 2011; Coyle, 2014). Kuznets argues to exclude non consumption objects, such as illegal or unethical activities or activities that would not contribute to welfare, from the consumption or national income estimates (Kuznets, 1941 cited in Mitra-Kahn, 2011). However, it is mentioned that at that time, this concept was still unable to be implemented (Mitra-Kahn, 2011). Nevertheless, it is observed that the development of national income estimates around welfare and consumption was still became the dominant notion which continued to be pursued until 1941 (ibid).

Concerns about war induced the demands for the government to increase the expenditure on war related spending (Coyle, 2014; Mitra-Kahn, 2011; Carson, 1975). Richard Gilbert and Office for Price Administration and Civilian Supply (OPACS) were among others mentioned as the proponent of this argument (Mitra-Kahn, 2011). This proposition was initially rejected as the current policy makers were using Kuznets's concept of economy, hence increase in government expenditure for the armaments spending would result in the reduction of national income as it would decrease the (portion for) private consumption (ibid). Several strategies were then used to encourage government to accept this proposal, such as splitting the government budget that would differentiate spending on defense and on economic or developmental expenditure (ibid). By doing so, it is hoped that this defense expenditure would not to be regarded as being negligence towards the economy, as it would be placed under the independent budget (ibid). However, this strategy was unsuccessful. Hence, this strategy then switched on to a plan to adopt government expenditure directly into the measurement of economy, a concept that was based on UK national income estimates (British White Paper), rooted from Keynes work on "how to pay for war" (ibid). It is mentioned that the latter strategy was finally prevailed, influence of Richard Gilbert and OPACS along with works of young economist in BEA (which then would be led by Milton Gilbert) as well as encouragement from Keynes were mentioned as the key elements (and actors) in dethroning the Kuznets concept (Mitra-Kahn, 2011; Kane, 2012). Concern over war is regarded as one of important impetus of such change (ibid).

> The need to more accurately measure the effect of increasing government defense expenditures on the economy during WWII mobilization shifted final product (or, national product) measurement in a new direction. WWII pressed policymakers and economists to

> find better methods for measuring the war production potential of the economy and determining the amount of taxation and savings required to limit rampant inflation (Kane, 2012, p.12)

After 1941, BEA published the national income estimates using a definition that started to diverge from Kuznets definition; it started to incorporate government expenditure as part of its national income estimates, treating it as the final consumption, which better accommodate the need to prepare for war (Carson, 1975; Kane, 2012).

> The process of converting national income to gross national product, therefore, was essentially one of increasing the size of the national product concept to make it fit the concept implicit in the war expenditures (Gilbert, 1942, p.197)

It is mentioned that GNP is proven to be a useful tool in rallying the economic resources during the World War II, especially in determining the quantity of armament or the war related production as well as in controling inflation (Carson, 1975; Kane, 2012). Carson (1975) also mentions that this inflation analysis was an important new aspect in national income framework. Furthermore, Fioramonti (2013) also underlines that the usefulness of GNP also proven to be successful in directing the US economy after the war just ended:

> Overall, GNP account turned out to be powerful instrument to estimate militarization costs and calculate what speed of economic growth would be necessary 'to pay for war' . . . the US government sustained internal consumption throughout the war without endangering civilian industries, which made it possible to collect additional resources for the mobilization effort while limiting the generation of an excess capacity that may have caused a new recession after the end of war (Fioramonti, 2013, pp.31-32)

The difference in Kuznets concept of economy, which was based on welfare economy concept, with the current definition used by BEA after 1941, led to debates using academic journal (especially between Kuznets, Milton Gilbert and Richard Stone) as its medium (Mitra-Kahn, 2011). This, later on, shifted into tri national meeting, attended by Milton Gilbert and his team from BEA (USA), Richard Stone from British Treasury (UK), and Goerge Luxton a Canadian economist (ibid). This meeting resulted in the national account concept that was much more compatible with the GNP concept used in the UK (Bos, 2008; Mitra-Kahn, 2011). Furthermore, this meeting is also regarded as the first international agreement on the adoption of economy measurement, affirming GNP adoption as the model of economy (ibid). This international consensus is also mentioned to be useful in defending BEA's GNP (and its definition of economy) against Kuznets criticisms, as it provides stronger back up on the BEA concept (ibid).

In 1947, National Income and product Accounts (NIPAs) was created by BEA. This is an interrelated system and product account, which was developed based on GNP that captures the economic structures, rather than just total output estimates (Kane, 2012). Upon this publication, Kuznets and Milton Gilbert, again, involved in a debate upon the underlying

economic concept that was used on NIPAs and consequently the GNP estimates; this is highlighted by Kane (2012) as follows:

> Kuznets reiterated his disapproval toward the inclusion of government intermediate services and war expenditures . . . Gilbert, along with his co-authors, again noted his view that Kuznets's measure of national product was less useful in its presentation and unrealistic it its aspirations for measuring welfare . . . Kuznets also expressed concern that Commerce's GNP time series would show growth trends across different periods, such as across periods of war and peace, that would deceptively suggest that actual comparisons across time of their national product total was meaningful even when the purpose . . . of economic production had changed substantially . . . Kuznets advised a presentation of national product that categorized government expenditures and personal consumption by use, or function . . . Gilbert defended the NIPAs as a more useful tool . . . to assess fiscal policies during periods of both war and peace. He reiterated his view that Kuznets's 'use', or 'functional,' criteria was impractical for defining national product and noted that, in a Kuznets system of accounts, many types of economic transactions that were of obvious relevance to understanding the economy's structure would be lost (not shown) and replaced by substantially large, imputed measures (Kane, 2012, pp.20-21)

3.4. International guidelines and widespread use of GDP

The League of Nations was once called for a report and guidelines to improve the comparability among countries on national accounting figures; however, the progress of this work was interrupted due to the war (Bos, 2008). After the war, the report was recommenced, and in 1947 the report was published (ibid). The report was not accepted as the official guideline by the statistical division of United Nations (ibid). However, this report was mentioned as a 'useful technical report' and the appendix of this report, which was mainly made by Stone, was considered as the first thorough and working national account system (ibid).

The Marshall Plan or the European Recovery Program is also mentioned as one of the factors that facilitates the development and widespread use of GNP (Coyle, 2014; Bos, 2008). This plan was intended for post war reconstruction in Europe. The Organization for European Economic Cooperation or OEEC (the forerunner of OECD) was trusted to manage aid under the Marshall plan (Kane, 2012). Income and product account as well as the guideline on national accounting were developed upon the request of OEEC to help them planning for the Marshall-aid (Kane, 2012; Bos, 2008). OEEC guidelines were published in 1951 and 1952, and in the following year the United Nation also published its guidelines: 'SNA53' (system of national account 1953) (Bos, 2008). Together, those guidelines were known as the "first generation of international guidelines" for national accounting system (Bos, 2008, p.25). The international guidelines are mentioned as the important factors in facilitating the comparison of the status of economy among the countries (Coyle, 2014).

It is mentioned that as the statistics of national account become readily and widely available, different applications of this statistics starts to emerge (Coyle, 2014). Coyle (2014) mentions that in addition to Keynes theory on wartime planning, Keynes also described the linkages between various economic variables (such as individual consumption, investment and employment, interest rate) that eventually set forth the increasing role of government in economy. Coyle (2014) describes that:

> The theory set out links between the tools the government had available and the size of the economy. It became the basis for a more interventionist approach to government economic policy from the 1940s onward, using both fiscal policy (the level of tax and spending) and monetary policy (the level of interest rates and availability of credit) to target a higher and less volatile rate of growth for the economy . . . GDP statistics and Keynesian macroeconomic policy were mutually reinforcing. The story of GDP since 1940 is also the story of macroeconomics. The availability of national accounts statistics made demand management seem not only feasible but also scientific (Coyle, 2014, pp.19-20)

The development of econometrics also contributed to strengthen the use of national account in policy and decision making process. Tinbergen and Frisch are mentioned as the forerunner of econometric model which encompasses national economy (Bos, 2008). These models utilize data from national account as the input to estimate or forecast the condition of national economy (ibid). In addition to that, it can also be used to evaluate economic condition and the impact of alternative policies (Bos, 2008). Despite the initial skepticism on econometric models, it is mentioned that econometric models finally become the important tool in government economic policy[2] (Coyle, 2014). Apart from the development of econometrics, the development of Input-Output table is also observed to help extending the usefulness of national account (Bos, 2008). In addition to that, it is also mentioned that the development of the purchasing power parity concept also facilitates the comparability of GNP between countries (Coyle, 2014).

Other aspects are also observed as the factors that help strengthening and spreading the use of GNP concept around the world. The collapsed of the Soviet Unions and the adoption of GNP concept by USSR can be regarded as one of these factors. It is mentioned that along with the development of the second generation of system of national account (SNA68), the United Nations also published Material Product System (MPS69) guidelines (Bos, 2008). Material Product System was a guideline in national accounting used by the communist countries (Bos, 2008). The fundamental difference between SNA and MPS is that MPS only measures the material production and left out the service aspects (Bos, 2008; Coyle, 2014). However, following the various problem in their economy as well as the growing criticism, Soviet Union finally adopted GNP concept (Fioramonti, 2013).

[2] For more insight on the use of econometric models as well as its current controversy see Coyle, 2014 "GDP: A brief but affectionate history"

Bretton Wood Conference is also mentioned to play a role in the pervasive use of GNP around the world (Costanza et al., 2009). The establishments of International Monetary Fund (IMF) and the International Bank for Reconstruction and Development or IBRD (now part of institutions within the World Bank) were the important result of this conference. Costanza et al. (2009) mention that theoretically these institutions should give equal power to all its member countries. However, as the political and economic power was patterned along the World War II, the USA was mentioned to lead these institutions in the initial years of its establishment, thus, the USA economy and its policy in economic dominated and prevailed over to other members (ibid). GNP concept that was used and developed by the USA and UK was not an exception of this. It is mentioned that this concept of measurement began to be applied as the main measurement of economic progress by IMF and World Bank (ibid). Nowadays, despite the fewer influence of the USA (compared with the initial years of the establishment of these institutions), GNP (or now usually being used in the form of GDP) is still dominantly used as the measurement of economic progress (ibid).

GDP in Indonesia

Effort to calculate national income estimates by Indonesian government dates back to 1960, when the work of the committee of national income estimates was published under the titled "The Contribution to the National Income of Indonesia, 1957 and 1958 by the Agricultural Sector" (Biro Pusat Statistik, 1966, v)[3]. The first publication of the national income of Indonesia was published in 1966, entitled 'The National Income of Indonesia: by Sectors (industry)'. The calculation of this national income estimates involved the United Nations. It is mentioned that part of the figures presented in this publication were resulted from the cooperation of government of Indonesia, Central Bureau of Statistics or currently known as BPS-Statistics of Indonesia, with the United Nations, thus involving the foreign experts (Biro Pusat Statistik, 1966). The other part of the figures were solely calculated by Indonesian experts: the experts from the Centre for Research and Development of Statistics (P3S) of Central Bureau of Statistics and the experts from the national income committee (ibid).

Unfortunately not many records regarding the introduction of GDP in Indonesia were able to be found; apart from above publication which describes that the introduction of GDP in Indonesia directly involved the United Nations. The mechanism of the initial adoption of this statistics within the policy and decision making of Indonesia is also hard to be tracked. However, it is mentioned that GDP has been used within the national development planning since the era of REPELITA (the Five-Year Development Plan), the forerunner of RPJMN (R14, 2014). Furthermore it is said that:

> The use of GDP [in our country as the measurement tools] is in line with other countries. When the world use GDP, we also directly follow the suit (R14, 2014)

[3] Unfortunately this report was not found, the existence of this report was recorded in the preface of the first publication of national income of Indonesia in 1966.

The first REPELITA (REPELITA I) was started in 1969[4]. Within this document the national income is mentioned several times, but there is no clear explanation whether this national income already used the global GDP concept (see Presidential Regulation No. 319 of 1968). Nonetheless, there is high possibility that this national income that is mentioned within REPELITA I document already used the concept of GDP as the first official GDP publication in Indonesia is dates back in 1966.

3.5. Discussion and conclusion

It is observed that the definition of economy has changed over time. Furthermore, it is also observed that the change in the definition of economy was influenced by the factors and conditions as well as the needs for such measurement at that moment. The description about the development and the uprising of the modern GDP shows how the Great Depression as well as war had motivated the development as well as shaped the definition of economy. Furthermore, the need for after war recovery had further stimulated its widespread use. The struggle between Kuznets concept of welfare and the GNP concept highlights how the needs or the objective of such measurement shaped its definition. Coyle (2014) even highlights that:

> There is no such entity as GDP out there in the real world waiting to be measured by economists. It is an abstract idea, and one that after a half century of international discussion and standard-setting has become extremely complicated (Coyle, 2014, p.24)

Furthermore, it is also perceived that the current situation, where GDP has been adopted globally, poses different challenge for ones that want to change the definition or replace this concept. It is mentioned that, different from the conditions in the early development of GDP (1940s), where convincing a country's government can result in the change of concept (as in the case of UK), nowadays, as the global institutions and international standard have been set, governments and international organizations have to be persuaded simultaneously in order to change their definition altogether (Mitra-Kahn, 2011).

An interesting remark by Mitra-Kahn (2011) regarding the current debate around the efforts to complement or even dethrone GDP underlines that:

> The recent debates over complements to GDP . . . miss the theoretical mark because they . . . assume the economy is invariant and defined by GDP. So I contend that the debaters are asking the wrong question and addressing the wrong audience with their answers. Like Smith, Marshall and Keynes did, we should ask 'what is the relevant economy for today's world?' – Not 'how do I best measure something important along with my measurement of the economy?' For Keynes, that question of 'what is the economy?' led to a re-orientation of what the British economy was, and in turn it changed the modern definition of the economy (Mitra-Kahn, 2011, p.209)

[4] REPELITA I is not the oldest development planning document, several documents planning document had been made prior to this. However, these documents were unable to be accessed during this study timeframe.

This interesting remark highlights that needs or problems that were faced by the society at that time determine the component of GDP. Thus, it poses a discourse whether the challenges or problems that we face today such as environment and welfare issues, mean that we are in the stage where we need to once again redefine our economy.

Chapter 4: GDP within the national medium-term development plan (RPJMN) of Indonesia

4.1. National medium-term development plan of Indonesia

Overview of the national development plan of Indonesia

National development planning is needed in order to ensure the effectiveness and efficiency of development activities and to ensure the appropriateness of development objectives (Law No. 25 of 2004). The current development planning guidelines in Indonesia is called the National Development Planning Systems (SPPN) that was promulgated through Law No.25 of 2004. It is a system that replaces the Broad National Policy Guidelines (GBHN), the previous guidelines in development planning in Indonesia. One of the main different between these systems is that the Broad National Policy Guidelines as the basic development policy was formulated by the parliament (the People's Consultative Assembly or MPR)– the legislative body in Indonesian government (Bratakusumah, 2003). Meanwhile in the new development planning systems, the development planning document is no longer formulated by MPR but is handled by the executive authority.

In the National Development Planning Systems, the development plan is divided into three phases: the long-term, the medium-term and the short-term or annual development planning. The development plans that exist at the national level are called the National Long-term Development Plan (RPJPN), National Medium-term Development Planning (RPJMN), and Annual Government Work Plan (RKP). Apart from the national level of document planning, regional and ministry/agency level of document planning also exists and should be referred to and delineated from the national level document planning (Law no.25 of 2004)

RPJPN is document planning that covers a 20 years period, from 2005 until 2025. RPJPN is an elaboration of the country's general objective which was stated in the preamble of Indonesia's constitution (Law no.25 of 2004). It is expressed in the form of vision, mission and direction of the national development. This document planning is intended only as the general guidelines and direction of the development planning, in order to give enough space for more detailed planning in the next level of development planning (Law no. 17 of 2007). The implementation of RPJPN is divided into five period of RPJMN that started with the first RPJMN in 2005. The RPJPN is promulgated through a law. The first RPJPN is promulgated through Law No. 17 of 2007 regarding the national long-term development plan.

RPJMN is a five-year document planning which translate and elaborate the vision, mission and program of the president (law no.25 of 2004). The formulation of RPJMN should be based on the RPJPN (ibid). It contains the general policies and development strategies and the regional and cross regional programs as well as the programs of ministries/agencies.

Furthermore it also covers the general direction of fiscal policies and indicative funding framework (ibid). The RPJMN will be elaborated further in an annual document planning called the Annual Government Work Plan (RKP).

The development planning approaches

There are five approaches within the planning process of the National Development Planning Systems; political, technocratic, participative, top down and bottom up approach (Law no.25 of 2004). The political approach considers the direct election of president (in national level) or the governor (in regional level) as a part of the planning process, as people based their vote on development programs offered by the candidates (ibid). Hence a development plan is regarded as the elaboration of the development programs and agendas of the chosen candidates (ibid). The technocratic approach uses scientific method and framework to analyze the circumstances objectively and considers several scenarios of development in formulating the development plan (Government Regulation no.40 of 2006).

The participative approach tries to engage all the related stakeholders to accommodate their aspirations and to gain their commitment towards this initiative (Government Regulation no.40 of 2006 and Law no.25 of 2004). The National Development Planning Meeting (MUSRENBANGNAS) is an example of the implementation of this approach. Furthermore, the top down and bottom up approach are implemented using the governmental administrative hierarchy, which will be synchronized in every level of hierarchy (Law no.25 of 2004).

The development planning cycle

There are four stages of the development planning process that are implemented as a continuous process. Thus it forms a cycle of the development planning process. The first stage is the formulation of the development planning document, followed by the promulgation of the document, the monitoring of implementation, and the evaluation of the planning implementation (Law No.25 of 2004).

The formulation process of RPJMN

According to the Government Regulation No. 40 of 2006 concerning the procedures of development planning formulation, the formulation process of RPJMN is started with the preparation of preliminary draft of RPJMN. This preliminary draft is prepared and coordinated by the Ministry of National Development Planning (KPPN) (Law No.25 of 2004, Government Regulation No.40 of 2006; KPPN/BAPPENAS, 2009).

The preliminary draft should be formulated based on the current RPJPN and the technocratic RPJMN (Government Regulation no. 40 of 2006). RPJMN should accommodate and elaborate the vision, mission, programs and priorities of the president (ibid). It should

cover the national development strategies, general policies, priority programs of the president and the macroeconomic frameworks (ibid).

The technocratic RPJMN contains the macro economic framework and also regional and sectoral development plan (Government Regulation No. 40 of 2006). The evaluation of the previous RPJMN and aspirations from the public or related stakeholders are taken into account in the formulation of technocratic RPJMN (ibid). Furthermore, the current guideline of RPJMN formulation procedures explicitly states that the background studies should also be conducted by BAPPENAS and the report of these studies should also be used as one of the reference materials in preparing the technocratic RPJMN (Minister of KPPN/Head of BAPPENAS Regulation No.1/2014).

The preliminary draft of RPJMN will then be brought to the presidential cabinet meeting to gains approval by them. The approved preliminary RPJMN will be used as the basic reference to formulate the strategic work plan of ministries and agencies (RENSTRA K/L) (Government Regulation no. 40 of 2006; KPPN/BAPPENAS, 2009). After that, the strategic work plan from the ministries and agencies will be reviewed by the minister of the Ministry of National Development Planning to ensure the synchronization of each ministries/agencies strategic work plan with the preliminary draft of RPJMN (Government Regulation no. 40 of 2006). The results of the review will be used to enhance the preliminary draft of RPJMN and formulate the RPJMN draft (ibid). Afterwards, RPJMN draft will be brought to the medium-term National Development Planning Meeting (mid-term MUSRENBANGNAS), a series of meeting that consists of state officials and administrators as well as the public or related stakeholders. The final draft of RPJMN is formulated by minister of KPPN based on the result of mid-term national planning meeting and also with a consultation with the house of representative (DPR) and cabinet meeting (KPPN/BAPPENAS, 2009).

Finally, the final draft will be presented to the president. This draft will be promulgated as the 'RPJMN' trough presidential regulation (Law no.25 of 2004; Government Regulation no.40 of 2006; KPPN/BAPPENAS, 2009). Furthermore, this RPJMN will be used as the guideline for the adjustment of the final strategic work plan of ministries and agencies, and as the reference material for formulation and adjustment of regional RPJM (Government Regulation no.40 of 2006).

Policy structure and its indicators within RPJMN

Within the RPJMN, the formulation process of policy direction is started with the identification of the main issues and possible challenges which need to be solved in the next five years period (KPPN/BAPPENAS, 2009). To identify these issues and challenges the current baseline data, the evaluation reports of previous RPJMN, and input from the related stakeholders are being used (ibid). This will be used as the basis in determining the main targets for the national development plan. Apart from those inputs, priority issues from

RPJPN, the president's vision, mission and priority programs, as well as the global concern and commitment will also be taken into account in determining these targets (ibid).

Furthermore, these main targets will be used to shape the national policy direction and the national development strategies for RPJMN. This is the framework that consists of national priorities, focus priorities or programs, as well as the priorities activities and the resource needed to solve the main issues and achieved the priority targets (KPPN/BAPPENAS, 2009). The problem formulation process as well as the policy direction formulation flowchart is illustrated in figure 3.

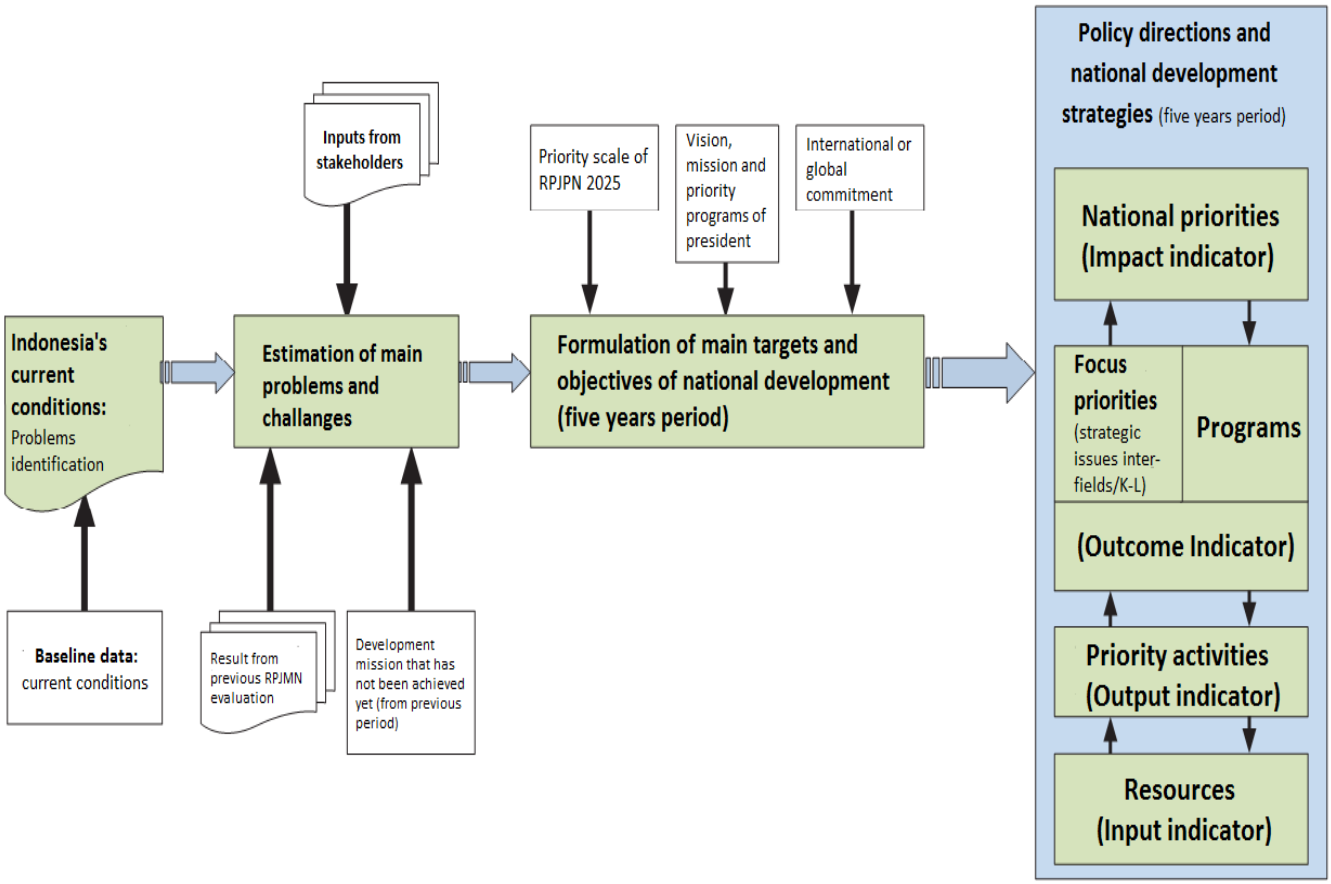

Figure 3. Flowchart of the problem formulation and policy direction (cited from KPPN/BAPPENAS, 2009, p.6)

National priorities are the elaboration of the vision, mission and priority programs of the chosen president and its vice president, in which the coordination and cooperation between government, private sector and public is needed to meet its objectives; hence, it has inter-development actors' characteristics (KPPN/BAPPENAS, 2009). Furthermore, the elaboration of these national priorities are referred to as the focus priorities, which are defined as the inter development fields or inter ministries/agencies policy (ibid). To achieve the focus priorities' objectives, coordination of activities inter-areas or ministries/agencies is needed. Apart from this, in each development fields, priorities and its priorities' activities, are also being formulated and covered through the inter-sectoral coordination (ibid).

Moreover, to facilitate the measurement of achievements and the evaluation of these policies, indicators that indicate the achievement in every level of policy structure need to be defined. KPPN/BAPPENAS (2009) categorizes four levels of indicators to measure the performance for each level of policies, as well as the achievement of development performance (KPPN/BAPPENAS, 2009):

1. Impacts; the statement that depicts the change in society as the consequence of the successful development plan, which is usually achieved in a long or medium term period. It is intended to measure the success or failure of a national priority.
2. Outcome; the statement regarding the benefit to be achieved or the tangible result or changes in the target group or the society. It is also a tool to measure and monitor the success or failure of the focus priorities or programs.
3. Output; a result that should be produced or things that should be done to achieve the outcome.
4. Input; the resources that are needed to produce the output.

The more practical definition for each level of indicators was explained by an employee of KPPN/BAPPENAS (R1, 2014). He mentioned that impact indicators are usually used to measure the results of inter ministries/agencies achievements, while outcome indicator measure the achievements in a specific work unit, and output can be explained as the products or the direct results of an activity (R1, 2014).

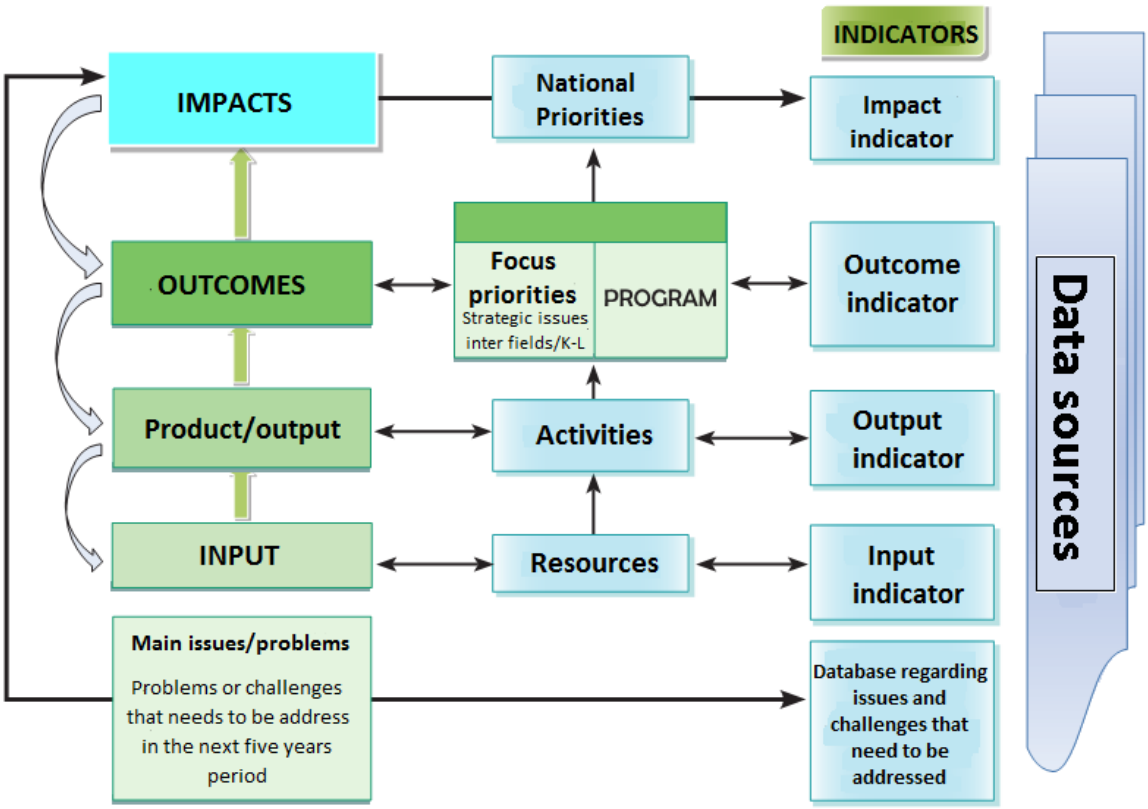

Figure 4. Policy structure and the hierarchy of its indicators (cited from KPPN/BAPPENAS, 2009, p.8)

The criteria of performance indicator

Within the guideline handbook of RPJMN formulation, indicator is defined as a "quantitative or qualitative variable which facilitate the measurement of achievement of progresses and changes, that occur as a result of the intervention" (KPPN/BAPPENAS, 2009, p.24). It is also described that an indicator is used to measure the achievement or the result and performance from the implementation of the plan (KPPN/BAPPENAS, 2009). In general an indicator should be realistic and relevant, which means that the data needed for such indicator should relatively easy to get and not very expensive to get (ibid). It also must represents or has clear linkages with the subject that is being measured and could objectively measure its achievement (ibid).

There are five criteria (abbreviated as SMART criteria) that need to be fulfilled for an indicator to be able to be adopted within RPJMN (Deputi Bidang EKP-KPPN/BAPPENAS, 2014; KPPN/BAPPENAS, 2009)

1. Specific; an indicator should be able to be clearly identified and describes the data as well as the accessibility of data and information (easy to obtain)
2. Measurable; it indicates that it should be able to be measured using the quantitative or qualitative measurement, and using the agreed measurement scale
3. Attributable (or accountable) or attainable; an indicator should be attainable or take into consideration the capabilities of the implementer to attain the targets. In addition to that it also needs to be within the range of control or accountability of the work unit that implement it
4. Result oriented/ relevant; an indicator should be relevant or reflected the linkages between the programs or activities that are being measured.
5. Time bound; an indicator should consider the time or duration needed to realize an achievement, in order to allow the comparison of performance across the time/ with previous period.

Furthermore, it is also mentioned that performance indicator can be in the form of quantitative indicator or qualitative indicator (KPPN/BAPPENAS, 2009). It is described that a progress needs to be measured not only from quantitative aspects but also from qualitative aspects in order to provide better information towards the decision making or planning process (ibid). However, the shortage of qualitative data and indicator is also being highlighted:

> "Qualitative data took longer time to be compiled, measured and filtered especially in the early stages of measurement. In addition to that, qualitative indicator is harder to verify as that indicator contains subjective judgment" (KPPN/BAPPENAS, 2009, p.25)

There are two approaches in determining the performance indicators within RPJMN; inductive and deductive approach (KPPN/BAPPENAS, 2009)(BAPPENAS/KPPN, 2009). Inductive approach formulates higher hierarchy performance indicator from its lower

hierarchy indicators, while deductive approach begins with determining the higher level targets to be achieved and then identifies the required outputs needed to produce or attain the targeted outcomes (ibid).

4.2. Contextual placement of GDP within RPJMN

RPJMN 2010-2014 is divided into three parts, referred to as the Book I, Book II and Book III. The first book of RPJMN express the platform from president and cover the priorities, focus priorities, and priority activities at the national level. It covers the president vision: "achieving the prosperous, democratic and equitable and just Indonesia" (Presidential Regulation No.5 of 2010, annex I-1).

While the second book of RPJMN describes the priorities, focus priorities and priorities activities within the field or development areas. The theme of this book is: "strengthening synergy among the development fields" (Presidential Regulation no.5 of 2010, annex I-1).

The third book focuses at the regional level and describes the development strategies to support the achievement of national priorities in the regional basis (KPPN/BAPPENAS, 2009). The of this book is: "Realizing synergy between the central and regional government and among regional governments" (Presidential Regulation no.5 of 2010, annex I-2).

In sum, the first book is the direct elaboration of president vision and mission and Book II and III are the further elaboration of this concept (figure 5).

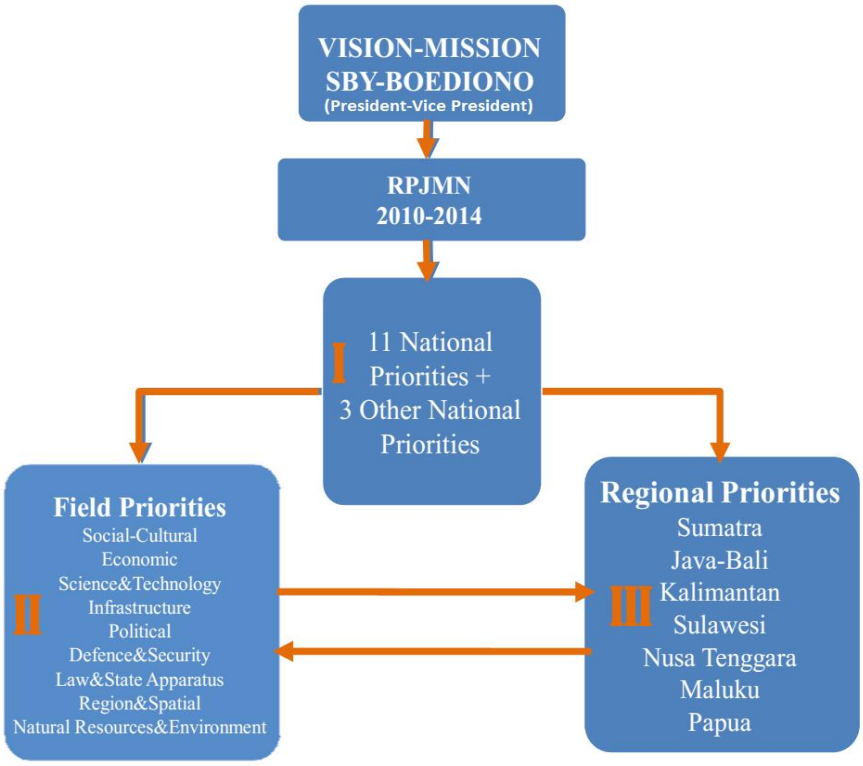

Figure 5. Linkages among the three books of RPJMN II (Cited from Presidential Regulation no.5 of 2010, annex I-2)

The discussions within this sub chapter are largely based on the first book of RPJMN 2010-2014, as it represents the main development plan which will be elaborated further in the other books. It also only examines RPJMN 2010-2014 as it is observed that there is little difference on the use of GDP information between the current RPJMN (RPJMN II 2010-2014) and the previous RPJMN (RPJMN I 2004-2009).

Furthermore, the discussions will also be presented following the writing structure or the outline of RPJMN document, so that the flow of explanation within RPJM document can be easier to follow.

Throughout the discussions several terminologies, such as vision, mission, agendas, targets, priorities and policy direction and soon, are found. Some of these terms are explicitly explained within the RPJMN document or within the Law no.25 of 2004, hence, its position within development planning can be relatively easy to be understood (see also figure 3). However, some of these terms were not explicitly explained within the document, thus, might caused some confusion. Within the Law No.25 of 2004, several terms are being defined as follow: vision are defined as "the general formulation regarding the desirable condition by the end of the planning period", while mission is defined as "general formulation of the endeavors that are needed to be implemented in order to realize the vision", strategy means the "measures [steps] containing indicative programs to realize the vision and mission". Policy is defined as the "direction/actions taken by the central/regional government to attain the goal" (Law No.25 of 2004). Program is defined as "policy instrument that contains one or more of activities carried out by government agencies institutions to achieve the goals and objectives as well as to secure a budget allocation, or community activities which are coordinated by government agencies" (ibid).

Within RPJMN document, the explanations of national development policies are divided into four sections: national development strategy and policy, general policy direction of national development, policy directions in development fields, and regional development directions and policies. Here, vision, mission along with development agendas and targets are part of the national development policy and strategy. It is mentioned that development agendas are formulated to realize the vision and mission, however, the development targets term is not explicitly defined. Furthermore, general policy direction of national development plan contains two aspects: general policy direction and national priorities. Here, national priorities are described as the operational formulation and elaboration of vision and mission into priority program, in order to facilitate the implementations and measurement of success. Policy directions in development fields contain strategies to address and achieve the targets of priorities fields (KPPN/BAPPENAS, 2009). Meanwhile, the regional development directions and policies focus on the regional development plan. It describes the field development policies and strategies in order to support the achievement of national priorities in regional level (ibid). Policy directions in development fields, and regional development directions and policies are elaborated within the second and third

book of RPJMN respectively. Thus, it can also be seen as the elaboration of priorities in the development fields (second book of RPJMN) and the regional level (third book of RPJMN) (see figure 5).

Introduction

The first book of RPJMN is opened with the discussion of the general condition of Indonesia. It starts by describing the common ideals of Indonesia and the expectation of the development goals. It discusses the journey of Indonesian democracy, as well as the general social and economic condition. With regards to the discussion about the economic condition, it is interesting to note how economy is put into discussion here. After quick references to the previous economic crisis that hit Indonesia in the late 1990s, the discussion then swiftly moves to the steady recovery of Indonesian conditions, despite the growing challenges from the global financial crisis. Furthermore it also claimed the successful recovery which also brought along the GDP growth notion;

> The economy has recovered and had reached a high economic growth rate that is accompanied by equity (growth with equity), and has in fact been able to restore the degraded natural environment. (Presidential Regulation no.5 of 2010, annex I-4).

Here, the linkages between GDP growth and economy is not clearly defined. However, it is interesting to note that the discussion of economic is followed briefly with the GDP growth, especially the notion of high growth rate of GDP. It is also worth to note that growth with equity and environmental condition has also became a concern. Apart from that, further down the pages, economic development is also linked with welfare or prosperity of people, as it is being mentioned in one of Indonesian ideal goals as:

> to realize an increased prosperity of the people, through economic development that is based on its competitive advantage, its natural resources, its human resources and national culture, that are fully buttressed by progress in the mastery of science and technology, (Presidential Regulation no.5 of 2010, annex I-4)

Here, the economic development is described as the strategy to increase the welfare. It also makes a connection with other resources such as human and natural resources.

GDP in the discussion about achievement of the previous RPJMN

The discussion about the achievement of previous RPJMN gives quite balance proportion between the economic and non economic aspect of development, such as the social and democracy aspects. This discussion follows the structure of the previous RPJMN missions: secure and peaceful Indonesia, just and democratic Indonesia, and prosperous Indonesia (Presidential Regulation no.5 of 2010).

The discourse about GDP and GDP growth mainly appear in the discussion regarding the prosperity agenda. Here, GDP as well as the GDP growth is closely linked with economic,

poverty and employment aspects. In the RPJMN 2004-2009, there are three strategies for economic development policies, namely the pro growth, pro poor, and pro job (Presidential Regulation no.5 of 2010). It is said that through this pro growth strategies within the previous RPJMN period, despite the global economy crisis, Indonesia is able to maintain its growth in economy which simultaneously able to promote the growth with equity (ibid). Furthermore, the relationship between these three strategies, as well as its justification (as it deemed as a successful strategies) is described as follows:

> Such acceleration of economic growth had involved the greater number of employment opportunities created, so that larger number of households of Indonesia had been able to free themselves from the poverty trap and had been able to strengthen the economy in its ability to withstand shocks. This shows that the 'pro growth, pro job, and pro poor' strategy had provided a development direction that is correct and has yielded the desired results (Presidential Regulation no.5 of 2010, annex I-9).

The GDP growth has been clearly linked with the employment and poverty rate, as it is described that the increase in GDP growth is in close relation with the increase in employment opportunities which then leads to the reduction of poverty. Moreover, further down the page, it is said that: "The accelerated economic growth had been able to reduce the poverty rate" (Presidential Regulation no.5 of 2010, annex I-10). This explicitly shows how GDP growth and poverty is related within RPJMN.

Apart from the seemingly causal relationship portrayal between GPD growth and poverty, another notion such as the growth with equity which address its distribution by i.e. intervention programs also appear within this context. Here, despite the placement of GDP growth notion as the front stimuli for other strategies, the quality of this growth is also being put into consideration.

> In addition to being contributed by the relatively high economic growth, the reduced poverty rate was also attributed to various intervention programs, which form part of the efforts to meet the basic rights of the people. These efforts are continually being implemented for providing wider access to low income communities so that they can benefit from the acceleration of economic growth (Presidential Regulation no.5 of 2010, annex I-10)

The discussion regarding the pro job strategy mentions that the more productive and formal type of employment as the main objectives of the other strategies:

> The migration of 'surplus labor' from informal employment to more productive and higher wages formal employment is the main aim of development, economic growth, and of efforts to reduce poverty (Presidential Regulation no.5 of 2010, annex I-12)

Here, the position of pro growth among the other strategies become entangled, as previously it gives an impression as the impetus for the improvement for the other aspects,

but here, it is also positioned as the main aim of other strategies, which previously mentioned as being stimulated by the GDP growth.

Furthermore, GDP growth is also present when discussing the reputation and the recognition of the nation in the global world.

> Indonesia's development success has already yielded various achievements and appreciation at the global level. Progress in economic development in the last five years have made Indonesia to be able to further narrow down the gap with the progress of developed nations. The developed nations that are part of the OECD (Organization of Economic and Cooperation Development) have recognized and appreciated the progress of development of Indonesia. Therefore, Indonesia, . . . have been invited to join the group of 'enhanced engagement countries', namely nations that are increasingly involved with developed nations. Indonesia has also become part of the G-20 nations, namely the twenty nations that form 85 percent of the world GDP, that have a very important role in the determination of global economic policies. (Presidential Regulation no.5 of 2010, annex I-5)

This expresses the desire to achieve the level of economic development on par with the developed country (note how this is framed around the GDP notion). It also shows indirect influence of GDP in terms of the global economic policies.

Apart from that, in other part of the discussion, GDP is also mentioned not only in reference to its growth but also as the tax to GDP ratio and the ratio of government debt to GDP as to show the achievement of the fiscal consolidation which leads to the improvement of the macroeconomic risk of Indonesia (Presidential Regulation no.5 of 2010).

GDP in the discussion regarding the national development challenges

As mentioned in the previous section, the policy structure and its indicators within RPJMN section, issues and challenges for the five years period of RPJM needs to be identified and will be used as an input for determining the aims of national development in the five years period. The challenges to the national development for 2010-2014 periods are listed as follow (Presidential Regulation no.5 of 2010):

1. To achieve the prosperous Indonesia goal, the economic growth that was around six percent in 2004-2009 periods is regarded as inadequate. If the growth rate is only able to reach six percent per annum, many people were and will still unable to receive the benefit of this growth as the progress in technology had reduced the employment need for the production process. Hence, in the next five years, the economic growth rate around 6.5 percent and more is deemed necessary to create inclusive development.
2. The desired economic growth rate acceleration is the inclusive growth which include as large as possible the people of Indonesia to reduce the poverty rate and to strengthen their resilient. To reduce the poverty rate, appropriate intervention from

government is needed as it cannot solely depend on the acceleration of economic growth.

3. The economic growth needs to be dispersed to all regions in order to minimize the inter-regional gaps, with more focus on the regions with high poverty rate. Moreover, it is also necessary to ensure that this growth is enjoyed by as many people as possible
4. To decrease the gaps among business actors, the economic growth needs to be able to provide more employment opportunities as wide as possible, and it should evenly spread among the development sectors. Economic growth from investment spending is expected to be able to provide high quantity of job opportunities. Laborers that are equipped with skills and competence are needed to meet the desired target of increasing the economic growth.
5. Economic growth should not cause environmental degradation
6. From various angles and aspects, the development of infrastructures is becoming more and more important. The economic growth acceleration, the agricultural revitalization, as well as several environmental problems such as pollution or flooding is closely linked and need proper infrastructure. Furthermore, the lack of infrastructures is also becoming a hindrance factor for the impoverished households to take part in the economic process
7. The increased in productivity should become the source for the sustainable and fine quality of economic growth. The improvement in productivity is closely related with the quality of the human resources, as in the economic production process, they are considered as the factor of production as well as the coordinator for other resources. Hence, the improvement of human resources quality is imperative in realizing the inclusive and sustainable development.
8. The bureaucracy's quality determines the success or failure of the economic development process. The high-cost economy has been related with the low performance quality of bureaucracy. Hence the bureaucracy reform is needed.
9. Democracy is the basis of the national way of life, however, even though the implementation of democracy has been greatly improved; some aspects of democracy still need to be improved. Decentralization is closely related with the democracy process and even though it has been implemented since several years ago, some improvement are still needed. Strengthening the synergy between the central and regional government is deemed necessary in order to optimize the integration of the global economy.
10. Supremacy of law. The improvement in the consistent law enforcement, eradication of corruption is needed as it can provide sense of security in people as well as the conducive and certainty environment for business. Hence, the improvement and reformation of legal system is needed.

In the list of the challenges to the national development above, GDP, which is mainly narrated as the economic growth, becomes the centre of discussion in most of the challenges. These challenges discuss the economic growth as the means or medium to meet the objectives of the prosperous country by providing the employment opportunities and reducing the poverty rate, as a way to tackle the inter-regional gaps (especially the poverty gaps) and to reduce the gaps among the business participant, or is seen as the driver for the infrastructure development.

On the other hand, it also mentions that the economic growth should include wider society in Indonesia (promoting inclusive growth). It should well spread trough out the region and well distributed throughout the development sector. It also should not degrade the environment.

It is interesting to note that the challenges are mostly formulated around the economic aspects (some even with direct references to GDP growth). Even the challenges that are not directly related to the economic aspects such as the government bureaucracy, democracy and law still make a reference to the economic aspects

GDP within the national development strategy and policy

Development Vision

The vision of Indonesia in 2014 is "the realization of prosperous, democratic and just Indonesia" (Presidential Regulation no.5 of 2010, annex I-30) which is then elaborated as follows (ibid):

> Prosperous People. The realized increase in the welfare of the people through economic development that is based on competitive advantage, assets of natural resources, human resources, and national culture.
> Democracy. The realized society, nation and state that is democratic, cultured, that has self-respect and upholds responsible freedom and basic human rights.
> Justice. The realized development that is just and equitable, that is actively carried out by all of the people, the fruits of which can benefit the entire people of Indonesia. (Presidential Regulation no.5 of 2010, annex I-30)

In formulating this vision, apart from the consideration regarding the future challenges, a discussion regarding the current condition in Indonesia and the global circumstances as well as the lesson learnt from the previous development period are also taken into account (Presidential Regulation no.5 of 2010). It covers the economic, social democracy and political aspects.

Following the previous pattern on how GDP is being referred and being positioned within the context, in this discussion, GDP growth is also being positioned under the economic and welfare context, while also linking it with the poverty and employment rate.

> . . . then such average economic growth rate can be even further increased to 7 percent or higher by the end of the next five years periods. With such economic growth rate, the poverty rate will decline to 8-10 percent and open unemployment will fall to 5-6 percent (Presidential Regulation no.5 of 2010, annex I-28)

And still following the same pattern the growth with equity and sustainable economic development also entered the discussion.

> The experience from the last five years has shown that a high economic growth rate can be enjoyed by all the people, only if it is accompanied by equitable prosperity that is endeavored by economic policies that explicitly favor the weakest community segments (Presidential Regulation no.5 of 2010, annex I-28)

Likewise;

> Sustainable economic development that ensure equity (growth with equity) requires stability and a solid governance of the nation. A process of economic growth that involves all layers of society can be realized only if the government budget allocation is truly designed for assisting people to escape from the poverty trap. (Presidential Regulation no.5 of 2010, annex I-29)

Development Mission

The development mission is the elaboration of the Indonesian vision. It formulates the endeavor needed to achieve this vision. There are three development missions for 2010-2014 period; continuing development towards a prosperous Indonesia, strengthening the pillars of democracy and strengthening the dimension of justice in all fields (Presidential Regulation no.5 of 2010).

The first development mission (continuing development towards a prosperous Indonesia) states that the prosperity of people is not only measured in materials term but also considering the non material aspect.

> Prosperity of the people is measured not only in materials terms but also in spiritual terms, which will make it possible for the Indonesian people to become an integral person in his pursuit of the ideal aim, and for participating in the development process in a creative, innovative, and constructive manner (Presidential Regulation no.5 of 2010, annex I-33)

Furthermore, the discussion about non material aspects in welfare is also found in the next page of this document. Here the discussion tries to illustrate the growing concern on non material aspect of welfare which is here linked with the employment opportunities; that It should not only be able to provide high economic return, but also employment opportunities that will contribute to the other aspects of human life which is termed here as decent jobs.

> With regard to domestic issues, demands for having an improved welfare had entered a new phase. The created employment opportunities must also be able to generate high value

> added, in economic terms as well as in terms of human dignity (decent jobs). The people have the right to having proper jobs and to decent living. This can only be created if there is a relatively high, sound economic growth that is built on the basis of the principles of good governance, efficiency and fairness. (Presidential Regulation no.5 of 2010, annex I-34)

This decent employment opportunity is further linked with GDP growth as it argues that this condition can only be achieved with high and healthy economic growth. However, again the discussion does not further explain the terminology of decent employment or sound economic growth. Hence, it leaves an unclear definition on what jobs should be considered decent or what kind economic growth should considered healthy.

Furthermore, within the discussion on development mission on the welfare aspect, environmental aspect is also being mentioned in its relation to economic development. Here, it is mentioned that, environmental problem should be taken into account within the economic development aspect.

> In accordance with the ever more evident challenges of climate change, it is necessary that Indonesian economic development mainstreams environmental problems in its strategy through adaptation and mitigation policies (Presidential Regulation no.5 of 2010, annex I-33)

Development Agenda

In the development period 2010 -2014, five main development agendas have been set in order to realize the vision and mission of development.

> 1) Economic development and increase of welfare of the people; 2) Enhancement of good governance; 3) Strengthening of the pillars of democracy; 4) Enforcement of the law and eradication of corruption; 5) Development that is inclusive and just (Presidential Regulation no.5 of 2010, annex I-37,38).

Within these five agendas, the only agenda that explicitly mentions GDP growth in its further narration is only the first agenda. This agenda also underlines the criteria for improving welfare which mentioned here as:

> The final form of the enhanced welfare will be reflected in the increase of income level, decrease of unemployment, and in the enhancement of the quality of life of the people. (Presidential Regulation no.5 of 2010, annex I-38)

A reference towards GDP growth is mentioned here with more nuances than before. It makes a linkage with another notion of economic aspects, namely the creative economy, which take into account not only the natural resources but also the cultural and knowledge based resources

> The efforts to increase mastery of science and technology are directed at attaining the increased capacity and capability of the nation in combining natural resources (resource based development), knowledge (knowledge based development) and the legacy

> of culture of the nation (culture based development). This will result in a wider domain of productive economic development, among others the creative economy, that can yield a constructive role in supporting the efforts to increase economic growth (Presidential Regulation no.5 of 2010, annex I-39)

Development targets

The development targets of RPJMN 2010-2014 are divided into three aspects; the economic and welfare, the strengthening the democracy development, and the law enforcement (Presidential Regulation no.5 of 2010).

The first target, economic and welfare, is further divided into six categories: economy, education, health, food, energy and infrastructure (Presidential Regulation No.5 of 2010). As straight forward as its title, the first target describes the development targets from economic and welfare aspects. The joint categorization between economy and welfare aspects shows the close relation between these two aspects within RPJMN. However, the discussion under this sub-heading do not clearly show the linkage between these six elements. Each sub category is describes briefly without explicit explanation or any reference to the linkage among the sub categories.

Meanwhile, within the economic category, GDP growth is mentioned as one of its targets with a clear expectation for its impact towards employment rate and poverty rate.

> This acceleration of economic growth is expected to be able to reduce the open unemployment rate to around 5-6 percent by the end of 2014, and the created employment opportunities range around 9.6 million to 10.7 million units in the 2010-2014 period. The combination of accelerated economic growth and various government intervention policies is expected to be able to accelerate the reduction of the poverty rate to around 8-10 percent by the end of 2014 (Presidential Regulation no.5 of 2010, annex I-43)

Below are the development targets for economic aspects in RPJMN 2010-2014:

NO.	DEVELOPMENT		TARGETS
TARGETS ON DEVELOPMENT OF WELFARE OF THE PEOPLE			
1.	Economic		
	a)	Economic growth rate	Average of 6.3 – 6.8 percent per year
			Growth of 7 percent before 2014
	b)	Inflation rate	Average of 4 - 6 percent per year
	c)	Open unemployment rate	5 - 6 percent at end of 2014
	d)	Poverty rate	8 - 10 percent at end of 2014

Table 1. Development targets on economics (cited from Presidential Regulation no.5 of 2010, annex I-46)

Apart from the discussion in economic and welfare targets, the notion of GDP does not appear in the other aspects of development targets. In addition to that, it can be note that different from the previous discussion on the vision mission, the direction and development agenda stay at the abstract level in narrating their core values, with no or vague description in how to objectively measure its accomplishments. On the other hand, the development target put a concrete level of their objectives, and starts to use the quantitative (also qualitative) indicators as a way to measure their achievement to meet the targets.

In addition to that, it is interesting to note that the economic and welfare targets also mention the targets for environmental aspect within its discussion. It is mentioned that:

> On environment [field], the target to be attained is improvement in the environmental quality and in the management of natural resources in urban and rural areas, confinement of environmental degradation rate through the improvement in carrying capacity and accommodation capability of the environment by increasing the adaptation and mitigation capacity towards the effects of climate change. In addition to that, reforestation and carbon emission programs will also be continued (Presidential Regulation no.5 of 2010, annex I-44).

However, despite the mentioning of these targets within the discussion section, these targets are not listed within the summary table of national development main targets (see appendix III)

GDP within the general policy direction of national development

General policy direction

There are three general policy direction of the 2010-2014 national development plan. This general policy direction consists of the general policy direction to continue the development in order to achieve the prosperous Indonesia, to strengthen the pillars of democracy, and to strengthen all dimension of justice (Presidential Regulation no.5 of 2010, annex)

GDP is only brought into its narration under the first general policy direction where it lists GDP growth as one of the characteristics that reflected the improvement in welfare;

> The prosperous Indonesia is reflected in the increase of the welfare of the Indonesian people as a whole in the form of the accelerated economic growth that is supported by the mastery of science and technology, reduction of poverty, reduction of unemployment rate which based on the program for enhancing the quality of human resources, improvement of the basic infrastructure, and in the maintained and preserved natural environment in a sustainable manner (Presidential Regulation no.5 of 2010, annex I-49)

Here, prosperity is being described as the improvement in welfare, which again put economic growth as its measurement. Here, it is also observed that economic growth is positioned as the targets that should be achieved. However, it also listed the need to take into account other aspects such as poverty, unemployment and the quality of human resources as well as environmental aspect.

National priorities

National priorities were formulated to encounter the coming challenges for Indonesia's development process. By achieving these national priorities, it is expected that the vision and mission of national development can be realized (Presidential Regulation no.5 of 2010, annex). The 11 priorities are listed as follows;

> (1) Reform of the bureaucracy and administration; (2) Education; (3) Health; (4) Reducing poverty; (5) Food security; (6) Infrastructure; (7) Investment and business climate; (8) Energy; (9) Environment and natural disasters; (10) underdeveloped [regions], frontline, most outer, and post-conflict regions; and (11) Culture, creativity, and technological innovation (Presidential Regulation no.5 of 2010, annex I-50).

Furthermore, the priority theme is then being formulated for each national priority. This theme will be translated into core substance of the action program which will then be elaborated into priority activities along with the target and indicators for each activity which listed in the matrix of national priorities (ibid).

Among these priorities, the second priority (education) explicitly mentions in its priority theme that the economic growth should become the orientation of the development in education areas, supported by the availability of the skilled and educated human resources, in relation with the job and employment opportunities (Presidential Regulation no.5 of 2010);

> Development of education is directed at attaining economic growth that is supported by harmony between the availability of skilled manpower and competence to; (1) create employment opportunities or entrepreneurship, and (2) respond to challenges of the need for manpower (Presidential Regulation no.5 of 2010, annex I-52).

However, despite being mentioned in its priority theme, the subsequent discussion that discusses the core substance of the action program in this education area does not make any reference towards GDP or its growth. Looking closely, in the elaboration matrix of national priorities for education area, the elaboration of this theme does not mention or use GDP or its growth in the list of its priority activities or in its targets and indicators.

Apart from that, the fifth national priority (food) mentions GDP in its priority theme. Here, it does not refer to the total growth of GDP, rather it is mentioned as a specific breakdown of GDP for the agricultural sector. Below is the priority theme for the fifth national priority which explicitly highlights the GDP growth from agricultural sector by pointing out the need to increase the GDP growth from agricultural sector as one of its concern;

> To increase food security and continuation of the revitalization of agriculture for realizing self-reliance in food, increasing the competitiveness of agricultural products, increasing the income level of farmers, and conserving the environment and natural resources. Increasing the growth rate of the agricultural sector in the GDP to 3.7 percent and increasing the

> Farmers Terms of Trade to 115-120 in 2014 (Presidential Regulation no.5 of 2010, annex I-54).

Likewise the previous explanation of the second national priority, the discussion regarding GDP in the fifth national priority also only being mentioned in the theme level; it is not mentioned further in its core substantial action program, or in its list of priority activities targets and indicators; it is not being opeartionalized further.

Other national priority that explicitly mentioned GDP growth in its discussion is the sixth national priority; infrastructure priority. Here, GDP is mentioned in reference to its growth and is only being discusses in its priority theme.

> Development of national infrastructure that has a facilitating capacity and can greater induce economic growth and a just social development which emphasizing the general public interest throughout the whole territory of Indonesia, by encouraging the participation of people (Presidential Regulation no.5 of 2010, annex I-55)

The ninth national priority theme also highlights the placement of GDP among the conservation and environment and links it up with the sustainability notion;

> The conservation and utilization of the natural environment that supports sustainable economic growth and [increased] welfare of the people, accompanied by control and management of disaster risks in order to anticipate the impacts of climate change (Presidential Regulation no.5 of 2010, annex I-58)

Interesting to note that in one of its priority activities, "the improvement of economic instrument within the management of natural environment" (Presidential Regulation no.5 of 2010, annex IM-121) under the targets of "improving the quality of the environmental incentive and funding policy in environmental management" (ibid), an indicator that refer to development of green GDP is being listed. It is narrated as follows; "% [percentage of] technical guidance for the development of economic instrument and green regional GDP . . . '' (Presidential Regulation no.5 of 2010, annex IM-122). It describes that each year from 2010-2014, the technical guidance to develop green regional GDP should be done annualy in several areas (which unfortunately was not specified further). This might be seen as an effort to incorporate the mandate of environmental Law No.32 of 2009 that instructing the development of environmental account and the calculation of GDP and regional GDP that cover environmental depletion and degradation.

On the other hand, under the investment and business climate national priority, GDP was not being mentioned in its priority theme. However, the economic growth notion is found in one of its priority activities, which is listed under the core substance of simplification procedure. However, the targets and indicators for this priority activities do not related to GDP as an indicator (see table 2).

Priority activities	Targets	Indicators
Improvement of regional economic growth	**acceleration of the licensing [business/investment permits] process in regional level**	**[percentage of] amount of regions that has established the one roof integrated service centre (PTSP)**
		[percentage of] PTSP that ready to apply the electronic information and licensing investment services
		[percentage of] cancelation of the problematic regional government regulation
		[percentage of] region that applying the reduction of costs for starting a business

Table 2. Priority activities, targets and indicators under the simplification procedure substance (cited from Presidential Regulation no.5 of 2010, annex I.M-88)

The priority theme for the tenth national priority mentions that the program action for this priority is directed to ensure growth for these related areas. However, it does not explain whether it is meant as the economic growth or other type of growth. However, under one of its priorities activities, "the development of policy, coordination, and the facilitation for capacity building of underdeveloped, frontier, outermost and post conflict regions" (Presidential Regulation No.5 of 2010, annex I.M-138), economic growth is briefly mentioned as a reference in one of its targets (along with its related indicators): "increasing the mobility of goods and people between underdeveloped areas to the centre of economic growth and public services areas, through PNPM Mandiri [National Program for Self-Reliant Community Empowerment] programs" (Presidential Regulation No.5 of 2010, annex I.M-138)

Apart from the eleven national priorities focused on program mentioned above, there are also priorities that focus on the development field: political, law and security field; economy field; and welfare field (Presidential Regulation no.5 of 2010, annex). Interesting to note that, despite GDP is theoretically supposed to closely related to the economic field, GDP notion is not mentioned in the priority activities or within the targets and indicators of the economic field. GDP is also not being mentioned in its core substance for this field.

Policy direction in development fields

Within RPJMN, the development fields is divided into nine development fields namely: "Social-culture and religion, Economic, Science and technology, Infrastructure, Political field, Defense and security, Law and state apparatus, Regional and Spatial Planning Field and Natural resources and the Environment field" (Presidential Regulation no.5 of 2010, annex I-61). The elaboration of polices and directions of these development fields is being described in the second book of RPJMN.

Interesting to note that within the second development field (economic) GDP is mentioned as one of the basic requirement in achieving the improvement of welfare:

> The achievement of people's welfare improvement requires the creation of these basic conditions, namely: (1) sustainable economic growth; (2) the creation of Steady economic

> sector and; (3) economic development that is inclusive and justice (Presidential Regulation no.5 of 2010, annex II.3-1)

Apart from that in the discussion about the national development management system, GDP growth is also listed as one of the key indicators in measuring the development performance:

> At the macro level, the performance of national development can be seen from several indicators, (i) the achievement of economic growth, (ii) improvement of people's welfare, (iii) poverty reduction, (iv) a reduction in the level of inequality between regions, (v) improving the quality of life of the people, especially education and health, (vi) expansion of employment opportunities and reduction of unemployment. In the development plan documents, various performance indicators are outlined and explicitly mentioned, both in the medium-term development plan documents or RPJMN and the annual development plan documents or RKP. This Performance development indicators become a commitment of all parties, especially government agencies, to be able to realize it (Presidential Regulation no.5 of 2010, annex II.11-2,3)

However, interesting to note that, within this list of indicators, the indicator that is narrated as the improvement of people's welfare is also being mentioned. Take a note earlier that the GDP growth is also being mentioned as the indication that reflected the improvement of welfare. However, unfortunately this indicator is not elaborated further within this context, hence an explanation about this cannot be found.

In addition to that it is also observed that quality of life is also being mentioned as one of indicators to measure the national development performance. However, there is also no explanation of this measurement, except for its emphasis on education and health. Furthermore, environmental aspect also was not explicitly mentioned here, despite the attention and importance that it receives elsewhere in this development planning document.

Regional development directions and policies

Regional development directions in RPJMN 2010-2014 attempt to address inequality between regions as well as improve the linkages between regions in Indonesia. Within the introduction discussion regarding inequality and linkages it is observed that the discussion regarding inequality is not only viewed from economic aspects but also from social aspects. While the discussion regarding the linkages between regions, despite its early statement that acknowledge the role of linkages between regions will not only facilitate the economic aspects but also other aspects, the further discussion about the inter-regional linkages is observed to put much focus only in economic aspects.

Furthermore, it is observed that the objectives of regional development directions cover wide range of development aspects, from welfare, social and cultural aspects,

environmental aspect, as well as harmony and unity among regions. Here, it is also observed that within these objectives, environmental aspects are given considerable attention.

> the direction of regional development aimed to (1) promote the realization of prosperity, well-being and fairness and equitable progress across the region; (2) encourage the development and equalization of regional development in an integrated manner as an integration of social, economic, and culture activities with regard to the potency, characteristics and carrying capacity of environment; (3) creating the balance of spatial utilization between the production and the protected environment areas in the ecosystem of the islands and its waters; (4) creates the balance of spatial use of land, marine, coastal and small islands within the archipelago unity; (5) improve the effectiveness and efficiency implementation of development across sectors and regions and its consistency with national policy; (6) recover the carrying capacity of environment to prevent the occurrence of a major disaster and ensure the sustainability of development; (7) create the unity and territorial integrity of the land, sea and air as part of the Republic of Indonesia; (8) reduces security threats; and (9) to eliminate the potency of social conflict in order to attain the developed, independent and equitable Indonesia (Presidential Regulation no.5 of 2010, annex III.1-22,23)

Moreover, it is also mentioned that with regard to the improvement of equity of development throughout Indonesia and improvement of quality of life and welfare (which includes the reduction of disparities among regions) five regional strategies and policy directions are formulated as follows:

> 1). Inducing the growth of the potential regions outside Java-Bali and Sumatra, while still maintaining the momentum of growth in Java-Bali and Sumatra regions. 2). Increasing the interregional linkages by increasing inter-island trade, in order to support domestic economy. 3). Increasing the competitiveness of regions, through the development of selected sectors in each region. 4). Encouraging the acceleration of development for underdeveloped regions, strategic and fast-growing areas, border areas, frontier areas, outermost areas, and natural disaster prone areas. 5). Inducing the development of marine regions and marine sectors (Presidential Regulation no.5 of 2010, annex III.1-23)

Here, it is observed that the above strategies and policy are being formulated around the development as well as the economic aspect. It is also observed that differ from the above regional directions, here, others aspects such as social or environmental aspect are not explicitly mentioned.

Macroeconomic framework

Macroeconomic framework provides a description about the expected economic progress to be achieved in the next five-year period (Presidential Regulation no.5 of 2010, annex). It discusses the current economic condition as well as the economic outlook for the next five years. Macroeconomic framework covers “the overall economic situation, including the direction of fiscal policy in the form of a work plan and a regulatory framework and

indicative funding" (Presidential Regulation No.5 of 2010, annex). Within RPJMN 2010-2014 document, macroeconomic framework is being presented in the form of list of indicators and its targets for the five years period (see table 3).

Within its discussion regarding the current condition of economy, GDP growth is mainly used in describing the economic performance along with other indicators such as inflation, balance of payment etc. Furthermore, GDP growth is also listed as one of the aims of fiscal stimulus policy;

> (i) Maintaining as well as increasing the purchasing power of people . . . . ; (ii) preventing widespread dismissal of worker and increasing the resiliency of the business community in facing the crisis . . . . ; (iii) handling the impact of workers dischargers and reducing the unemployment rate by increasing budget spending on labor intensive infrastructure projects; (iv) accelerating sustainable economic growth by continued reform measures at all ministries/government agencies (Presidential Regulation no.5 of 2010, annex I-78,79)

Apart from the reference to its growth, GDP is also mentioned in the discussion regarding the government budgeting condition as the description about the government revenues and spending are also being described as a ratio towards GDP;

> With the above measures, government revenues and grants had reached around Rp 866.8 trillion, namely 16.3 percent of GDP . . . . (Presidential Regulation no.5 of 2010, annex I-79)

Or;

> Government spending had meanwhile reached around Rp.954.0 trillion, namely 17.9 percent of GDP . . . . (Presidential Regulation no.5 of 2010, annex I-79).

And;

> The above revenue and spending developments had increased the budget deficit in 2009 to 1.6 percent of GDP, an increase of 0.6 percent of GDP if compared to the deficit stated in APBN 2009 of 1.0 percent of GDP. Meanwhile, the government debt stock could be lowered to 30.0 percent of GDP (Presidential Regulation no.5 of 2010, annex I-79).

Apart from that, the discussion about the economic outlook for the next five-year period highlights several topics. The first topic discuss about the "improvement of welfare through sustainable economic growth" (Presidential Regulation no.5 of 2010, annex I-80) which describes the estimation of the economic growth in the next five years, taking into consideration the global and domestic economic condition while also identifies the source for the growth. The discussion concludes that Indonesian economy can continue to grow for the next five years, and it is also said that: "with such sustainable economic growth path, it is expected that the welfare of the people can continually be enhanced" (Presidential Regulation no.5 of 2010, annex I-82). Interesting to note that sustainability notion is being used here within the economic point of view. Thus, it being describes as the continuation of economic growth.

Aside from that, the economic outlook also discusses about the importance of inclusive and just economic development, in which the economic growth targets should also be followed by other policies that will ensure the inclusive and just development in order to cope with problems such as social inequality and poverty (Presidential Regulation no.5 of 2010, annex).

Furthermore it also discusses the stability of economy which highlightes the inflation control policy, fiscal sustainability and balance of payment (Presidential Regulation no.5 of 2010, annex). Apart from that, it also discusses the investment requirement and the national development funding as well as the mechanism of regions funding (ibid).

	Medium-Term Projection				
	2010	2011	2012	2013	2014
Economic Growth	5,5 - 5,6	6,0 - 6,3	6,4 - 6,9	6,7 - 7,4	7,0 - 7,7
Expenditure side (%)					
Consumption					
Private	5,2 - 5,3	5,2 - 5,3	5,3 - 5,4	5,3-5,4	5,3 - 5,4
Government	10,8 - 10,9	10,9 - 11,2	12,9 - 13,2	10,2 - 13,5	8,1 - 9,8
Investment	7,2 - 7,3	7,9 - 10,9	8,4 - 11,5	10,2 - 12,0	11,7 - 12,1
Exports	6,4 - 6,5	9,7 - 10,9	11,4 - 12,0	12,3 - 13,4	13,5 - 15,6
Imports	9,2 - 9,3	12,7 - 15,2	14,3 - 15,9	15,0 - 16,5	16,0 - 17,4
Production side (%)					
Agriculture	3,3 - 3,4	3,4 - 3,5	3,5 - 3,7	3,6 - 3,8	3,7 - 3,9
Manufacturing Industry	4,2 - 4,3	5,0 - 5,4	5,7 - 6,5	6,2 - 6,8	6,5 - 7,3
Non-oil/gas	4,8 - 4,9	5,6 - 6,1	6,3 - 7,0	6,8 - 7,5	7,1 - 7,8
Others	6,5 - 6,7	7,0 - 7,3	7,3 - 7,7	7,5 - 8,4	7,8 - 8,6
GDP per Capita					
(US$)	2.555	2.883	3.170	3.445	3.811
At 2000 Constant Prices (Thousand Rp)	9.785	10.255	10.790	11.389	12.058
Economic Stability					
Inflation Rate , Consumer Price Index (%)	4,0 - 6,0	4,0 - 6,0	4,0 - 6,0	3,5 - 5,5	3,5 - 5,5
Nominal Exchange Rate (Rp / US $)	9.750 - 10.250	9.250 - 9.750	9.250 - 9.750	9.250 - 9.850	9.250 - 9.850
Interest Rate, 3 months (%)	6,0 - 7,5	6,0 - 7,5	6,0 - 7,5	5,5 - 6,5	5,5 - 6,5
Balance of Payments					
Non-oil Export growth (%) billion)	7,0 - 8,0	11,0 - 12,0	12,5 - 13,5	13,5 - 14,5	14,5 - 16,5
State Finance *)					
Budget Surplus / Deficit to GDP (%)	-1,6	-1,9	-1,6	-1,4	-1,2
Tax Revenue / GDP (%)	12,4	12,6	13,0	13,6	14,2
Government Debt Stock / GDP (%)	29	28	27	25	24
Unemployment and Poverty					
Unemployment Rate (%)	7,6	7,3 - 7,4	6,7 - 7,0	6,0 - 6,6	5,0 - 6,0
Poverty Rate (%)	12,0 - 13,5	11,5 - 12,5	10,5 - 11,5	9,5 - 10,5	8,0 - 10,0

Table 3. Macroeconomic framework 2010-2014 (cited from Presidential Regulation no.5 of 2010, annex I-92)

Looking at the list of indicators within the macroeconomic framework (table 3), it is seen that GDP plays an important role within this framework. Take a note that within this framework, GDP not only used in the form of GDP growth but also as the per-head GDP or

GDP per capita. In addition to that, the state finance indicators are all express in the form of its ratio to GDP

4.3. Analyzing the positioning of GDP within RPJMN

Within RPJMN, GDP is being referred in several forms, ranging from the reference to its absolute value, the ratio towards its absolute value and its growth over the periods of time. However, GDP is mainly brought into discussion in the reference to its growth, which here is usually termed as the economic growth.

From the discussion about the contextual placement of GDP above, it is observed that economic growth is being mentioned in many levels of development policy and being considered as an important aspect in determining the development policy targets and directions. For an example, the importance of GDP can be seen in how GDP growth is being placed in the national development challenges. Here, GDP becomes the centre of discussion in most of these challenges as most of the challenges were framed around the GDP growth notion. Furthermore, by examining the problem formulation and policy direction of national development flowchart (figure 3), it can be seen that these challenges play an important role in shaping the formulation of the main targets and objectives of national development.

Aside from that, it is also observed that GDP growth is also mentioned in the discussion of the current condition and the future challenges or the desired condition which is used as the consideration aspects in formulating the vision, mission and the development agendas. However, different from how GDP growth is being positioned in the identified challenges of national development, here the GDP terminology itself does not explicitly mention in the main title of the vision , mission or development agendas, rather it usually only appear in the background discussion or only briefly appear in its explanation.

On the other hand, GDP growth also is being explicitly mentioned in one of the development target; the economic and welfare development target. However, here the GDP growth is only mentioned under the targets for economic aspect and only become one part of target among other 31 targets for all the three aspects of development targets. Moreover, there is no hint of explanation regarding how GDP growth as a target is being positioned among the other targets.

The interesting placement of GDP growth is observed in the national priorities. Here GDP growth entered the discussion of the national priorities as the theme for the several national priorities namely the education, food, infrastructure and environment and natural disasters. Within these national priorities theme, GDP growth is positioned as one of their aims.

In analyzing the contextual placement of GDP (along with its derivatives) within RPJMN, there are several points that worth to note in order to help us understand the positioning of GDP within this document planning.

GDP and welfare

The first point is the relationship between GDP (and its growth) and welfare. The GDP growth notion is closely associated with the prosperity agenda. It is discussed excessively under the welfare aspect. Here, GDP growth is being described as one of the indication that characterizes the increase in welfare or as one of the basic requirements of welfare as well as serves as one of the reflections of the final form of welfare improvement.

This characterization of welfare, which generally describes the improvement of welfare as being reflected in the improvement of GDP growth, employment rate and poverty rate, indicates how improvement in welfare is framed around the "material" aspects, or in this case the economic aspects, as it uses these material indicators to detect its improvement.

However, it does not mean that the RPJMN document itself leaves the "non material" aspects from its discussion. Take a note on the development targets listed under economic and welfare target which lists not only economic aspects but also other aspects such as education and health. Furthermore, the discussion in the first development agenda also attempts to introduce the non material aspects in measuring welfare. Apart from that, a reference towards the enhancement of quality of life within the criteria of final form of welfare is also being mentioned in the first development agenda discussion. However, the criteria of non material aspects in welfare unfortunately are not fully elaborated; there is no exact explanation on how to measure the quality of life for example.

In addition to that, if we examine closely, the notion of welfare itself is not clearly defined within RPJMN. Remarks about the characteristics or indicators that should reflect the improvement in welfare are mentioned in several locations within the document. In most of the parts, it lists economic growth, employment and poverty rate. Meanwhile, in other places, characteristics such as the quality of life, income per capita, education level, gender equality, etc. are also being mentioned as part of the indication in the improvement of welfare.

Despite the lack of definition and unclear characteristic in determining the improvement of welfare, a close relationship between welfare and GDP (or its growth) is clearly evident. In fact, it can be said that within RPJMN, economic aspects especially GDP growth is being put in the core of welfare notion as a baseline or as the prerequisite to achieve other dimensions of welfare.

GDP growth and other development notions

As has been briefly mentioned in the above discussion, GDP growth is also associated with employment and poverty rate. The discussion regarding GDP growth is usually followed by the mentioning of employment and poverty rate. The close relation or the linkages between these aspects are strongly depicted within this document. GDP growth, employment and poverty rate are three aspect of economic that are used as the basis in the development

strategy, known for the pro growth, pro poor and pro job strategy (which later also added with pro environment) or also known as the triple track strategy. This strategy is intended to accelerate the economic growth that reduces the unemployment rate and poverty rate (Yudhoyono, 2009)

This strategy is derived from the assumption that the increase in GDP growth will be able to reduce unemployment rate by inducing the job opportunities which then leads to the reduction of poverty rate. Hence, apart from promoting economic growth in general, this strategy focus on promoting the economic growth in sector which able to absorb a lot of employment or creates a lot of job opportunities in sectors that have significant impact in the reduction of poverty rate.

Furthermore, this strategy also highlight the inclusive growth which tries to involve as many people as possible, so that the economic growth can be enjoyed by wider society.

It is said that this triple track strategy considered as an improvement in development strategy of Indonesia, that previously too oriented in attaining the GDP growth and put too much faith in its trickledown effect (R3, 2014). Regardless, it is still observable that the notion of GDP growth still dominates this strategy, as the GDP growth notion is always put in the center of discussion.

Apart from the usual reference towards its growth, GDP is also mentioned in several places in relation to its ratio such as the debt to GDP ratio which is usually used in the calculation of the fiscal sustainability indicator. This marks another way to use GDP within modern economic theory as pointed out by Schepelmann et al. (2010):

> GDP growth effectively determines levels of employment, tax revenues and subsidies paid even to the greenest of technologies. Modern economies and welfare systems are heavily dependent on GDP growth (Schepelmann et al., 2010, p.12)

With regards to the environmental aspect, the environmental aspect has been included as one of the missions in the RPJPN 2005-2025. In addition to that, in line with the global concern on environment, in 2007[5], the president of Indonesia has declared the explicit inclusion of environment in its development strategies, the pro-environment strategy, thus make the previous triple track strategy become four track strategy (Partai Demokrat, 2012). Apart from that, efforts to mainstream the sustainable development has been also observed through the formulation of National Sustainable Development Strategy (Agenda 21), in addition to that sustainable development has also been mainstreamed into the Annual Government Work plan of the RPJMN period 2010-2014 (Presidential Regulation No.5 of 2010, annex). However, it is also mentioned that reliable mechanism or system that can comprehensively integrates sustainable development within the development programs has yet to be developed (ibid).

[5] Coincides with this, in 2007 Indonesia also became the host for united nation climate change conference

In relation to GDP, it is observed that sustainable development and environment have been closely linked with GDP. The dominant narration portrays the need to harmonized three development aspects; social, economy and environment, to achieve sustainable development. It is also observed that in some part there is emphasized on the need to synchronized these three aspects, while in other part some emphasize is given to the economic aspect as it is mentioned that efforts to maintain social and environmental aspects should not sacrifice the need of economic development (Presidential Regulation no.5 of 2010, annex).

> To achieve comprehensive sustainability, the integration between three pillars of development, namely the sustainability of the social, economic, and environmental is needed. Those three main pillars . . . integrate and mutually reinforce one another. Hence, those three aspects should be integrated in the planning [process] and the implementation of development to achieve sustainable development as well as to protect environment/ecology from destruction or reduction in quality, as well as maintaining social justice without sacrificing the needs of economic development (Presidential Regulation no.5 of 2010, annex II.1-2).

Moreover, the notion about sustainable (economic) growth is also being found to have interpreted differently throughout the RPJMN document. In one place this term is being interpreted as growth that should take into account other aspects such as the environment, while elsewhere in the document sustainable growth is also being described as the continuation of growth.

GDP as an indicator

As mentioned earlier, there are four types of indicators which is being used within RPJMN; impacts, outcome, output and input. Here, several points of view in classifying GDP can be identified.

First of all, if we examine the placement of GDP within RPJMN and use the criteria of indicators as provided in the manual handbook in formulating RPJMN, it is observed that GDP growth is being placed as an impact indicator within RPJMN. For an example we can take a note on how GDP growth is being positioned in some of the national priorities. For the education priority for example, GDP growth is positioned in its theme and narrated as the (final) aim of this priority, hence by linking it with the hierarchy of indicators (figure 4) it is quite evident that GDP growth is being positioned as the impact indicator. Apart from that, the placement of GDP growth as an indication of the welfare improvement also indicate that GDP growth is positioned as an indicator that measure the change in society (here is measuring the welfare improvement) in which the efforts to achieve it involves a cooperation between ministries/agencies (see the practical definition discussion about indicators hierarchy). In addition to that, it is also explicitly mentioned that GDP growth which measure the national development performance (Presidential Regulation no.5 of

2010). BAPPENAS officials that were interviewed usually use this classification in positioning GDP as an indicator, such as:

> GDP is one of the impact [indicators] which considered as an indicator that quite represent the economic condition which also associated with welfare (R13, 2014)

Furthermore it is explained that:

> Because economic growth is an impact [indicator], so . . . a compilation or cooperation from various programs . . . is needed to attain the desired level of economic growth (R13, 2014)

The classification of GDP or GDP growth as an impact indicator can also help us to understand the logic of the placement of GDP or GDP growth within RPJMN. For example the placement of GDP in education national priority theme can be understood as part of the collaboration from various programs to achieve the GDP or GDP growth target.

Apart from this, there is another different view regarding the positioning of GDP as an indicator, such as (R4b, 2014; R10, 2014) who put GDP as an input indicator in the formulating process of RPJMN:

> I even view GDP more like an input, so when they want to plan something they will look at how much their GDP is, how much their income is [needed] (R4b, 2014)

Or;

> [In the planning process GDP is also positioned] as an input, but [not only that] it also uses as a description of the condition, but it is also used as a goal later on (R10, 2014)

Interesting to note that, there is even a view that positioned GDP in the level of output indicator:

> I think that, when we put GDP as the indicator output, then the outcome indicator that we should also put as a benchmark for it is supposed to be the quality of GDP. This quality is seen from the proportion of the sources of growth and the proportion of the growth component . . . this should also be the indicator of outcome (R12, 2014)

Here, it is observed that different interpretation of GDP in position as an indicator can be resulted from ones point of view towards the problem or the context or how they interpret GDP (apart from clearly different definition that they used). When someone put GDP as main targets which can represent their final goal, GDP can be classified as an impact indicator. Other, who view GDP growth not as their main concern (but put more emphasize on the quality of growth) and only saw it purely from literal definition of GDP saw it only as an output indicator and suggest other indicator that can better capture the effect on their final target (human well being).

4.4 Identifying factors that maintaining the prevalent use of GDP within RPJMN: the configuration that works

Within the transition process, Geels (2005b; 2002b) uses multi level perspective; regime, niches and landscape, in analyzing and explaining the process and dynamics that lead to transition process. In doing so, he also proposes the conceptualization of socio-technical configuration that largely based on the work on STS such as Hughes (1986) and Rip and Kemp (1998) which frame technology as seamless web and the configuration of elements that works (Geels, 2005b; Geels, 2002b). Geels (2002b) then proposes the concept of socio-technical configuration and identified seven elements of it (see discussion in chapter two). He then uses the multi perspective, regime, niche and landscape, to frame the transition process as the adjustment in multiple levels which result in the shift of one stable ST regime to another ST regime (ibid). As the regime depicts the set of rules that maintain the stable structure of configuration of elements, this concept will be use to identify the factors that maintaining the prevalent use of GDP within RPJMN or the reproduction process, while dynamics between niche, regime and landscape will be later used in chapter five to the explain the transition, or in this case the failed transition as such transition has not happened yet.

Build upon the ST configuration and dimensions of regime which proposes by Geels (2005b; 2002b), several aspects are identified as the factors that keep the prevalent use of GDP within RPJMN. The first aspect is the infrastructures and data production. This aspect is related to the infrastructures dimension within the ST regime or the elements of production aspects of artifacts within the ST configuration and could also be seen as part of technological regime. Closely related to the production aspect is the methodology aspect that depicts the science and knowledge in producing these indicators, which can be juxtapose with the science dimension within ST regime. The third aspect is related to the application domain within ST regime which here is being translated as the user preference aspect. The next aspect is policy which in comparison with policy dimension in ST regime. The next aspect is shared belief. Here, shared belief can be seen as part of regime rules that maintain the prevalent use of GDP within RPJMN, which can also be linked with socio-cultural dimension within ST regime. However, within the case of GDP, this shared belief is also closely related with science and knowledge aspects as it will be explained later in the discussion. The last aspect is the wider context that especially underlined the international influence (later aspects will also be described in chapter five when discussing the role of landscape in highlighting why the transition to alternatives have not yet happened). International influence is represent the landscape aspect of MLP within ST regime, however, as will describe in the next section, international influence can also be seen as part of the regime network as it play an important role especially in the initial introduction of GDP or alternative indicators.

The next section will describe these aspects in more detail. It is proposed that the alignment of these aspects contribute to the prevalent use of GDP as it facilitates, channels and reproduces this type of practice within RPJMN.

Infrastructure and data production

For an indicator to be used within RPJMN, it has to fulfill the SMART criteria, within this context it has to be easily accessible and can be produced within specific time frame regularly to enable the time series or comparability analysis among its period. Hence, the infrastructure that will able to produce this data is a basic pre requisite. For GDP, this infrastructure has been in place for quite a long time and well established. BPS- Statistic Indonesia is the government agency that is being tasked in calculating and publishing this data. BPS calculates and publishes this data annually and quarterly and the data can be breakdown into regency level. The calculation of GDP as well as the regional GDP is one of the main and routine tasks for BPS. In order to do this, BPS has the specialized work divisions that specialize in handling the calculation of GDP which integrated in every level of BPS office, from its head quarter to its regency level. Data for GDP calculation is compiled from several general surveys (which not only covers the data needed to calculate GDP) as well as from specific survey designed to acquire data for GDP calculation.

Methodology: the established method for calculation

GDP has been developed for nearly a century. Nowadays, GDP is derived from statistical framework called the System of National Account central framework which is highly standardized and recognized globally. Over time, revisions within this framework appear but did not change the fundamental principle of this method.

User preferences

Schepelmann et al. (2010) describe the simplicity, straight forwardness and the linearity of GDP as the redeeming features of GDP which attract the use of it. Furthermore, he also explains that it will also enable the estimation which will be an important feature in macroeconomic management, a notion which is shared by most of the parties involved in the formulation of RPJMN. For example,

> There are various measurements for a country or human attainment [prosperity]. Quantitatively we have GDP, other measurement such as happiness. That is welfare. But happiness is not easy to measure, welfare fall on the same criteria. The simplest one is GDP, as it can be easily measure (R14, 2014)

Furthermore he also emphasize the quantitative feature of GDP

> The only tool that can measure the wealth of a country quantitatively and representatively is only GDP (R14, 2014)

Likewise:

> . . . GDP captures the aggregate outcome . . . . So, it is the easiest way to captures productivity or the progress of a nation (R3, 2014)

He also adds that:

> It is the most eye catching [indicator], easily accepted and easily to compare among nations (R3, 2014)

Apart from these, others also listed that GDP is preferred because GDP is a concept that is familiar, standardized internationally, easy to be explained to others and easy to be understood and it has clear linkages with many sectors (R3, 2014; R13, 2014). Others also listed that the non subjectivity feature of an indicator is an important aspect in considering an indicator (R11, 2014)

Policy Framework

As mentioned earlier, within RPJMN, there is a framework called the macroeconomic framework. The macroeconomic framework oversees the development from the state finance aspects, monetary aspects, balance of payment and the economic growth (R14, 2014) which describes as the initial core of RPJMN (R13, 2014). This framework referred to as the umbrella framework that serves as the backbone in the formulation of RPJMN:

> Macro[economic framework] became the umbrella of all policies. So for example within the macro[economic framework], in the future how much the [GDP of] agricultural sector will grow? That should be translated further to the agricultural sector (R14, 2014)

Furthermore he adds that:

> That is true [RPJMN is not only about economic aspects] but, it [macroeconomic framework] became the main direction of it (R14, 2014)

Another description regarding this framework describes this framework as:

> It might be served as the large main framework covering all the [development] fields. So perhaps because the economic achievement is regarded as one of the main objectives of development. Because it is regarded that when economic condition is in good condition, then everything else is also in a good shape (R13, 2014)

> The complete list of macroeconomic frameworks can be found in RPJMN document, it consists of GDP growth, interest rate etc. GDP is also an umbrella, perhaps a small umbrella, as well as inflation and the other targets, so all the growth in economic [sectors] is directed from this macro framework (R11, 2014)

During the formulation process of RPJMN, before the RPJMN draft is written, a consultation process with the related stakeholder to determine the targets in the macro framework is being held (R11, 2014). The macroeconomic framework targets will then be used as the

reference in formulating the targets or policies in other sectors as well as being translated in the national priorities (ibid).

An illustration regarding how the macroeconomic framework being implemented can be seen in the following statement:

> Macroeconomic can be regarded as an umbrella, which will then breakdown to the lower level, which we called sectors. Let us take one example, GDP . . . . We then do the projection for GDP, perhaps it is generally referred to as the economic growth, which will then needs to be break down into the sectors level, we need to break it down from it demand and supply side. For example in the case of agricultural sector, then it is needed to calculate how much the agricultural growth is needed to attain a certain target of economic growth, how much growth from the mines sector, from the other nine sectors . . . . . growth cannot stand alone, we can achieve the target level with certain requirements, how much investment can be afforded, how much the agricultural sector can produce, forestry, fishery, transport, communication, electricity . . . . And the breakdown continues into the lower level . . . for example here, we cannot clearly see the clear linkages between GDP and the social sector, but this social sector can support the economic sector. For example if someone gets sick, ones cannot work, if he cannot work, his consumption will decrease, this will affect the GDP in the end (R11, 2014).

This also describes that macroeconomic frameworks depict a wide spread influence towards other development sector, and its fluctuation can cause a widespread impact (R11, 2014).

Furthermore, as mentioned earlier, macroeconomic framework also related to the direction of fiscal policy and indicative funding, in short it also links and plays a role in the budgeting formulation. The importance of macroeconomic framework can be perceived from the following statement:

> Implementation of RPJMN will require financing from the budgeting aspect. In the preparation of this financing, the Ministry of Finance considers the condition of economy in the medium term (Medium Term Expenditure Framework). Here, macro-economic framework plays its role in helping the Ministry of Finance formulates the budgeting plan to finance things [programs] that have been planned within RPJMN (R17, 2014)

Above descriptions depict how macroeconomic framework plays an important role the formulation process of RPJMN, furthermore with regards to the prevalent use of GDP within RPJMN, this framework can be regarded as a routine that channels the prevalent use of GDP and became the vessel for the reproduction of GDP within RPJMN.

Shared belief

Closely related with how macroeconomic framework being used in RPJMN, in this section we will discuss the shared belief that become another form of the regime rule in influencing the prevalent use of GDP. It is observed that the assumption or strong beliefs on the economic theory or the belief on the strong linkages among GDP and other sectors plays an

important role in inducing the prevalent use of GDP within RPJMN. Take a note on the statement regarding the explanation about the role of GDP towards other sectors:

> Production function is the economic growth 'Y' as a function of 'K' and 'L' there is productivity, capital and labor. Labor is related to human resources, education, and health. Capital is investment, while the productivity is vary, anything that supports productivity, democracy, good governance, technology. That is why 'Y' [GDP] becomes the whole measurement of it (R14, 2014)

Furthermore, he also adds the mismatch that happen between GDP growth and disparity or income gaps among the people do not mean that the theory is wrong, rather, there is a hole in the implementation of policy which creates different effect from what the theory predicted (R14, 2014).

Another example of statement which describes the linkages of GDP with education aspect also support this belief and can also explain the previous placement of economic growth within the national priority theme such as the education priority:

> Because if we have the education targets, how much [people] can be educated until higher education level . . . . it is like a circle, [the more educated people], the higher chance he get to get a job, hence he will be able to contribute to the country [in terms of] GDP, furthermore, if GDP increase the benefit will finally be enjoyed by the people, and it will circling like that (R11, 2014)

Wider context: International influence

Within this context, the role of international world can be identified as follows; first its direct influence within this scheme can be identified in the technology or the methodology aspect. As the methodology in calculating GDP is based on the central framework set in the international context. Furthermore, from the previous discussion about the widespread use of GDP, we can see that international world plays a role in introducing the use of GDP in Indonesia. In addition to that, the international world also plays a role in shaping the part of the shared belief regarding the economic policy school

> As the time went by, I see the problem is no longer whether the World Bank or ADB or other international institution still provide some sort of prerequisite to the debt, the problem now is between the Indonesian government and financial institutions already have the same . . . regarding this school of thought, I think there is no longer significant influence of the international financial institutions because it they already have the same ideas . . . Well if we look at the amount of debt, it also have decreased dramatically . . . it is no longer significant, compared it with the previous condition in the beginning of crisis in which we really need money from outside, so the loan from international financial institutions becomes very dominant , so that the whole development policy was very much dominated by international financial institutions. However, nowadays, our current development regime already has the same thought with the international financing institutions . . . (R16, 2014).

Chapter 5: Alternative Indicators

5.1. Niche Innovation: development of the current alternative indicators

Introduction

In the last few decades several alternatives have been developed and proposed to complement or replace the use of GDP as an indicator for development progress. Costanza et al. (2009) categorize the proposed alternatives of GDP into four categories as follows (Costanza et al., 2009):

1. Indexes that correct GDP, such as index of sustainable welfare (which later revised as the genuine progress indicator), gross saving and green GDP.
2. Indexes that directly measure aspects of well being such as subjective well being (happiness indexes, gross national happiness)
3. Composite indexes that integrate several indicators or measurements into a single number such as the human development indexes (HDI)
4. Indicator suite. This indicator suite refers to several indicators that are reported as a set of indicators rather than being reported as a single number. This indicator suite does not use the aggregation method in reporting these set of indicators and leaves the aggregation step or the final meaning interpretation to the user. An example of this indicator suite is the millennium development goals (MDGs)

In Indonesia, several alternative indicators have been calculated and developed, namely green GDP, HDI, happiness indexes, and also MDGs. Apart from that, other indicators such as social capital index, environmental quality index, democracy index, sustainable development index (IPB) and people welfare index (IKRAR) are also being mentioned as the (proposed) complement indicators for measuring the development progress alongside GDP.

Some of these indicators have been used in the decision making process while others are still under development. The following discussion will describe the development progress and current condition for some of these alternative indicators. The discussion will focus on green GDP, happiness index and HDI as it well represents different dimension of alternative indicator for correcting GDP, measuring the subjective well being and composite index.

Green GDP

Green GDP is an indicator that derived from GDP (sometimes this GDP terminology is also referred as conventional GDP or brown GDP in contrast to green GDP). Basically, (conventional or brown) GDP that takes into account the environmental depletion and degradation which is caused by economic activities is called environmentally adjusted domestic product or EDP, which also known as green GDP (BPS-Statistics Indonesia, 2012).

The calculation of this green GDP is derived from the environmental account that is served as the satellite account of system of national accounting (SNA). This environmental account is referred to as the (satellite) system of environmental-economic accounting (SEEA).

The development of this environmental account dates back to the early 1990s as an effort to include depreciation and degradation of environment into the calculation of GDP. In 1992, agenda 21 was adopted at the United Nations conference on environment and development which listed the need to form a program to develop national systems that integrate the accounting of environment and economic aspect in all countries (United Nations et al., 2014). In accordance to this, in 1993, the United Nations published an interim version of the first SEEA, named as the '1993 Handbook of national accounting: Integrated environmental and economic accounting' or SEEA 1993 (ibid).The latest central framework of SEEA is adopted as the international statistical standard by the UN Statistical Commission in 2012 (United Nations Statistics Division, 2014). It is mentioned that:

> The SEEA Central Framework provides the internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy (United Nations Statistics Division, 2014, p.13-14)

In Indonesia, effort to build the environmental account has been done since 1997 (R2b, 2014). Following the development of the satellite environmental account in the United Nations statistic division, BPS-Statistics Indonesia implemented some pilot project and study to build the environmental account as the basis for green GDP calculation. To date, BPS-Statics Indonesia has regularly published the environmental account in national level. However, the calculation has not yet covered all aspects of SEEA. The degradation aspect for example, only covers green house gases aspect but it has yet to be converted into monetary value (R2a, 2014). It is described that the development progress of green GDP calculation is not a smooth ride. Since its initial initiative in 1997 until recently, the development progress of green GDP calculation in BPS-Statistic Indonesia has experienced periods of stagnancy, despite the growing improvement of its calculation method in the global level (ibid). Over a decade since its initial study in 1997, the calculation still only covers the national level and still mainly covers the depletion aspect with only some improvements which appear only recently, such as the inclusion of CO_2 and CH_4 and the calculation of mineral stock in the environmental account (R2b, 2014).

No specific unit for handling the calculation of green GDP is mentioned as one of the main constraint in the development progress of this indicator (R2a, 2014);

> No specialize unit [for handling the calculation] makes it a really hard work. The burden has to be shared [to the staff who already has their own responsibility], thus their work become overload, so people just take turn in handling this work, as the consequences we can only maintain the routine calculation, no development. This caused stagnancy . . . No specific work unit also causing stagnancy in the development of human resource [to improve the

> calculation]. Who would want to do the work that is not became their [main] responsibility? . . . this work will not affect their work performance evaluation. Why would people expend for nothing? (R2a, 2014)

He also adds that:

> Building SEEA [for green GDP calculation] is much harder and bigger in scope than GDP, while the work unit specializes in handling that has not yet established (R2a, 2014)

Others also point out that lack of interest from the policy making institution or the data user also play a role in the slow development of green GDP:

> It is more like the priority that is chosen by BPS, and also the readiness [of data]. Also there are no pressures from users who have not yet see it as a thing that needs to be done by BPS . . . so it was like this, BPS has many things to do, so they have to choose their priority. Sometimes [an indicator is being] considered to be developed by BPS, it is considered as an important indicator, green GDP for example, but pressures from the outside [to replace GDP] is not so pronounced, they still focus on [conventional] GDP, perhaps they consider [conventional] GDP still as a sufficient [indicator], [hence causing this stagnancy] as for green GDP to be developed, substantial costs and other resources are needed, so the development [of new alternatives] seems like losing its momentum (R10, 2014)

It is also observed that this lack of interest also trickles within the institution of BPS. The environmental issue (which serves as the main issue in the development of green GDP) has not yet become popular issue within this agency. Environment statistics is considered as a new field compared to the economic or social and population data or statistics in BPS-Statistics Indonesia. In fact, it is regarded as the new field in most of official statistics in the world (United Nations Statistics Division, 2014). Hence, it has not well developed yet as other indicators from other fields. However, there is a growing concern over this issue, as several surveys related to environmental issues or publications containing environmental issues have started to emerge (R6, 2014). Regardless, it has not yet able to catch up with economic and/or social and population statistic in BPS (R6, 2014).

Apart from that, the availability of data also plays an important role in the slow development of this indicator. There are two aspects of this issue. The first aspect is related to the previous discussion about the lack of interest and the choice of priority. As explained earlier, lack of interest and priority choice intertwines together and creates the condition that induces the stagnancy of green GDP development. This is exacerbated with (or is channeled into) the lack of interest within the organization itself, which is shown in the lack of infrastructure prepared for calculating this indicator; there is no specialize work unit and also there is lack of integrated survey (not to mention the specific designated survey) to gather this data.

The other aspect is lack of coordination. It is also mentioned that the coordination between ministries/agencies and other institutions where the data needed to build this indicator are also considered poor (R10, 2014), which again resulted in the poor availability of data.

> So, in the law about statics, it is mentioned that apart from working with basic statistics, sectoral statistics also need to be developed . . . [within the] ministries/agencies, but it should not stop on that . . . We [BPS] should educate them on how to conduct surveys, tabulation, data interpretation and so on. If this is well implemented, then our workload will be easier. Now can you imagine [when there is a need] to build a certain indicator that requires data from them, but they do not how to compile this data or statistic [or] what kind of information that [is needed for it] . . . so how can we develop this new indicator? SEEA for example, it is true that it [SEEA development] become stagnant, we never educate sectoral [ministries/agencies] on what kind of requirement or statistics is needed . . . so when we need this kind of information to build SEEA, it is found out that this data [is supposed to be] provided by this ministries or that ministries, but this kind of cooperation has not [strongly] built or very well linked yet, which is then causes the stagnancy. SEEA that should be considered as an accounting system which needs to be integrated with GDP become hard to develop (R10, 2014)

Under Law No.16 of 1997 regarding statistics, there are three types of statistics activities; basic statistics, sectoral statistics and specific statistics. Basic statistics refers to statistics that have broad range application, hence, it is fully conducted by BPS (Law No.16 of 1997). Sectoral statistics refers to statistics used to meet the needs of ministries/agencies which is conducted by ministries/agencies itself and or assisted by BPS (ibid). Specific statistics denotes the statistics used to meet specific needs of institution, business sector or individual which can be conducted independently or in collaboration with BPS (ibid)

The previous statement underlines the lack of coordination between ministries/agencies and BPS, causing the unavailability of certain data and information needed for developing green GDP. Here, he links this conditions with the implementation of Law No.16 of 1997 which has not properly implemented yet, especially in developing sectoral statistics. As the data needed to build SEEA (and consequently green GDP) is enormous and involve many sectors, this condition then pose as one of main challenge in developing green GDP.

Apart from the development of green GDP in BPS-Statistics Indonesia, the Ministry of Environment also works on the development of this indicator. The Ministry of Environment supported by Danish International Development Agency Program (DANIDA) has also started a study to develop the regional green GDP as the initial step to calculate green GDP and green regional GDP (Fauzi and Oxtavianus, 2013). The framework for this calculation is almost similar with the framework used by BPS-Statistic Indonesia (the basic difference is the placement of the depreciation of a certain capital) (ibid).

Pilot calculation to try out the methodology has been done in one of provinces in Indonesia. However, the implementation of this methodology in the national level has met with some

constraints (Fauzi and Oxtavianus, 2013). Availability of data, either for the whole region or cross-sectoral, again is listed as the main issue in calculating this indicator, as the data needed is not always readily available due to lack of valuation or research within this topic, or the information available is not compatible with the required data(ibid).

In addition to that, it is also mentioned that although there have been training to prepare human resources required to calculate green GDP in regional level, changes in staff or personnel which often happened in regional government office become the hampering factor for development and continuity calculation of this indicator, as the trained human resources sometimes have to leave their post and have to be replaced by new person which again required new training.

> Technically, we already provide training and technical assistance to all provinces in Indonesia . . . even up to the regency level . . . so statistically speaking, and also technically speaking, we have done the capacity building [needed for this]. However, there is one problem; a lot of our human resources which have been trained are being transferred [to other location or position] . . . we have expressed this concern to the government as these assets are not easy to educate, so that when they are already became an experts in calculating it, but then suddenly gets transferred to another location or jobs [it will hindering the continuity and development of this indicator] as it needs specific expertise [for developing this indicator] (R15, 2014)

Happiness Index

In 2011, the United Nations adopted a resolution that invited its member states to encourage the development and elaboration of measurement that can encapsulate happiness and well being, and encourage its use as the guidance for their public policies (United Nations, 2011). Two years later, OECD published the guidelines in measuring subjective well being. This guideline serve as the international standard in measuring well being, which presents methodological issues, best practices and provides information on validity of this measurement (OECD, 2013). In general, these guidelines aimed to improve the quality of subjective well being measurement produced by countries' statistical offices as well as to improve its comparability among the countries by developing standard concepts, and methods (ibid). However, it is also mentioned that "these guidelines should be viewed as providing advice on best practice rather than being a formal statistical standard" (OECD, 2013, p.9).

In Indonesia, happiness index has been developed as the measurement of subjective well being. This indicator is being developed by BPS-Statistics Indonesia upon the verbal request by president (R6, R8, R10, 2014). The development of this indicator is considered as quite fast, as upon the request, the study on how to develop this indicator is immediately conducted. The study started in the end of 2011 or early 2012 by reviewing the current subjective well being indicator, and shortly after, the framework needed is being built and the pilot study to compile the data needed is implemented (R8b, 2014). The study is

implemented several times, and in June 2014, a national level happiness index is formally launched (ibid).

It is said that internal support from BPS is fully given for the development of this indicator (R8, 2014). Infrastructure and budget needed to develop this indicator are available despite the fact that the development of this indicator was not actually included in the initial work plan of BPS (ibid).

> Because every system is being build in a business process, so the support is in the form of infrastructure needed for the development [of this indicator], [also] budget [to support it]. If we did not get the support, the budget must have been difficult to get, [nevertheless we got the budget] even though this [the development of happiness index] was not design from the beginning [included in the initial work plan]. Here, the budget system is design from strategic [work] plan dates back five years earlier, and then we have this activities [happiness index calculation] which we propose less than two years to the work plan system . . . it is actually a sudden inclusion in the work plan system, but as it supported by the system, so then the budget is provided [for it] (R8, 2014).

Furthermore, she also adds that the involvement and support from other institution or organization outside BPS is not so visible (R8, 2014)

> [for example] We have met . . . a researcher from LIPI [Indonesian Institute of Science] and we discussed this, she seems interested when we gave her the questionnaire [which will be used in the survey for collecting the data to calculate this indicator] to get her feedback, but we did not received any. But we always tried to promote and discuss [about this indicator] whenever we were invited [to a forum or discussion], I usually explain that we are now developing this indicator (R8, 2014)

She also adds that involvement or support from others institution or external party is usually only in the form of excitement or interest towards this indicator, as it is considered as the new indicator (R8, 2014). Furthermore, she also gives a remark that BPS usually develops this internally or by themselves, with not much involvement from external parties; when the result is ready then they will invite other parties to launched and socialize this indicator (ibid)

It is said that this indicator can be used as a complement for other indicator such as GDP and HDI and can be used as an indicator for measuring the process (process indicator) which could measure the progress in short term (R8, 2014)

> [GDP, HDI] are outcome of government policies regarding what has been done . . . but we also want to see the process right? If we look at HDI, education, it needs years of investment to get the result. . . in one side, perhaps it is an outcome from what the person already get [for example] when government created job opportunities it will enable people to work hence they will get an income, thus it can be count as outcome indicator right? Outcome or output felt by these people is actually an objective condition from these people right? "What is your job? How much is your income?" when it is added with other indicator which

> reflected the process, for example when we asked people with no job or low income regarding their satisfaction towards their income or their job they may answer that they are not satisfied because they work in informal sector or other things for example . . . hence, we can capture the process of it. . . [which will provide] clearer direction for government in formulating their policy for this (R8, 2014)

As this indicator is just recently launched[6], the implementation of this indicator in the decision making or policy making process has not yet recorded. However, it is said that the discourse regarding this indicator has started to emerge in Indonesia, as there are growing concern about how to measure welfare other than from the economic aspect (R3, 2014). However, subjectivity characteristic of this indicator sparks a concern over its comparison ability as an indicator, as it is mentioned that good indicator has to be standard and specific and able to be compared with other countries and across time (ibid).

Apart from that it is also observed that there is a different perception regarding the robustness or validity of the calculation of this subjective well being as it is perceived that subjective matter such as happiness or people satisfaction is hard to measure (R3, 2014) (this aspect will be discuss further in the next section).

However, people who involve in the development of this indicator mention that the possibility to incorporate this indicator into decision making process is quite high, as this indicator is (informally) requested by the president himself (R8, 2014).

> There is a possibility [for this indicator] to enter policy [making process], as this happiness index calculation is conducted due to the demand from the president. It means that they also have the feeling that we also need to look into the human side of development [in measuring the development progress] as the proper development will put people as its centre. So far, if we look to the macro-economic indicators we have yet to see this. Human satisfaction or the quality of human as an individual has not yet observed. The talk is still at the level of economic growth . . . poverty rate . . . and so on. All of this is only the indicator for economic in macro level. When we want to formulate a policy oriented on people, we need to see the human side of it, how is the quality of life, people satisfaction. .. (R8, 2014)

Furthermore she also links it with the growing concern in international level that economic indicator is considered as not sufficient in measuring welfare

> Other countries also have started to realize that economic indicators are apparently not enough to see the well-being of a society. And it seems that this notion is begun to grow as the one that developed this happiness index is the OECD countrries, developed countries which based their development in economy. It means that, the one that based their development in economy has already started to realize that economic indicator is not enough, economic indicator, whether it economic, employment or poverty rate is not enough to measure the well being of a society, there should be a complement to this. This subjective indicator can be used to complement this. (R8, 2014)

[6] The interviews within this report were conducted before the formal launching of happiness index

While for the critics towards the subjectivity and its comparability, she pointed out that:

> This indicator can also be compared . . . It is comparable . . . this is a subjective indicator, so no matter whom you asked, anywhere in the world, the answer is a subjective answer. So how could it be regarded as unable to [be use to] compare? . . . [for example] when you asked a person how satisfied he is in his family life, you can ask in Indonesia, US, Canada anywhere, the answer will be comparable because it [remains] subjective [everywhere] (R8, 2014).

Human development index (HDI)

Human development index (HDI) is a composite index consists of three dimensions: long and healthy life, knowledge, and a decent standard of living[7] (United Nations Development Programme, 2014). This indicator emerges from the concern over excessive interest towards GDP growth and national income accounts that has raised a concern over its impacts towards the basic objective of development, as it said that this condition has altered the focus towards human (end result) to merely an obsession towards growth (means) (United Nation, 1990). It is mentioned that balance towards the practicality of its interpretation as well as the representativeness of complex human development aspects are being considered in the construction of this index (ibid):

> Human deprivation and development have many facets, so any index of human progress should incorporate a range of indicators to capture this complexity. But having too many indicators in the index would blur its focus and make it difficult to interpret and use. Hence the need for compromise - to balance the virtues of broad scope with those of retaining sensitivity to critical aspects of deprivation (United Nation, 1990; p. 13)

In 1990, United Nation published the Human Development Report containing the calculation of HDI. Since then United Nation has regularly published this index.

The development of HDI in Indonesia has been started since 1996 as a joint study from UNDP (United Nations Development Program) and BPS-Statistics Indonesia. Since then HDI has been published regularly in national and regional level. Recently there is some change in the calculation method or the calculation formula of HDI, which also has been adopted in Indonesia (R10, 2014).

Nowadays, HDI has been considered as an established indicator and has been used in the policy and decision making process in Indonesia and also has been included within RPJMN. It is mentioned that HDI is considered as one of the main indicators within RPJMN that represent the development achievement from social aspect (R3, 2014). Within RPJMN, this indicator is described as the indicator that used to measure the improvement in human

[7]Decent standard of living uses a variant of GDP: GNI (Gross National Income) that is measured at purchasing power parity as it indicator. For more details on HDI calculation can be found at: http://hdr.undp.org/sites/default/files/hdr14_technical_notes.pdf

resources quality (Presidential Regulation no.5 of 2010). Furthermore, it is used as one of the general target for the second development field, the socio-culture and religion development field (ibid):

> Common goals of social development and religion [and] culture which will be achieved at the end of 2014 is to improve the quality of human resources as indicated by increasing the Human Development Index (HDI) and Gender Development Index (GDI), which is supported by the decline in the Net Reproduction Rate (NRR) = 1.0; and the growing strength of the nation's identity and character. (Presidential Regulation no.5 of 2010, annex II.2-57,58)

The adoption of this indicator within RPJMN is related to the fact that HDI is considered as global indicator which is recognized internationally and also enables the comparability among nations (R4a, 2014)

> We always want that some of indicators that we used are adopted from international indicators. This will allow us to do comparison between countries and also allow us to measure it . . . HDI is very relevant to be use as an indicator of community development (R4a, 2014)

It is also mentioned that there is no global pressure to implement this indicator, rather the simplicity feature of this indicator (describing certain aspect in a simple or single number) became one of the supporting factors that helps the adoption of this indicator,

> There is no pressure [for implementing this indicator] . . . this indicator is also only a composite indicator. Actually this indicator consists of indicators which we usually use . . . but it is then combined into one indicator to make it simpler (R4a, 2014)

While the implementation and adoption and familiarization of this indicator is also being supported by the utilization of this indicator within the formula for calculating regional budget allocation;

> HDI terminology was spread quickly . . . perhaps because HDI is a part of the determination of the budget allocation. If not for this perhaps they [regional government] might not aware about this indicator . . . as this [indicator] is used [for determining their budget] they then started to say ‘we need to improve this [HDI level], so what this indicator is consists of?’ . . . [Nowadays] whenever they presenting [their progress] . . . HDI always became a part of it (R4a, 2014)

Likewise;

> HDI is used widely as one of indicators for [determining] DAU [general allocation fund], it is also one of the indicators used for the calculation of DID [regional incentive fund] . . . so an area . . . with rapid increase in HDI will get additional incentives for additional fund for regional development. The use of HDI as an indicator for DAU [calculation] is an indication that the government has started to notice HDI as an important alternative to be used as basis for planning (R10, 2014)

The widespread use of HDI is also facilitated by the use of this indicator within the annual presidential speech (president accountability speech).

> In every presidential annual speech . . . I do not know when it was started, but it always mentions HDI progress, as we also already able to conduct it [HDI calculation] annually . . . Especially now that HDI has been used as one of the variables to determine the regional transfer budget. So inevitably, . . . we should use this indicator . . . we always report it [the progress of this indicator]. Apart from that, since 2011, BAPPENAS also initiated the awards to regions with highest HDI level and region with good progress in its HDI progress to encourage the regional level to put more focus on human development issues. (R4a, 2014)

Other indicators

Several indicators are also mentioned as the possible indicator to complement the use of GDP (some are still being under development), such as the social capital index, environmental quality index (IKLH), democracy index, sustainable development index (IPB) and people's welfare index (IKRAR). However, some of these indicators are regarded as to specific (only measures specific aspects, such democracy aspect in democracy index indicator) hence it might be used as complement indicators for GDP but might have lower chance to have equal standing as GDP or to be used as prevalently as GDP.

This indicator is not only developed independently by BPS but also in cooperation with other institution such as ministries, or other independent initiative from universities

BPS-Statistics Indonesia, as the government institution that provides data and statistics to government has always tried to keep up to date with the current statistics development in the world. It become their work platform to always aware on the global development in statistics as it is considered as the requirement or the important aspects in the development of their statistical knowledge as well as to maintain their credibility as national official statistics (R10, 2014). Hence, BPS is always eager to learn about new indicator which can be used to replace or become an alternative to the existing indicators (ibid). This can be considered as the internal driving force in the development of alternative indicators (ibid). In addition to that, it is also said that BPS also has a view that the development of statistics is considered as an important aspect in order to keep up with the rapid changes and dynamics within society (R6, 2014). Hence the development of indicator by BPS is triggered not only by external factors (such as request from the president) but also internal aspects. An example of the development of new indicator that resulted from this paradigm is the social capital index (R6, 2014).

People's welfare index (IKRAR) is an example of indicator developed based on the interaction between the user and data producer.

> BPS . . . as an institution, [can also develops new indicators] based on external inducement, external needs. IKRAR, People's Welfare Index for example, is a part of the results of discussions with the Coordinating Ministry of People's Welfare . . . For example, the

> Coordinating Ministry of People's Welfare would like to know how to measure their performances, it is then discussed in various forum . . . [an initiative then emerges] "how about developing the people's welfare indicator?", thus [it] became the impetus for this indicator. So [new] indexes often emerge due to interactive discussion with user on various occasions, which resulted in agreement to measure it. . . . Many new indicators emerge due to interaction between involved stakeholder . . . it often happens in the high level meeting between ministries or agencies (R10, 2014)

Sustainable development index (IPB) is an example of indicator that is developed outside BPS-Statistics Indonesia. It is mentioned that this indicator is being developed by Akhmad Fauzi[8], as a response towards BAPPENAS demands for indicator that can integrate social, economic and environmental aspects (R15, 2014).

> I was challenged by BAPPENAS regarding composite indicator [that can integrate the currently separated indicator for economic, social and environmental aspects]. I showed them several models . . . I face a trade off [as this indicator] should has data that easily available and easy to communicate to the public, but not too complex in its measurement . . . I then thought how about combining it [HDI, GDP and environmental quality index] using a certain weight . . . presented as index. This idea then welcomed by BAPPENAS (R15, 2014)

Currently, this indicator is still under development and has not yet implemented or used within RPJMN (R7, 2014).

5.2. Identifying mismatch within the current configuration

In order to be adopted and match the prevalent use of GDP within RPJMN, these new alternative indicators need to be aligned with the elements and rules that maintaining the prevalent use of GDP within RPJMN. The previous chapter has discussed these elements. Hence, this section will examine mismatches between these elements and the proposed alternatives. In line with that, further aspects regarding the constraining factors that hampering the development of these indicators will also be presented.

Infrastructure and data production

As has been discussed in chapter 4, in order to be adopted within RPJMN, an indicator needs to fulfill certain criteria. Within this context, it refers to the criteria in which the indicator could be produced and published regularly. For HDI, the infrastructure to produce this indicator has already in place, as this indicator also is regarded as an established indicator that has been produced for several years. On the other hand, new indicators experience several different circumstances. For index indicator that does not require new data or information in its calculation (as it being generated from existing surveys or database), the production aspect is not an issue. Hence, this indicator can be produced

[8] Akhmad Fauzi is a professor at Bogor Agricultural Institute. Together with Alex Octavianus, they prepared the background study of RPJMN 2015-2019 regarding the environmental development index. He also actively engaged with ministry of environment and BAPPENAS especially in the development of green GDP indicator.

regularly as long as there is a demand for it. On the other hand, for indicators that require new data for its calculation, more efforts are needed to produce it. Infrastructures to collect this data need to be developed. Happiness index for example, require additional data that has not yet covered in the (previously) existing survey or census. However, as the development of this indicator receive full support from the institution that develop it, funding and infrastructure needed to compile the require data are being accommodated; specific survey[9] that designated to collect the required data, training for surveyor as well as the facilities for processing the data are immediately established. However, this unfortunately is not the case for green GDP, which received less interest, either from outside the niche or inside its own niche development. This, in turn, leads to the stagnation of this data production due to lack of infrastructure needed to collect the required data.

In general, there are many factors that hampering the development of an indicator to be produced regularly. Lack of interest, lack of infrastructure and lack of coordination have been identified as the constraining factors. These factors are closely related, intertwined, and influenced each other. The following discussion will give more elaborate explanation regarding these factors and their linkages as well as other aspects that influence it.

It has been mentioned earlier in the discussion about the development of green GDP that lack of coordination is one of the constraining factors that hampers the development of this indicator. Here, it will further discuss the aspects of lack of coordination which became the barrier for advanced development of new alternative indicators in general.

There are several aspects related to this lack of coordination. The first aspect is the coordination between data producer and data user.

Currently the development of (new) alternative indicators emerge in two ways; due to own initiatives from the niches (BPS, university or other niche development within the ministries or agencies or other institutions) and due to interaction between niches or the data producers, and the users (to meet specific request by policy making institutions that need the data). In the first case, it is apparent that there is lack of coordination between the data producers and the users which usually causes the developed indicators being abandoned or not being used by the user.

> We . . . only adopt new things, often it is stalled because of a dead-end communication with stakeholders, if it is stalled, then we usually leave it, [and only] wait for another impetus to come, so . . . if I may say, this has not well integrated yet (R10, 2014)

While in the second case the coordination exists to some extend (for example in the development of People's Welfare Index (IKRAR). However, this type of coordination was described as a sporadic coordination; it only based on impromptu demand or specific needs and it usually only develops new indicator based on the current data (R10, 2014).

[9] The data needed to calculate the Happiness Index are being compiled from new survey called: The Study for Measuring Level of Happiness (SPTK).

> Coordination and integration regarding what [indicator] we should develop has not yet well established, [it is] still sporadic in nature . . . clear arrangement on things that should be done and built has not been made yet (R10, 2014)

He also adds that:

> So, some of new indicators [are developed only] to meet the sporadic needs, because it is needed to measure a certain performance which needs another approach, so we offer them alternatives for it, for example the IKRAR index, it is a composite index which contains many aspects on it, but it is only calculated based on the existing data, there is never a designated survey for it . . . It seems like imposing the existing variable on the current existing data that we already have, so an effort to develop it in a systematic way is not there yet, it is more like trying to meet the demand [form the user] with the existing data, thus we made the composite index out of it (R10, 2014)

Furthermore, it is also mentioned that this condition also related to the of lack of interest in building a proper new indicator or more comprehensive indicator which requires new data

> Effort to enhance and collected new data is relatively not there yet, perhaps this also related to the funding, perhaps [because] there is no allocated funds for this, so it looks half-hearted, the commitment to develop a proper indicator which follows the proper orders in developing new indicator has not there yet, it might be related to the unwillingness from stakeholders [which] had not put much concern in quality of data [or what kind of data that actually must be available],[it is] more like: "just made it from what data that BPS already had" (R10, 2014)

This condition especially become the constraining factor for more progressive new indicator such as green GDP that requires new data that has not yet available from the current database or surveys. It is also mentioned that links to produce such data and information has not well connected, as the mismatch, in viewing the importance or need for such indicators between the data producers and the data users, is usually exists.

> Looking from BPS perspective, it is more due to limitations of linkages, link towards other data sources, as well as society concern regarding input and information needed to develop that indicator . . . for example, conceptually, a certain indicator requires certain information but due to the limitation of source of input of its supporting data, which is caused by the linkages that are not well connected, such as the underdevelopment of sectoral [statistics]. Thus, hampering the development of alternative indicators . . . usually, if the ideas [only] came from us [BPS], the development [of new indicators might be] impeded, as the need for such indicator has not yet pronounced. Such indicator might be more ready [to be use] if there is a shared concern, not just sporadically, [but] everyone is agree [towards its importance]. The problem now, those alternative indicators [which is considered as important to be developed by BPS] are not necessarily welcomed by stakeholders. [The development of such indicator can work well] if those stakeholders understand [its importance]; [if they] need it, then the link will quickly connected (R10, 2014)

Another aspect of lack of coordination is observed in the form of multiple niches that work independently in developing the same indicator. The development of green GDP indicator by BPS as well as by ministry of environment is an example of this.

> So here is the dilemma, in term of capacity, BPS [should be the one that develops this indicator] as they are the official government agency that should published the data. However, this [indicator] does not become the main mandate within BPS . . . while the [concern for] environmental [issues], such as depletion and so on, exists in the Ministry of Environment as they also regularly published the environmental quality index and other data which can be used [in the calculation of green GDP], however, this [calculation] is actually not part of their job description, [they do the calculation] as they happen to get the fund from DANIDA [Danish International Development Agency] and other organizations with one of its [objective] components is to strengthen the institutional capacity in the context of green GDP and green regional GDP (R15, 2014)

This is resulted in lack of clarity regarding which institution that should be responsible for this calculation and what kind of arrangement and/or cooperation or division of resource is needed in calculating this indicator. If this aspect can be coordinated and focused and put together in one particular place, it might speed up the development of this indicator. The development of green GDP is an example of this. In BPS, the development of green GDP is stalled due to lack of interest (hence lack of funding). Meanwhile, the development of this indicator in the Ministry of Environment faced with other type of challenges, despite the availability of fund and interest. Rapid mutation of personnel (which have been trained to calculate this indicator) in the regional level is mentioned as one of the constraining factors. Due to the decentralization regulation[10], Ministry of Environment no longer holds a centralization authority at the regional level. On the other hand, BPS still maintains the centralization structure within its organization which accommodates more stable structure within this organization in the regional level. Thus, allowing relatively easy coordination among the regional level of BPS office and between the regional level office and the headquarter office (national level).

Unclear division of this responsibility is also related with lack or incomplete regulation that can regulate and provide legal basis in the development of this indicator and arrangement of activities related to this. The explanation regarding this aspect of regulation will be discussed in the next section.

Regulation and policy framework

This section will discuss the mismatch faced by alternatives indicators (and its niches) with the rule and regulation that exist in the current regime. It is identified that there are two

[10] Due to decentralization regulation, the authority to control the regional level institution such as the environmental agency, development planning agency etc, fall into the authority of regional government (provincial or regency) and as the governor or regents is directly elected in the regional general election, changes in the governor or regents usually followed by the changes in the personnel within their government and mutation of personnel (higher or lower level officials) is commonly occurred.

types of mismatch faced by alternative indicators: mismatch in the regulation which hampering the development of indicator, hence indirectly hampering its adoption within RPJMN, and mismatch in the rule or regulation that directly hampering these alternative indicator to be able to be use as prevalently as GDP.

The first type of mismatch is especially evident in the development of green GDP indicator. Green GDP represents environmental aspect which is considered as newer aspect compared to social or economic aspect in the development policies. This aspect was started to pronounce following the rise of sustainable development notion. In Indonesia's national development plan, the legal basis for mainstreaming environment aspect as well as the sustainable development issues is Law No.17 of 2007 regarding the Long-term national development plan (Fauzi and Oxtavianus, 2013). It listed "realizing beautiful and sustainable Indonesia" (Law No.17 of 2007, p.39) as one of development missions for long term national development plan of Indonesia. Mainstreaming of environmental aspect has been coverage in the current RPJMN, as it includes pro environment as one of its development strategy, complemented the previous development strategies; the pro-growth, pro-poor and pro-job strategies.

Furthermore, Fauzi and Oxtavianus (2013) describe that the promulgation of Environmental Law No.32 of 2009 also serves as an impetus for the progress of sustainable development, especially green economy initiative which encourages the integration of environmental aspect within social and economy aspects. This law listed an obligation for government (national and regional) to develop and implement environmental economic instruments (see article 42 of Law No.32 of 2009) which covers the development of environmental account as well as GDP and regional GDP that cover environmental depletion and degradation (hence the green GDP and green regional GDP). The inclusion of this aspect within the new environmental law indicates the growing concern within government of Indonesia toward the integration of economy and environmental aspects. This can be seen as an opportunity to nurture the development of green GDP, as it is also mentioned that the government response become more and more positive towards this issue (R2a, 2014).

However, despite the opportunity provided by this regulation, the effect of this law in the development of green GDP has yet to be felt. As mentioned in the previous section that the development of green GDP still faces many constraining factors such as lack of coordination and no clear arrangement regarding which institution that should be responsible for calculating it. It is said that even though Law No.32 of 2009 has provided legal basis for calculating green GDP, but this law only covers general aspects, or gives general mandate, while specific arrangement needed to implement this law has not been made yet, such as clearer definition on how to calculate it, or whom should be responsible to calculate it (R15, 2014).

> This is actually already became a mandate within the law no.32/2009 that in the planning context, national or regional, GDP and green GDP should be calculated. It was stated within this law, but has not implemented yet (R15, 2014).

Furthermore, he also explains that, the discussion for formulating a government regulation which will further regulates and defines specific arrangement for the implementation of this law has been taking place, but it has not finished yet (R15, 2014). He describes that if this regulation has been completed and approved, it will provide clearer arrangement which will help and facilitate the calculation of green GDP (ibid).

> This RPP [draft of government regulation] will provide every detail, [it will consists of] more than one hundred articles . . . [It will] regulates the definition regarding green GDP, how to calculate it, who should be responsible for it, and what it should be used for. It will all be regulated within this government regulation, as the law only provides general mandate for it (R15, 2014)

Apart from the mismatch due to incomplete or unclear regulations that directly affect the development of green GDP indicator, the development of green GDP indicator also faces challenges from policies that might not related directly towards the development of this indicator.

The implementation of green GDP indicator has broad consequences, not only within RPJMN policy, but also the development planning policy in general. It will also affects the tangible system related to the economic production and consumption, such as the industries and markets, as green GDP will integrates environmental aspects into economic aspect. Hence, if it is used as an indicator for measuring development progress, the activities and regulation related to economic domain needs to be adjusted; it should incorporate environmental aspects. In turn, this will affect the economic actors, either government or the public or private sector. Thus, mainstreaming the environmental aspects across government sectors as well as the private sectors is needed to reduce the reluctance from these stakeholders to adopt green GDP as an indicator for development progress. Especially, for industry or production system that has not yet put too much concern towards environmental impact caused by its economic or production activities. Hence, the implementation of green GDP might in turn put pressure for them to change their current practices to the practices that will put less pressure towards environment. However, unfortunately, the current regulations have not fully captured and accommodated this yet (or for some regulations, this has not well implemented yet).

> Why is there lack of attention [towards development of green GDP]? Because if [green GDP] is adopted, there will be a lot of consequences. The development should be like this and like that, while we also have to meet this and that . . . for example the consequence towards the emission reduction. Now what do we need to reduce emission? We have to develop new technologies with lower emission . . . are we able to tell private sectors to [suddenly] change their technologies? What kind of incentives that government could offer to encourage these

> changes? . . . That kind of support and incentives [are not fully ready yet] [which also] includes the human resources. Is the human resources have followed the technological changes needed for lower and efficient emission? These [the changes] have to be simultaneous. And then there is also consequence towards the target achievement that has been set in the initial formulation of RPJMN [that might be hard to achieve if it is suddenly implemented] (R7, 2014)

Other also underlines that the regulation of national action plan regarding the reduction of green house gases, which can be considered as an entry point in greening the production aspects, is still regarded as not very well integrated or consistently implemented yet.

> Our government is often changes [their priorities or policy], back then they have seven twenty six, [government target for] economic growth target by seven percent and GHG emission [target to reduce GHG by 26 percent]. But this hype is only last for a while and then disappears . . . despite its integration within government regulation and all. RAN GRK [national action plan for green house gas emission] is actually very powerful. If it is well implemented, it will bring many consequences towards economic aspect (R15, 2014)

Furthermore, he also points out other obstacles that emerge from policies or regulations that have not well accommodated this aspect or have not yet encouraged the awareness towards environmental aspects and other conditions that might also become the hindrance towards the mainstreaming of environmental aspect within the development planning.

> There are two stumbling blocks from regulation aspect, for example the fiscal regulation has not accommodated it yet, for example tax is only tax, there is no [differentiation on] environmental tax yet . . . They [national government] actually have realized the importance of environment [they said:] "we support that, but, we still have problem with regulation, problems regarding poverty, as well as the regional autonomy". This [regional autonomy] is one of the main stumbling blocks, as the critical point of development lies in regional level, the one that has the area authority is the head of the regency or city major, if they do not care about it [then it will be hard to implement it] (R15, 2014)

Another type of mismatch is related to the rules that directly maintain the prevalent use of GDP within RPJMN. It is discussed in the previous chapter that in the formulation process of RPJMN, there is a framework called macroeconomic framework that is regarded as an umbrella framework which determines other sectors targets or strategies. It is identified that for an indicator to be able to be used as prevalently as GDP, that indicator needs to be adopted within this framework. In this case, green GDP has more compatibility to be adopted within this framework compared with the other type of indicators, as green GDP is an indicator which is directly derived from GDP. Hence, it poses similar characteristics with GDP.

It is mentioned that for an indicator to be adopted within macro economic framework, this indicator needs to be able to be used as an input for planning or in projecting the development planning targets (R11, 2014). It also needs to have broad impact and able to

shows clear linkages towards other sectors (R11, 2014). Hence, the linearity property of GDP is in accordance with the required principle within this framework. Apart from that, it is also mentioned that this framework is heavily based on the (current mainstream) economic theory (R14, 2014; R11, 2014), an area in which GDP has been integrated deeply for a long time. For example, the formula and components for calculating GDP from an expenditure approach (Y= C+I+G+X-M)[11] has became the normative standard in macro-economic management which can be conveniently used in the projection and estimation for macro-economic planning. In sum, Schepelmann et al. (2010) describe that:

> GDP is a sufficiently simple, straightforward and linear measure. It can be elegantly used to calculate many relevant (macro-)economic measures: it will produce decent accuracy in measuring tax revenues and productivity, and it will help macro-management through estimations of output gaps and inflation. In short, it has a legitimate and strong role in modern economic management (Schepelmann et al., 2010, p.19)

This condition especially brings a mismatch for alternative indicator that is not as linear or as straight forward as GDP, such as index indicator which is calculated from several indicators that are weighted and mixed up together to obtain a single number. Hence the use of this type of indicator might be more complicated to be used as an input for projection in development planning. Apart from that, some alternative indicators also face challenge to be adopted within macro-economic framework which is heavily based on economic theory, especially for indicator such as happiness indicator which directly measures subjective well being. This domain has not well accommodated yet within (current/mainstream) economic theory or formula to estimate or project future condition or the (quantitative) impacts towards other sectors.

Here, we can observe the mismatch between alternative indicators with the current rule (macro economic framework). The current rule requires an indicator to be used not only as the measurement for progress but also as an input for planning which can show its linkages and estimates (quantitative) impacts towards other sectors. While some alternative indicators, apart from indicator which directly derived from GDP such as green GDP, such as happiness index is develop to measure the development progress but kind of hard to be used as an input that can be used to estimate or projected quantitative targets or impacts towards other development sectors as it directly measure the final result or impact of development progress on human condition.

User preferences

A preference of user towards a quantitative, simple, straight forward and linear indicator is one of the factors that facilitates the prevalent use of GDP. The above discussion also shows how this preference is related with or influenced by the established economic theory, which

[11] Y denotes GDP, while C, I, G, X, M represent consumption, investment, government spending, export and import.

is then translated into regime rule: the macroeconomic framework. This process can also be regarded as the channeling process of cognitive rule into more formal regulation.

For green GDP, which is directly derived from GDP, the above features (quantitative, simple, straight forward and linear) are readily embedded. However, other indicators do not always possess characteristics preferred by the users. Human Development Index for example, despite its familiarity and simplicity, is considered as composite indicator, which is (according to some users) not so preferable to be used as an input. The subjective well being indicator, such as happiness index, also experience mismatch with user preferences. The subjectivity feature of this indicator is considered as less objective than the indicator that is based on quantitative measurement. This conviction rooted from the preference towards the quantitative measurement, as some users regard that the qualitative measurement is less reliable than the quantitative measurement

Methodology

For an indicator, the wide recognition its (calculation) methodology is mentioned as one of the important aspects for its acceptance, as well as its application in the decision making process (R11, 2014). It is mentioned earlier that for GDP, its methodology has been long recognized and has been globally accepted. The standardization of this measurement has been institutionalized and supervised by international organizations, such as by the United Nations. This condition contributes to its credibility as an indicator. The recognition towards the methodological aspect of HDI is quite similar in circumstances that result in the recognition of GDP. The standardization as well as the methodology of HDI is being overseen by the United Nations. HDI and GDP are mentioned as the two universally accepted indicators, which prompts many works of sustainable development indicators that could match the success of HDI and GDP (Parris and Kates, 2003). However, green GDP, despite being coordinated by the same institution that maintains the standardization of methodology for GDP and HDI, has not received the same universal recognition as GDP or HDI.

It is observed that there is a mismatch in perceiving the maturity or the readiness of this indicator in term of its methodology. On the one hand, people who represent the data users state that the methodology for calculating green GDP has not ready yet.

> Green GDP is a good indicator, but its measurement is rather difficult . . . the calculation [methodology] for green GDP has not fixed yet in the international level . . . [even though] there is already a central framework for it, but we have not really sure about it, that is why we have not used it yet [in RPJMN] . . . for example the measurement of CO_2, the global warming [issue], until now, in national or international level, there is no standard method to measure it yet. That is the cause of the distrust issue (R14, 2014)

On the other hand, people who involved in the development of this indicator mention that the methodology for green GDP calculation is already in place:

> We have prepared the protocol, we have prepared the technical guidelines. Everything is already in place. How can it be called not ready yet? We have prepared it all. It is documented in the Ministry of Environment, everything is already prepared. I am the chairman of this team, so I fully know that protocol and the method for calculating it is already in place. We have tried it out [in regional level], everything is work. . . . The methodology as well as the pilot implementation is already done, we have tried it out in several regions (R15, 2014)

An interviewee, who involved in the development of this indicator, as well as part of the institution that will use this indicator (involve in the RPJMN formulation), highlights that despite the readiness of the methodology, the consensus to use green GDP as an indicator has not happened yet.

> The methodology itself seems to be already in place, but the problem is the endorsement for legalizing this [green GDP] as measurement has not occurred yet (R7, 2014)

Happiness index, which represents an indicator that regarded as the subjective indicator, also faces challenges in term of the recognition of its methodology. Here, the challenges come from the nature of this indicator which tries to measure the qualitative aspects of development (quantifying the qualitative aspects). Hence, it is widely perceived by the data users as a 'subjective' measurement that is prone to be biased. They argue that as this measurement comes from individual perceptions influenced by people's feeling or emotion which prone to change along with the change in their circumstances. Thus, it is said that this measurement is less reliable than the 'objective' measurement that is derived from the quantitative measurement (R11, 2014)

> That [the qualitative or subjective measurement] is considered as [measuring] people's perception, it cannot be used as a standard [if it is still] influenced by like and dislike, it is difficult [to be used as a standard measurement]. It is different with inflation for example, even though, it is an index, but it has clear numerical [quantitative] basis (R11, 2014)

Likewise:

> My previous thesis is about the subjective dummy which seems to be unable to be included yet within RPJMN . . . as I think that this is a new concept, hence the related stakeholder such as BAPPENAS and other institution has not yet well understood and not yet convinced regarding the [validity] of its result . . . as [it related to people's perception and culture] the culture is different [from place to place] (R13, 2014)

Other interviewee also mentions that the subjective aspects vary between countries. Furthermore, it is also hard to measure people's satisfaction or qualitative aspect of human life.

> But, what is measured within happiness index itself is still subject to the ongoing debates. Each country [has] different [criteria]. . . . There are nine domain [of of this index], is there

> an agreement for this? If there is, are all [of the domain] measureable? For example the functioning of community . . . can it be measured? It is difficult [to measure it] (R3, 2014)

However, people from the niche development of this indicator do not share the same opinion. In addition to that, it is also observed that criticism towards the subjectivity of this indicator is well perceived within the niche that developed it. It is mentioned that as happiness indicator is a new indicator that differ from the usual indicator which usually used in measuring development or welfare, it is predicted that people might question the relevancy of developing such indicator and even doubting the validity of such measurement (R8, 2014)

> A lot of parties might question [this indicator] . . . as people used to only know macro indicators in economic aspect to show the development of a region or people's welfare, it [the measurement] is always directed towards [those macroeconomic indicators]. Hence, when other indicator [happiness index] emerges [while] people not yet understood about what is measured by this happiness index, people will surely think what is the need in measuring the 'feeling'? Why measure subjective thing? . . .as it fluctuate rapidly . . . emotion is volatile . . . Can something like that be measured? Or other might also question is it already the time to measure such thing . . . as people still considered that poverty . . . and unemployment rate is still high (R8, 2014)

Furthermore, it is also explained that these criticisms emerge from lack of knowledge regarding what is really measured by this indicator:

> This [criticism] is because people have not yet understood what we actually develop within the happiness index. Happiness is actually intangible concept that needs to be measured with certain variables. It is indeed an affection, but what we actually develop . . . is not only about affection, not only about emotion . . . what we actually measure is about the quality of life of people . . . from material and non material aspects (R8, 2014)

All in all, the above discussion has showed that mismatch in methodology emerges from standardization problem, as well as the different perception regarding the credibility of an indicator. Different parties, notably the producer of that alternative indicator (the niche) and the user of that indicator, hold different opinion and different values regarding what is considered as the legit methodology. In the end, it leads to the acceptability or the recognition issue (hence the legitimacy) of an indicator.

Shared belief

It is discussed in the previous chapter that belief towards the importance of GDP is widely shared among actors involved in the formulation of GDP. To gain more insight regarding this issue as well as its relevance towards the adoption of alternative indicators within RPJMN (evaluating the mismatch), discussion towards development, economics and economy will be presented.

It is highlighted by Cowen and Shenton (1996) that the development term possesses multiple meaning, from a process that will expand people capacity to choose, to more

pragmatic definition such delivering country's goals and promoting economic growth (Cowen and Shenton, 1996). Todaro and Smith (2012) mention that in economic term, traditionally development was being defined as attaining stable growth of per capita income, so that output rate can grow faster than the population, with GDP (or its derivates) serves as its goal as it is used to measure the economic well being of people. Furthermore, they also describe that development was usually perceived as economic process, with GDP growth and its trickledown effect serve as its premise:

> Development was until recently nearly always seen as an economic phenomenon in which rapid gains in overall and per capita GNI [gross national income] growth would either "trickle down" to the masses in the form of jobs and other economic opportunities or create the necessary conditions for the wider distribution of the economic and social benefits of growth . . . . the emphasis is often on increased output, measured by gross domestic product (GDP) (Todaro and Smith, 2012, p.14)

Along with times, concern towards other aspects such as poverty, unemployment as well as inequality enters the notion of development, thus, creating other definition of development:

> Development must therefore be conceived of as multidimensional process involving major changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequality and the eradication of poverty (Todaro and Smith, 2008)

This evolving process of development definition is well reflected within Indonesia's development strategies. It is mentioned that RPJMN, as the development plan of Indonesia, positioned economy as its central issue and widely uses economic theory as its basis in planning (R3, 2014). GDP (and its growth) is also used as the main indicator in measuring the progress of development. Trickle down paradigm was also being used as the basis in this development planning. However, in line with global concern over the failure of this paradigm, government of Indonesia also declared new shift over the development strategies. This new strategy is being referred to as the triple track strategy. This strategy is intended to rectify the previous strategies.

> "Development for all" paradigm requires . . . harmony and balance between growth and equity, or growth with equity. This strategy is also a correction towards previous development policy, known as the trickledown effect. Trickledown effect assumes the need to prioritize economic growth over equity. In fact, in many countries, including in Indonesia, this theory fails to create prosperity for all. Because of that, to realize development and equity at the same time since the beginning [of my presidential period] I have set a triple-track strategy for economic national development, namely: pro-growth, pro-jobs and pro-poor. With the triple track strategy, the national economic development is implemented [to achieve] high economic growth, through increased investment and trade . . . Economic

> development is also intended to create jobs . . . [and] alleviating poverty. . . (Yudhoyono, 2009)[12]

This change of perception has been translated within RPJMN as it is mentioned that in formulating the development plan within RPJMN challenges and strategic issues are being identified first to determine the required strategies and policy in achieving the development goal. This is in contrast with the previous planning process which put forward the trickledown effect as its basis in planning, thus, predetermine the level of growth needed and determine the means latter (R3, 2014).

> In the past, growth target was being determined first then the means to achieve that were formulated later . . . that is why there was the trickledown theory back then, the important thing was to grow first then it will trickle [to other aspects] . . . but now [the planning process] starts with identifying strategic issues and challenges . . . needed to be addressed in the next five years. . . and then formulate what we want to achieve and how . . . rather than predetermined the growth rate target out of the blue (R3, 2014)

The inclusion of poverty rate and employment rate into macroeconomic framework also serves as an example that reflects this change.

As mentioned earlier, development possesses various definitions. Amartya Sen[13] is one of the experts who tries to define the development. He proposes the concept of capabilities approach. It is mentioned that the perspective that put income and wealth not as the end results but rather as the means or instruments to achieve other goals has been around even since the Aristotle's time (Todaro and Smith, 2012; United Nations Development Programme, 1990). This view resonates within Sen's capabilities approach, where he brings the notion of functioning (usefulness/functionality of commodities or what people do or can do to such commodities) and capabilities (freedom in choosing from these functioning given his/her control over commodities) as a way to perceives development (Todaro and Smith, 2012). He mentions that development should be given more emphasize on the improvement in human life and freedom (ibid). It is also mentioned that:

> For Sen, human "well-being" means being well, in the basic sense of being healthy, well nourished, well clothed, literate, and long-lived and more broadly, being able to take part in the life of the community, being mobile, and having freedom of choice in what one can become and can do (Todaro and Smith, 2012, p.19)

Furthermore, it is also mentioned that some works on happiness measurement are influenced or used some concepts from this capability approach (Todaro and Smith, 2012). Furthermore, Todaro and Smith (2012) also describe three core values of development: sustenance or the ability to fulfill fundamental needs, self esteem or sense of worth, and

[12] Speech by the president of republic of Indonesia on national development in regional perspective in front special plenary session of the house of representatives, see:
http://www.presidenri.go.id/index.php/pidato/2009/08/19/1209.html

[13] Nobel laureates in economic in 1998 who helped creates Human Development Index.

freedom or the ability to choose. Based on these values, they describe three objectives of development:

> Whatever the specific components of this better life, development in all societies must have at least the following three objectives: 1. To increase the availability and widen the distribution of basic life-sustaining goods . . . 2. To raise levels of living, including, in addition to higher incomes, the provision of more jobs, better education, and greater attention to cultural and human values, all of which will serve not only to enhance material wellbeing but also to generate greater individual and national self-esteem. 3. To expand the range of economic and social choices available to individuals and nations . . . (Todaro and Smith, 2012, pp.22-23)

It is mentioned that impacts and linkages of environment towards development efforts has received increasing attention from economist in the recent years (Todaro and Smith, 2012). Nowadays, this notion, such as the sustainable development, has become increasingly popular. However, this also brings more ambiguity to the table. Sustainable development, for example, is also being defined differently, or possesses multiple definitions. Furthermore, theory or model that tries to capture the linkages between these aspects are still considered as new and still subject to debates; such as the valuation of environmental aspects in monetary or economic terms or the calculation of the environmental costs related to economic activities.

The previous discussion shows how indicator used to measure development progress is related to how development is being defined. It also indicates that while development possesses multiple definitions, it is still mostly being perceived as economic phenomenon, with growth serves as its main tools in achieving the intended objective or the effect of development strategies. This conception of development also means that development then being characterized by means in how to achieve it, rather than focus on the final result of development.

This condition then causes mismatch for indicator such as the Happiness Index indicator. This indicator is designated to measure the end result (rather than the means) of development. On the other hand, actors that involved in the policy planning for development still focus on realizing the means, hence, resulted in the mismatch. Cognitive process of actors in perceiving and solving problem related to development is also co-evolves with this condition. As the formulation of challenges or problems of development are centered towards GDP and its growth, strategies or way to solve development problems will also emerge from such conceptualization.

This is also related with the fact that the linkages or impact of GDP growth towards (most of) other sectors have been translated into the quantitative models or (seemingly) rigorous formulas, which then provide the policy makers the tools to formulate necessary strategies to achieve the desired objective or solving the (perceived) problems. This, models or mathematical formulation however, has not well develop yet for indicator that measure the

ends result. For example, when being faced with poverty problem, theory (and models) to estimate how much growth or how many percentage of GDP growth are needed to induce the reduction of poverty by a certain percentage has been established. And as the linkages towards other sectors have also been clearly defined, strategies or programs needed to address this problem can be planned. While for happiness index for example, this kind of formulation or model has not yet established (or it might not even design to be used as such).

The latter condition about the ambiguity of sustainable development definition and or disputed aspects or difference perception on how to integrate environment and economic aspect is also can be seen as a condition that is well reflected in the lack of acceptance or difference in perception in green GDP indicator.

How economics is being perceived and how economy is being defined (see discussion in chapter three), also play roles in inducing mismatch towards the development or adoption of alternatives indicators. Greenham and Ryan-Collins (2013) describe that despite various schools of thought in economics, neoclassical economics which tries to follow the rigidity in physics or mathematics resulted into mathematical models of economics which then leads to the wide spread of this school of thought in education, business, as well as in government institution (Greenham and Ryan-Collins, 2013). Furthermore, Spratt and Wallis (2007) even argue that neoclassical economics, with its seemingly rigorous approach towards economics, prevail over other schools of thought and become the mainstream economics. In addition to that, this also leads to its appearance as the 'objective' science. Furthermore, Greenham and Ryan-Collins (2013) also describe how the utility concept in economics leads to the obsession towards economic growth as it 'confusing ends with means' (Greenham and Ryan-Collins, 2013).

> The only practical way we can measure relative utility is by the price that a person is willing to pay for something, as this is a direct reflection of how much they value it. However, once utility is linked to price, it is logical to suggest that rising incomes, which increase the means to purchase goods and services, will lead to rising utility. If we then equate utility to happiness, the result is that more money equals more happiness. This convoluted theoretical abstraction leads to the logical economic objective of continual growth of incomes and thus the continual growth of consumption (Greenham and Ryan-Collins, 2013, p.165).

Furthermore they also describe that ecological and social aspects are being excluded in neoclassical model of economy, and assumptions that hold up economic theories are frequently at odds with ecological and social realities (Greenham and Ryan-Collins, 2013).

Following the description of Mitra-Kahn (2011) that proposes that evolving definition of economy follows the relevant aspects or what is considered as important aspects in economy at that time, the growing concern over end results and environment can also be seen as the opportunity for these aspects to be more incorporated within economic aspects

(This, at the same time, also implies that currently these aspects have not well integrated within economics aspect).

The above discussion shows how focus on means rather than ends is well articulated and accepted as the mainstream view in economics. This resonates to the excessive attention towards GDP within the development process; hence, it results in mismatch with alternative indicators that focus on measuring the end results. Furthermore, it also describes how the development of seemingly rigorous models in economics results in an image of objective science for this discipline, which is preferred in the planning process of development (compare to the subjective measurement which usually being described as not so reliable by actors involved in development planning formulation).

Apart from that, for indicator such as green GDP, the mismatch comes from the exclusion of ecological or environmental aspects within the (current) definition (and models) of economy. Concern over the inclusion of environmental aspects towards economics has been growing lately, however, it has not yet became the mainstream view in economics; it still struggling its way to wider the integration into the mainstream view. There is also the widespread assumption that environment is a secondary issue compare to other issues related to basic necessities such us poverty.

In Indonesia, this condition can also be perceived by (or rooted from) lack of environmental and economic integration in education and lack of comprehensive environmental education from elementary to higher education in general:

> Some consider that environmental problems are secondary, green economy is secondary. . . . [this] also [found] in education aspects . . . The decisive factor lies in human resources, . . . which embedded in universities and school. But the current [education] curriculum has not accommodated it yet . . . Environmental aspect only [portrayed as] planting trees . . . How the [environmental friendly] behavior, . . . the incentive towards society . . . [and the relation between environment and] economy have not yet integrated [within the curriculum] from elementary education to higher education. I am willing to bet that only IPB [Bogor Agricultural University] and perhaps in UNPAD [Padjadjaran University] that already integrate it . . . you can check in other universities, the economics [education] is mainly about accounting . . . That is an old paradigm [of economy]. Especially in private universities where they only follow the market trends, the macro policy (R15, 2014)

Wider context: International influence and society concern

Apart from international influence mentioned in chapter four which facilitates the prevalent use of GDP, global trend in using GDP also has an impact on the development and adoption of alternative indicators. This influence is perceived in the form of the conformity to the majority practices.

Globally, GDP (and its growth) still becomes the main indicator in measuring the progress of development. This condition is being mentioned to justify the current practice (the

prevalent use of GDP) within RPJMN (R14, 2014). This widespread and global practice also strengthen the assumption that the current practice is still appropriate, thus, encourages the continuation of current practice and also result in lack of desire to change.

With regard to the adoption of alternative indicators, lack of examples in implementation (as well as precedence that is regarded as successful implementation) of these alternative indicators also mentioned as one of the reasons that causes the reluctant to adopt or use this indicator as prevalently as GDP. This is especially evident for green GDP, as actors involved in the formulation of RPJMN mentioned this condition as one of the conditions and factors that hinders the adoption of such indicator (R7, 2014).

It is mentioned that alternative indicator which measure well being, despite has been implemented as the main indicator in measuring development progress in Bhutan, provides little conviction to change their current practices or adopt new things; one of the interviewees even mentioned that Bhutan as an outlier case (R14, 2014), hence it cannot be set as a common example.

Internally, it is also observed that urgency in changing the current practice is not well pronounced. It is mentioned that, currently society are more concern towards inequality issues in Indonesia, thus demanding more concern should be put to address this problem, hence it is suggested that the alternatives indicator should prioritize this issue (R16, 2014). The use of GDP is not being rejected altogether. Rather, it is highlighted that the current development practice put growth as it main concern, while it is believe that the priority should be given to the distribution of the growth; on how the growth could be equally distributed (ibid).

> GDP is only one of the development targets. For a country, its economy should grow, that should not be denied. But how it is grow, from which sources and where this growth spread are regarded as far more important [issues] by us. So if the focus is only on economic growth, then that became the problem . . . It is true that [development] should be driven by economic growth, but how far people can enjoy it and what kind of policy that can encourage the growth to be able to be enjoyed by all of the people is far more crucial than discussing about economic growth target. So social, tax, and wages policy should be explored deeper, whether it is [embodied] in the indicator or within the implementation of development (R16, 2014)

Interesting to note that an interviewee, which is involved in the formulation of RPJMN, mentioned that the current alternatives such as green GDP seems like preceding the inclusion of other important aspects that are supposed to be included within GDP prior to environmental aspect (R9b, 2014).

> I saw it like it is skipping [the process]. Welfare should be there first. There should be a GDP with welfare prior to it [green GDP]. I mean OK, [green GDP will be included] perhaps green [GDP indicator] or even one [GDP indicator] that can reflect all aspect, not only green. So,

> the process is supposed to [be like that]. Before the development of green [GDP], GDP that reflects welfare should be there first (R9b, 2014)

These conditions indicate that some mismatches not only occur between the niches and the dimensions of regime, but also between niches and society. Furthermore, for some aspects, societies have similar concern to regime, however, these particular aspects, unfortunately, did not resonate well in niches.

5.3. Fostering the development and adoption of alternatives indicators: the required conditions and possible strategies

This section will discuss aspects or conditions that need to be addressed in order to promote the adoption of alternative indicators within RPJMN as well as strategies which might enable alternative indicators to be adopted within RPJMN or being used as prevalently as GDP. In doing so, factors that hamper the development of alternative indicators, as well as its mismatch with the current configurations will be revisited.

Establishment of common framework

It is discussed in the previous chapter that the developments of new alternative indicators emerge from initiatives from the niches or from its interaction with the data users. Furthermore, it is also observed that despite coordination between the niches (or the data producers) and the data users has existed at certain degree, the coordination is still considered as poor, which led to unused indicators, sporadic development of indicator (imposing only on the availability of existing data) or the development stagnancy (for indicators that requires complex information and data that is not readily available yet)

To address this issue and properly build an indicator, a common framework or work platform that can bridge the need from users, and initiative from niches (which usually triggered by scientific progress in statistic or other related knowledge, thus represent the improvement in quality) needs to be established, as the clear arrangement has yet to be established and clarify.

> We [BPS-Statistics Indonesia] have never discussed with stakeholders about what kind of information that absolutely must be built [or] produced by a statistical agency, for example, [the necessary information] for RPJMN. So that key words have never been coined in a larger context . . . I had a discussion with ABS [Australian Bureau of Statistics] . . . they already had their focus on what they should do . . . they ask users, their executive planners and legislative board [and related stakeholder] regarding what kind of data and information that is needed for their country . . . which is then formally announced, and the implementation then being monitored together by the related stakeholders (R10, 2014)

Furthermore, the establishment of national statistical systems, that can provide focus and clear arrangement on what kind of information and data that need to be developed, as well as the division of responsibilities are also being suggested (R10, 2014):

> So [we need] to build national statistical systems . . . [which can clarify whom should be responsible on what]. BPS as the compiler responsible for fundamental [statistics] while other [sectoral statistics] should be developed in sectoral institutions . . . hence, when there is a discourse in developing new alternatives indicators, agreement can be reached in that forum, everyone can agree on its importance. That is the condition that has not yet happened. [Currently] all statistical matters [are considered] as should be handled by BPS alone (R10, 2014)

Establishment of a work platform means that there will be a medium or forum where relevant actors can discuss the needs of data and decide clear arrangement in producing these data and information. In doing so, they will articulate their view and expectations which then can lead to shared expectations among those actors. Hence, it can provide clear direction towards development of necessary indicators, as well as clear path for its usability or adoption within policy or decision making process.

Improvement in regulation

It is previously discussed that there are two types of mismatches observed in (formal) regulation that hamper the development of alternative indicators. This section will focus on discussion towards the first mismatch: mismatch in regulation which hampering the development of indicator. The first mismatch is especially apparent in the development of green GDP. It is observed that despite some regulations that can facilitate the adoption and development of this indicator are already exist, these regulations are commonly still at the general level. Hence, other rules or regulations that can provide clearer or more elaborate arrangement for the implementation of those regulations still need to be formulated. Apart from that, there are also issues regarding inconsistent regulations, where some regulations are considered as contradictory as it serves different or has conflicting interest with other regulations. Thus, improvements in regulations need to be done.

As the implementation of green GDP indicators will have broad consequences along the economic production and consumption systems, regulation that could induce cleaner and greener production and consumption need to be formulated, or, for some regulations that already promulgated, firmer implementations are still needed. The following statement gives example of widespread effect of such regulations if implemented consistently:

> RAN GRK [national action plan for reducing green house gasses] is actually very powerful. If implemented correctly, it has broad consequences towards economy . . . it can induce innovation . . . [technology to] build cleaner energy, and other environmental friendly technology . . . If president firmly [implement it] no matter what, people will follow this policy, thus [other] policy will accommodate the need of research and development of such technologies . . . (R15, 2014)

In addition to that it is also suggested that the formulation of mechanism or policy where the importance of environment and consequently green GDP could be comprehended by key decision maker such as the governors or the regents in regional level.

> Perhaps it can be used as the key performance indicator . . . so every region will try to show how the progress of their regions in terms of green GDP is . . . . For example, every region or province now has adopted the car free day activity. I asked them once about how much the emission reduction [from this activity], but they answered that they do not know about it, they just following the trend. This is supposed to be reflected in the indicators. [for example] one day of a car free day, could reduce emission by a certain percent, that is equivalent to a certain amount of government budget [which means saving the government budget], growth of green GDP by certain percent. Thus, will provide encouragement to the regional government [to implement it], as it is supposed to be the additional component towards environmental [improvement] . . . but in reality these car free day even resulted in increasing emission as it resulted in congestion on the other side of the road (R15, 2014)

It is also mentioned that the separation of component or expenditure that are part of brown GDP and components of green GDP has not well articulated yet, thus government still not well aware of the benefit of it, as they have not realized that the same amount of spending can provide different impact towards GDP (R15, 2014). A condition that is also widely spread among the private sectors (ibid). Thus, it is suggested to encourage decision makers as well as the private sectors, especially in regional level, by implementing incentive mechanism or other fiscal mechanism that will reflect the benefit of implementation of such practice (R15, 2014).

> There should be incentives especially for regional level [governments] to encourage them to use that indicator. Developing green investment, for example, [when you told them]: "you have a forest; you must not cut down the trees, but you can use its environmental services [that is provided by that forest]". [For this to happen] there should be a guarantee that they [regional government that preserve their forest] will get more incentives compare to [for example the benefit that they could get from] mining. [Unfortunately] this fiscal incentive mechanism has not there yet (R15, 2014)

The previous discussion shows that governments in regional level play important roles in the implementation of alternative indicators. Decentralization policy as well as the regional autonomy platform that is currently being implemented in Indonesia has transferred a lot of authority towards the regional government. This is viewed by some as the stumbling block in the implementation of some regulation, as to some extent, it is observed that the coordination between regional and national level (after the implementation of these policy) still need to be improved.

Synchronizing environmental aspects within economic aspects: Co benefit strategies

It is mentioned that reluctance towards the implementation of green GDP comes from the perception that assumed if development progress is measured using this indicator the performance of economic growth (or development in general) might get affected by it (R7, 2014). Green GDP includes environmental aspect or externalities that has not yet included in the current measurement and target (brown/conventional GDP), thus, in the short term, it might (seems like) lower the achievement of targeted growth or might give the impression that the growth target was not achieved (R7, 2014). This concern rises from the current

economic structure that still highly dependent on natural resources. To address this issue, co-benefit strategis are being formulated. These strategies try to reconcile economic and environmental aspect:

> So that [economic and environment] can occur in parallel, [it should] not be seen as a dichotomy, but co benefit . . . giving equal benefits (R7, 2014)

One of these strategies is the Sustainable Consumption and Production (SCP) plan. It is a systematic effort to achieve sustainable consumption and production by changing the unsustainable pattern of consumption and production, involving all related stakeholders (Ministry of Environment, 2013). The ten year framework of program on SCP (10 YFP SCP) lists the adoption and the strengthening of SCP implementation within national development agenda (including RPJMN) as one of its targets (ibid).

This strategy can be perceived as strategy to slowly adjust the mismatch of the current practices that commonly have not yet integrated environmental aspect within their practices. Thus it is expected that improvement in economic structure and practices (more sustainable practices) can lead to lower resistance towards the implementation of indicator that take into account the environmental aspect (such as green GDP), as it will facilitate the adjustment of interest from economic sector, as well as facilitate the improvement in economic performance (encourages economic activities with minimum environmental impacts). Thus, measurement of development progress by such indicator will not lead to lower result compare with the indicator that does not take into account the environmental aspect.

> I am still not really sure . . . whether the political decision will accommodate it . . . It is still highly dependent on political will from the country leader and the parliament. But the exercise [study on green GDP] is continuously conducted as the comparison for the existing pattern which uses old GDP [indicator] . . . other developed countries also have not implemented it [green GDP] yet. Nonetheless, the sustainable development principles would still be covered, so that when the externalities is included, the difference [between green and brown GDP] will not too large, as it [the gap] will gradually smaller and smaller as we become more efficient [in utilizing environment resources]. So [currently] we [focus] on efficient use of resources. So in the implementation [of green GDP] we have to first tidying up [a lot of things], we cannot suddenly convert to green [GDP] . . . but we have [formulate] policy that leads to sustainable production and consumption, so there will be efficiency in resource use, which mean that the extraction [of natural resource] will decline, and then [encourage the use of] renewable [resources], and then the waste disposal will be reduced close to zero . . . It also means that technologies play important role on that. But all of this is a process which also starts in the upstream which can lead to green GDP [implementation]. So the prerequisite conditions need to be fulfilled first. Preparing the data, and then [having] policy that leads to efficiency [resources], sustainable production and consumption, low emission development. We are [currently] preparing things like that (R7, 2014)

The implementation of green GDP as an indicator of development progress is mentioned to be incorporated within the implementation of sustainable development initiative (R7, 2014). Hence, the strategies to implement this indicator are also embedded within the implementation strategies of sustainable development. The implementation of sustainable development consists of several stages or phases. These implementation phases (figure 6) are needed to gradually yet steadily prepare the necessary instruments as well as to progressively nurture the acceptance or readiness of people (Deputi SDA&LH-KPPN/BAPPENAS, 2014).

> So the required instruments need to be prepared first. It cannot be implemented out of the blue. The pathway for [this] has been seen . . . Statement by the president [regarding the climate change] is the entry point towards [the implementation of] sustainable consumption and production pattern, then towards the sustainable development, so there is still a long way ahead (R7, 2014)

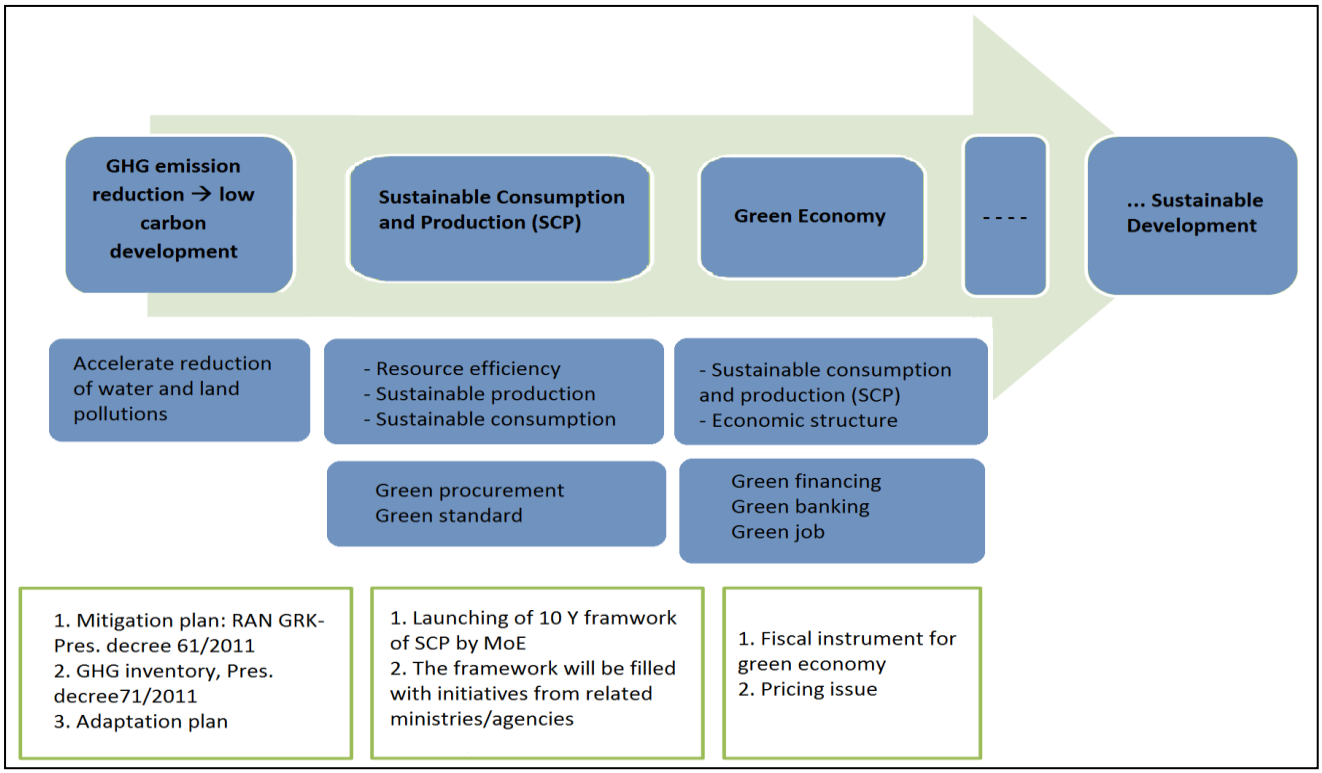

Figure 6. Stages of the implementation of sustainable development (cited from Deputi SDA&LH-KPPN/BAPPENAS, 2014, p.18)

Pilot implementation

Uncertainties and perceptions are listed as some aspects that hinder the application of new technologies (Kemp et al., 1998). Within the context of alternative indicators, these factors can also be perceived as the stumbling block for widespread acceptance and implementation, as the related actors have not convinced yet on the benefits of implementation of such alternatives or in the change of their current practices. Apart from uncertainties about benefit, uncertainties regarding the possible side effect or problems

that might emerge from implementation of such alternatives might also be considered as the stumbling block. Furthermore, as the current practices have become part of their routine and cognitive process, actors need to learn how to frame the related issues and how to formulate the related strategies using new perspective. Unfortunately, examples that can be used as a guidance or benchmark are really limited (or almost none). Thus, implementation in small scale level or pilot implementation can be used as a learning tool that can provide an example and starting point in the wide-scale implementation. Furthermore, a successful pilot implementation can provide more conviction to the related actors.

> It [alternative indicators] can be tested in a particular area, [if directly applied in national scale] the scope might be too wide . . . what I mean is if it can be implemented in particular area, and if it results in good contribution towards development strategies in that area, eventually this [implementation of alternative indicator] will be recognize as new models [that might be considered to be adopted] (R16, 2014)

Reflecting from the effect of implementation of subjective well being indicator in Bhutan towards the users perception in Indonesia (which unfortunately provide little conviction for some actors), involvement of many actors in designing as well as monitoring the process of pilot implementation might facilitate more trust and conviction towards the related stakeholder.

Political will and leadership

Political will and leadership are also being mentioned as important factors that could influence the adoption and central use of alternative indicators. Some interviewees mentioned that one of critical points in green GDP implementation is the willingness of president and parliament:

> What is left [for green GDP implementation] is political will from government, president or parliament for example, to consistently implement GDP that has accommodated environment aspect or has included the externalities (R7, 2014)

> The insistence lies in the hand of the leader of this country, for example if the president . . . gives a directive that GDP as the development indicator should includes environmental aspects, then we [BAPPENAS] and others will quickly followed it up . . . [after all] targets [within RPJMN] is the president's targets (R7, 2014)

While when discussing about the criteria for indicator to be adopted within macro economic framework, one interviewee even mentioned that:

> One of the criteria [in the inclusion of indicator within macroeconomic framework] is whether that [indicator to be included within] macro[economic] framework is part of the vision and mission of the president, if president wants to put it then it will be included in it (R11, 2014)

This statement was drawn based on the case of the inclusion of poverty and employment rate indicators within macroeconomic framework of RPJMN formulated under the sixth president of Indonesia, while previously (under the previous presidents) these indicators were not incorporated within macroeconomic framework (R11, 2014). However, this statement might be somewhat overstated as it is mentioned that the inclusion of an indicator within macroeconomic framework requires a review to evaluate its linkage towards government fiscal condition and its impacts towards government's budget plan (R17, 2014). In spite of that, the former statement does portray the importance and influence of president (or leadership factor) within the inclusion of alternatives indicators within RPJMN. This condition occurs as a result of the structuration on how RPJMN itself is defined within the Law No.25 of 2004 which regulates the current national development planning systems (SPPN). Within this law, it is mentioned that "the national RPJM is the elaboration of president's vision, mission and programs that is formulated based on the national RPJP . . . " (Law No.25 of 2004, article 4 (2)). This phrase highlights the influence of the president in shaping the development direction within the RPJMN.

This condition is summarized in the following statement which describes the position of president influence within the formulation of RPJMN as it should be aligned with the vision and mission of president:

> RPJMN is defined by law as the translation of vision and mission of the president. And it [RPJMN] is promulgated by presidential regulation, so it is really under the domain of executive or government (R3, 2014).

> [It seems like] We [BAPPENAS] are operationalizing the vision and mission of president. So we have the technocratic draft, the scientific [plan based on the study] . . . and then we examine the president vision and mission and formulate how to operationalize it . . . if there is a huge different [in which there are some aspects of these vision and mission] that has not operationlized yet [within the technocratic draft] . . . then we will incorporated it. So it [president vision and mission] is very influential [in the formulation of RPJMN]. It was like we make the [draft] in white color, [when] the president wants it in blue then it will turn as blue (R4a, 2014).

Thus the leadership (along with political will) aspect need to be properly addressed, as it might serves as the windows of opportunity or the entry point in the inclusion or more central use of alternative indicators.

In addition to the direct influence of vision and mission of president, such as shaping the direction of RPJMN or enhancing the macroeconomic framework, the influence of leadership aspect can also be used as indirect strategies which in turn might also facilitate the adoption or more prevalent use of alternative indicators. The use of GDP has been tightly embedded within the development strategies, and also closely related to the welfare and economic aspect. Furthermore, it is mentioned that the operationalization of government intervention or program related to development are being assessed using the

project feasibility which mostly use efficiency based analysis (with indicators that mostly related to financial aspects and economic growth aspects) (R3, 2014). Hence, support and willingness from above (such as the president or other high level officials), such as in the form of strategic vision, is needed to cover the development program or projects that might not be beneficial if it is assessed using such analysis and indicators (R3, 2014). This can also be seen as another form of strategies to synchronize or promoting the importance of other aspects of development apart from economic aspect.

> . . . government interventions are, in the end, [translated into] projects right? Infrastructure [aspect] for example, [translated into] road development project, port development project etc. All of the indicators [that measure its feasibility] are still revolve around the efficiency based [analysis] such as the internal rate of return. If that is still used as the basis then . . . [the development will only focused on] the dense areas [where the project will resulted in the higher increased of economic growth] . . . so for things like that, apart from financial related indicators, in assessing the feasibility of project, strategic vision is needed. For example, the state wants to equalize [the development]; that is strategic vision. This [project based on strategic vision] might not be profitable if it is measured by the short term indicators (R3, 2014)

The previous discussion underlines the importance of political will and leadership in the integration of alternative indicators within RPJMN. In addition to that, as the use of GDP is also influenced by the conformity towards the majority practices in the international level, it is also mentioned that leadership in international level will also facilitate or encourage the adoption (or more central use) of alternative indicators:

> This is not only domestic or national issue . . . one problem with this development indicator [GDP] is that we are highly influenced by global world perception . . . [such as] world economic forum and others [international organizations] which always rank countries based on GDP . . . So we will always dragged back [to GDP]. So, in global level no one is willing to change yet, despite some Nobel laurates in economic or [other experts] . . . have said that this [GDP] is already obsolete but on the other hand it [still] cannot be left out. So that is [currently] how the debate at the global level . . . To dethrone it, three world organizations should have the power [to do it]: IMF, World Bank, and world economic forum, if the three of them agree, then GDP could be dethroned (R15, 2014)

Internalization of alternative indicators value: Socialization and education

It is mentioned that for an indicator to be able to be considered as an established indicator, widespread acceptance by general public is needed (R3, 2014). In addition to that, its linkage towards other sectors should also able to be understood and could be clearly delineated (ibid). The relevancy towards people's daily life is mentioned as an aspect that could facilitate the acceptance of alternatives indicator (ibid). In regards to this, socialization and education are needed to help the internalization of the alternative indicators' value so that it could gain wider acceptance in society (ibid).

> [Good indicator] should not have multiple interpretations . . . so it has to be specific . . . non multiple interpretation will [also] help it [indicator] to be accepted . . . [and also it should be] measureable and attainable . . . and whether this [indicator] has relevancy towards people's daily life . . . [for example] if people mention about GDP, . . . [most] people are able to link it with its possibility to get the better income . . . but if being asked about [things such as] ozone [issues] perhaps [only smart and well informed] farmer will able to link it with their harvest potency or extreme climate disturbance [for example] . . . thus, if this can be socialize that [alternative indicator] aspects could also impacted and relevant in the daily life, those indicators might be more well accepted by people. [Thus] socialization and education [is important for this]. But to get there [this indicator] should also be simple [so that it could be easily understood] . . . Economic growth [for example] is easy to explain, but if we talk about complex things such as climate change there should be an easy depiction that it would finally affect our lives . . . (R3, 2014)

The socialization is part of strategies to internalize aspects (or value embedded within the alternative indicators) within people mindset, so that it could raise people awareness and facilitate its implementation (R3, 2014).

In the previous section, it is discussed that the embedment of aspects which is promoted by alternative indicator such as environment in green GDP indicator within education system has not well integrated yet. Thus, in the landscape level or in the wider context, integrating these aspects within education systems are expected to help facilitating the internalization of these values and might in turn will also facilitate the wider acceptance of these indicators.

Chapter 6: Discussion, conclusion and recommendation

6.1. Discussion on the research findings

The placement of GDP within RPJMN: ends versus means

It is discussed in chapter three that the development and adoption of GDP are being influenced by circumstances at that time. The definition of GDP or the choice of components that is included in its calculation was highly influenced by the need of construction of such measurement at that time. While the initial introduction of GDP in Indonesia was influenced by international organizations, the current implementation of GDP within RPJMN has been embedded in more complex functions and structure.

Within RPJMN, it is observed that the ideal or final objective of development did not put its focus on GDP or its growth (it did not even mention it) or focus only on economic aspect. However, the challenges and consequently the strategies to achieve these ends result are observed to be highly influenced by a growth paradigm, or pursuit towards high rate of GDP. Problems then occurred, when this tools or means then being used to the point that it is obscuring the perception on how the end results should be measured. As it is believed that realizing the means will always lead to the realization of ends result. This condition then leads to the practices where GDP (and its growth) is used as the measurement or indicator of development progress (hence the fixation/obsession towards GDP growth). This condition is being coined as 'the confusion between ends and means' (United Nations Development Programme, 1990).

This is also shown in how the objective of development is being operationalized within RPJMN. For examples the vision and mission of RPJMN 2010-2014 cover prosperity, democracy and justice, which means that it covers not only material aspects but also non material aspects. Furthermore, within the explanation of the development mission, it is explained that in the preamble of the constitution of Indonesia, prosperous Indonesia is stated as the final purpose of establishment of Indonesia. Within the elaboration of the development vision and mission, prosperous people are being described in term of the increase in people's welfare, and that prosperity of people should not only be measured in material terms but also considered the non material aspect. Here, the prosperity is being operationalized as welfare. However, further down the policy structures of RPJMN, this welfare is more and more being identified in economic terms with GDP (along with poverty and employment rate) becoming the main indicator to measure the improvement in welfare.

It is important to note that there are some explicit attempts to define welfare not only by quantitative measurement of economic aspects but also explicitly stated in qualitative

aspects of welfare such as quality of life (see the discussion on development agendas). However, further operationalization of this concept or even indicators to measure it was not elaborated. Here, it is observed that the normative or ideal of development objective did not explicitly use GDP information as its target, but further elaborations or the operationalization of this objective then utilized GDP information as one of its main measurement or indicators.

The current practice on the prevalent use of GDP, however, goes deeper and more complex than that. The confusion between ends and means is related and also embedded in the current dominant rules of societal systems, shared beliefs, values and paradigms in defining development, economy as well as how society in general perceives the importance of these aspects, which in turn is manifested in the establishment of elements or factors that maintain the prevalent use of GDP (see discussion in chapter four).

Alternative indicators

Quite similar with the motivation for technological innovations in technological transitions, the emergence of alternatives indicators for GDP can also be observed as a reaction towards the sustainability notion, as there is a growing concern over GDP use as a mainstream indicator to measure development progress which then leads to several problems related with sustainability. There are several responses towards these problems. Some scholars called for removing or ignoring GDP information altogether, as it is said that this measurement is misleading and even theoretically incorrect (Van den Bergh, 2009; Costanza et al., 2014). While others perceive the information provided by GDP itself holds no harm, as it is still regarded as important information; rather how this information is being used is the source of the problem. Thus they called for proper use of this information, and also called for complementary indicators to provide decision makers with a comprehensive view over the problems. Alternative indicators emerged from such concerns, with the former aiming for alternatives that could replace the GDP and the latter intend to develop alternatives for complementary purposes. This leads to the development of numerous and different type of alternatives, as it is being developed based on different emphasizing on the issues; to replace or to complement GDP information. However, having too many alternatives [14]also brought different issues as it might blur focus and also leads to too much dispersion of sources or effort, which might be more effectively used if it can be concentrated on one or fewer places. A condition that is highlighted by Schot and Geels (2008) as one of the dilemmas in niche development:

> SNM [strategic niche management] assumes that diversity is productive for niche development, because it enhances learning and network development, but too much diversity may hamper developments, because it creates uncertainty (which prevents full commitments), fragments resources and hampers the emergence of a stable set of rules (Schot and Geels, 2008, p.544).

[14] It is mentioned that there are more than 500 list of sustainability indicators efforts (Parris and Kates, 2003)

Furthermore, it is also observed that there are numerous alternative indicators but little widespread recognition or acceptance. Parris and Kates (2003) argue that lack of universal acceptance as well as lack of use or influence in policy or decision making process, emanate from the ambiguity of sustainable development notion, multiple intentions in characterizing and measuring it, and exacerbated with ambiguity of terminology and measurement methods. Furthermore they also explain that indicators are used to help the public and decision makers to assess progress towards certain goals. Hence, it also implies that convincing the use of some indicators over others is a form of advocacy as it implicates value choices (Parris and Kates, 2003).

> The fact that the concept of sustainable development has both broad political appeal and little specificity has created an environment that is particularly ripe for advocacy groups to leverage the political appeal by producing indices that define sustainable development in ways that advance their political agendas. This leads to considerable debate between advocacy groups regarding the relative merits of their respective indicator efforts (Parris and Kates, 2003, p.571).

It is mentioned that in general there are three attributes of process and method in choosing the goals, indicators and targets of any measurement system that would determine its influence; salience, credibility and legitimacy (Parris and Kates, 2003; Mitchell et al., 2006; Cash et al., 2002). Salience pertains to the pertinence of such measurement towards the decision maker, credibility denotes the adequateness of scientific and technical methods of that measurement, while legitimacy refers to a view that the construction of measurement system is unbiased or objective, considering the stakeholders divergent values, and fairly treat the other/opposite point of view (ibid). Parris and Kates (2003) observe that there is actually a lack of effort in ensuring salience, credibility and legitimacy of alternative indicators which then influences its acceptance in general (ibid).

These conditions are quite evident in the development of alternative indicators in Indonesia, as it is reflected in the mismatch of development and adoption of alternative indicators within RPJMN. The study shows that there is different perception among data producers (or the niche development) and users regarding the credibility and legitimacy of those alternatives. In addition to that, it is also observed that currently there are a lot of different alternatives that are being developed within niches, but there is lack of coordination to synchronize these developments among the niches themselves as well as between the niche developments, in this case the data producers, and the needs of users. The first problem is well represented with the case of multiple niches in the development of green GDP, which leads to disperse resources. While the lack of coordination between niche data producers and users are shown in the lack of a common framework to coordinate the development of alternatives and the need of user. This leads to the development of some indicators that are regarded as hard to be used or even being questioned of the relevancy of such indicators (hence lack of salience) by the user.

Furthermore, Costanza et al. (2009) make interesting remarks regarding methodological issues that are perceived as one of factors that hinders the alternative indicators to be used as prevalently as GDP. They describe that standardization and embedded values as the main issues related to the methodology of alternatives indicators. Standardization refers to the process of establishment of an indicator which involve what and how various items are chosen, measured and integrated or being put together to make an indicator (Costanza et al., 2009). In addition to that, values also implied in the methodological aspects of an indicator, as an indicator represents the measurement of what is considered as important or what we consider as objective (ibid). For GDP, the standardization of its methodology has been widely recognized, and managed by the United Nations statistical division. Furthermore, while it is said that GDP strives to be an objective measurement, by including only quantifiable monetary values, it (actually) also reflects the values implied in the time of GDP was built; "the relative social importance of rebuilding material infrastructure after WW [world war] II" (Costanza et al., 2009,. p.26). Hence it can be questioned whether there really is measurement that free from value judgment or can be truly considered as objective. Furthermore, as mentioned by Kuznets:

> For those not intimately acquainted with [systems of national accounts] it is difficult to realize the degree to which estimates of national income have been and must be affected by explicit or implicit value judgments" (Kuznets, Epstein et al., 1941, p.5 cited in Costanza et al., 2009, p. 27).

The above statement also reflects the process in which the components that makes up GDP was being chosen and decided, and that despite the claim of its objectivity, as has been showed in chapter three, was inherently political.

Moreover, this concept also resonates in Mitra-Kahn's (2011) description on how the current (mainstream) definition of economy comes about, as well as with how development is being commonly perceived. This can provide explanation on why GDP is still prevalently used as well as could be one of the entry points that needs to be addressed in the development of alternative indicators: addressing the issue on what is considered as being important by society. This also can be considered as especially important in the development of alternative indicators, which meet with criticisms as being subjective measurement. As the reluctance of using subjective measurement or the questioning over the reliability of using such measurement in planning might also relate with how society currently perceives the importance of such measurement.

GDP and alternative indicators: addressing the user need and the functionality of an indicator

What makes the use of GDP within RPJMN unique is apart from being used as measurement of achievement (as impact indicator) it is also being used as input in the planning of development strategies within RPJMN. Here, the well established models and theories that

describe the linkages and impact of GDP (and its growth) towards other sectors play an important role as it enables the user (especially the policy maker) to estimate or perform projection analysis and devise strategies or plans based on such model or analysis.

Unfortunately, it is observed that this aspect has not yet been well addressed or become one of the important concerns in the development of alternative indicators. The current developments of alternative indicators are perceived as still focusing on its function in measuring the results with little attention on how it can be used as estimation (or modeling) tools in planning, an aspect that is observed as one important feature by the user in formulating RPJMN and also contribute on the preference of the user towards the use of GDP. Looking back on the history of GDP in chapter three, it can be observed that in the early development of GDP, works towards the use of GDP to help the policy analysis such as its patterns and impact or relationship with other aspects (such as unemployment or allocating resources for war) played an important role on its institutionalization as it facilitates policy maker to formulate strategies by utilizing the models and theories related to it. Thus, addressing this type of functionality is necessary and important to help the adoption and more central use of an alternative indicator.

Furthermore, the embeddedness and importance of GDP information within the planning process is observed to be deeper and greater than just its use as impact measurement or input for the planning process of RPJMN, as GDP information is also influencing or embedded in the macroeconomic management and policy, such as in the budgeting allocation process or in fiscal policy. This also can be seen in the determination of fiscal sustainability where the measurement is highly related to GDP information or being measured on its ratio towards GDP (such as debt ratio towards PDB). This again related to how GDP information is being used as the output measurement (related with the wealth of a nation) which then is linked with the income of government or tax revenue and in turn affecting how government allocate and finance their activities or programs. This condition or functionality of GDP contributes to the powerfulness of GDP information which in turn strengthens the position and the prevalent use of GDP within RPJMN.

Another aspect that also needs to be addressed is the time frame difference of aspects measured within an indicator, as aspects that are measured within an indicator can represent the achievement in short term, medium or even long term period and the improvement or progress of some aspects that are measured by an indicator can have different time frame or lag in responding to an intervention. For example the, improvement that results from intervention or program that is intended to address a particular aspect of environment might only be felt in the long term, thus indicators that measure this particular aspect might not depict improvement in the short term. Hence, users might find it unfavorable in measuring progress that needs to be evaluated in the short term. On the other hand, several aspects related to economic output have shorter time periods in term of its response towards intervention. Thus it can show the progress or improvement in the

short term. Hence, articulation and recognition towards this difference is important to clarify the need and functionality of an indicator. It is especially essential as an indicator will be used to evaluate and monitor the achievement or progress of certain interventions or programs.

Thus, without a clear understanding on this difference, a transition from indicator that captures short term impact or progress to indicator that reflects long term aspect might result in a bias interpretation or misconception on the evaluation of one's performance. Hence, users need to be aware and recognize this aspect, otherwise it might leads to the reluctance of users to change or replace indicators (such as the short term to long term measurement) that are used to evaluate their performances.

6.2. Discussion on the application of theory

This study tries to apply transition theory that is usually applied in the socio-technological domain into the system dealing with abstract domain of concepts, GDP. Indicator is more like a concept or intangible artifact, while technology is usually embedded in tangible materials or material artifacts. It is observed that to some extend the theory provided a helpful analytical basis for answering the research questions. On the other hand, as our analysis was largely based on a different type of system, some mismatches with the usual implementation of the theory are bound to happen.

In this research the utilization of transition theory is found to be helpful as it guides the empirical research in making decisions on what kind of information is regarded important and provides a perspectives in 'where to look' (Hegger, 2007). Here, the configuration of regime, niche and landscape provided a foundation on where to look for information, as well as providing an initial perspective on what kind of information is needed. A Concrete example of this application is the identification of relevant actors or stakeholders for determining the interview list, which was largely based on the operationalization of the theory.

By applying the socio-technological configuration concept, which views systems as a configuration of elements that co evolve and serve a certain function, the elements that maintain the prevalent use of GDP within RPJMN, as well as rules that coordinate and maintain it, can be identified. Thus, it enabled me to explain processes or mechanisms which keep the stable use of GDP indicator. It also showed how the values or beliefs were formalized into regulation, which then strengthened the use of GDP concept (in the form of indicator). The use of GDP within a macroeconomic framework is an example of it. It also showed co-evolving processes in which the actors maintained the prevalent use of GDP are being bound by the rules as well as kept/reproduced (and became the source) of such rules. This condition is being referred to as the duality of structures; "regime rules are both medium and outcome of action ("duality of structure"). On the one hand, actors enact, instantiate, and drew upon rule in concrete action . . . on the other hand rules configure

actors" (Geels, 2011, p.27). Hence, this theory helps to explain the stability as well as lock-in condition in the use of GDP within RPJMN

The multilevel perspective also helps to understand why a transition has not occurred yet. By examining dynamics among niche, regime and landscape, mismatches that occurred and prevented or became hindering factors for transition to happen could be identified. It is observed that within the regime, there is still lack of urgency to change. Furthermore, it is also observed that serious problems that arise from the current practice (the prevalent use of GDP) were not perceived by the actors among the regime (note the opinion that states that GDP (or pursuit of growth) problems lie in the implementation of strategies rather than in the concept of GDP and its theory on growth impact). In addition to that, drawing upon Geels and Schot (2007) proposition on typology of transition pathways, it is observed that currently GDP is still in the reproduction process phase with only weak indication towards the transformation path which at best, in the near future, might only result in the re-orientation of elements of trajectory (that enable the prevalent use of GDP). This view is based on observation which reveals that currently there is lack of pressure from landscape, which in this case is in the form of little society concern towards prevalent use of GDP and little concern on the problems that arise from it, thus allowing the regime to reproduce itself. Furthermore, despite the presence of several pressure or criticisms from scientist or experts, in general those pressures are still too weak to put pressure to change the current practice or induce transition.

In general the theory did not only help to understand why such transition did not occur yet, but also enhanced the explanation why this regime is so stable. Thus, it helps to identify possible strategies that are needed to address or conditions that need to be addressed in order to breakthrough from the lock-in condition.

On the other hand, several differences as well as difficulties in applying this theory are also being perceived. The first difference was observed in the elements and network that configured the system. The core principal of this configuration mentions that functionality of artifact did not simply exist in that artifact; rather in that it needs various elements that work together to achieve its functionality (Geels, 2002b). This premise can be well applied into this study. However, some details which make up this configuration in material artifact and in concept 'artifact' (which did not directly related to technology) differ slightly.

In the previous chapters, it is mentioned that elements which keep the prevalent use of GDP within RPJMN is identified as data production and its infrastructures, policy and regulation, user preferences, as well as some part of international influence, methodology and shared belief ,which represent science and knowledge as well as cultural aspects.

Here, the differences occurred in the form of the elements as well as in the networks of these elements. In this study, data production and infrastructure is used as an element that represents the industry and infrastructure elements of socio-technological (ST)

configuration. However, the infrastructure here corresponds to infrastructure needed to produce data or indicators, which can be in the form of software (as well as skills or competences) and hardware infrastructure (work unit, capacity of human resources to perform calculation and conducting the survey, survey designated to compile the needed information, financial support etc). While in ST configuration, infrastructures are more closely associated with hardware components, for example the roads or fuel infrastructure in the automobile configuration (Geels, 2002b). In addition to that, these infrastructures are usually described mostly as means for artifacts to be used (the utilization of artifact) rather than in the production of artifact. Geels (2002b) distinguishes production of artifact and infrastructure in different clusters of ST configuration: technology in use and technological knowledge. He puts infrastructure in the technology in use cluster, while production of artifact is being put under technological knowledge cluster (Geels, 2002b).

In this study, the infrastructures are mainly related to the production process of an indicator in which a concept (of indicator), for example the concept of GDP, is being transformed or processed into a usable indicator or the usable information (for example the GDP indicator). Hence, it mixed the infrastructure aspect into the production of artifact domain. In addition to that, it also can be noticed that, apart from its production process, for an indicator to be able to be used, hardware infrastructures are not necessarily needed, as the utilization of indicators (the artifact) are more related to the regulation, policy, or culture and beliefs as well as the acceptance from user. This brings an implication to the firmness of such configuration. In the one hand, as (to some extend) it did not directly need hardware infrastructure (apart from its production process), transition from one type of intangible artifact to another type of intangible artifact has a potential to be relatively easier to happen compared to the transition between the technological artifacts. As this technological artifacts usually need hardware infrastructures to be able to be utilized. For instance, within the technological aspects in the use cluster, alternative or new indicators might be easier to be adopted into practices compared to the adoption of new material/technological artifacts that might require some replacement in its hardware infrastructures. An example for transition of technological artifacts can be seen in the case of transition from horse-and-carriages to automobile, which requires different specifications of roads (Geels, 2002b).

On the other hand, intangible artifacts, such as indicators in this study, also face different types and levels of constraints for a change to happen. As our artifact is intangible, its utilization is tightly embedded in the rules of the regime, formal or non formal regulation as well as the culture, beliefs and values or preferences of the user. To some extent, this condition also occurred in material artifacts. However in the case of material artifacts, differences between old and new (alternative) artifact can be perceived and experienced directly, hence open the possibility for direct assessment from user or facilitation of the learning process in regards to the advantages or disadvantages of new artifacts (physical tools for experiencing the differences). Thus, it involves both physical and conceptual

process. While for intangible artifacts, change in artifacts mostly means change in concepts, whereas the advantages of alternatives or new artifacts might not be able to be perceived directly and/or in the short term. Hence, user sense of control might not be as great as in the first case. Furthermore, conceptual changes are also more prone to debate or controversies regarding the benefit of such change or right or wrong concepts (what is considered as truth), as it is embedded in values and judgments of person and evidences or proof (or opinion) regarding its benefits might not as straight forward as with the case of material artifacts.

Another difference is in the market dimension. As an indicator is an intangible or concept 'artifacts', a market similar with the market that exists in technological domain might not exist. However, the concept of buying and selling, of which the market is based on, to some extent, is still applicable for an indicator. As for an indicator to be used, the proponents of that indicator need to convince the potential user of such indicator. Hence, within this configuration, the market elements would be more like the dynamics among actors/people which try to convince others about this concept and people's acceptance towards such concept; this certainly have different structure (and networks) compared to the market element in ST configuration. Furthermore, it is also described that within ST regime dimensions, the market is being embedded as part of the user practices and application domain. Hence, although indicator does not possess tangible market, this tangible artifact still has its own application domain, thus making this dimension still well applicable within this study.

Other aspects that were observed during the application of transition theory within this study are different degrees of influence from the involved actors and or power relations among these actors. It is mentioned that the multilevel perspective in transition theory distances itself from simple causality as it asserted that there is no simple driver or cause in transition (Geels, 2005a). Furthermore, it also asserted the circular causality: transformation processes which connected and align and reinforce each other (ibid). In addition to that, it also mentioned that there is an ongoing process or internal dynamics among the dimensions of a regime which opens the room for conflict and power struggles as different actors might have unequal power due to unequal resources that they posses (Geels, 2005b; Geels, 2004; Geels, 2002b).

This process is quite well reflected in the study, as the prevalent use of GDP within RPJMN able to gain its stability due to multiple elements which align and work together, and the transformation or transition has not happened yet as it faces several mismatches within this alignment. However, although the process of transformation might not or cannot be caused by single or simple drivers, it is also observed that within this configuration, certain actors had more (potential) influences or power and control in affecting the dynamics of this configuration, which might be quite different in structure than the process described by Geels (2005b; 2004; 2002b) regarding the power struggles. An example of this is the

leadership notion, which is mentioned as one of the possible enabling factor in influencing the transition or transformation process within this configuration. Vision and mission of the president or the president himself was mentioned as the most significant entry point for radical change in the use of GDP indicator within RPJMN, as it is mentioned that RPJMN is the translation or embodiment of the president's vision and mission. One interviewee even mentioned that, if the president wishes it, then any indicator can be included in the macro economic framework (R11, 2014). Thus, hinting that any indicator can be replaced or be used as prevalently as GDP in an instant. This statement might be somewhat overstated as some alternatives might face severe mismatches with elements that make up the configuration at regime level and/or at landscape level. Hence, even when there is an order from the president, the transition process might meet severe resistance from other elements, which might affect the feasibility of such change to happen. However, the idea behind this statement shows that within this configuration, a structurization of actors exists, where a certain actor (the president) posses more control over the direction of the dynamics or its trajectories than others.

In applying the theory within this study, some difficulties were also being experienced. Berkhout et al. (2004) underline the ambiguity on how to implement different conceptual levels of this theory into empirical research. They explain the ambiguity in determining at which level a regime should be empirically applied, as one level can be viewed as a regime, while if being viewed in broader context, that level of regime can also be regarded only as a part of larger regime (nested regime) (Berkhout et al., 2004). This criticism was responded by Geels (2011) as merely a problem of determining boundaries and subject of analysis. However, this response implied hierarchical levels of regimes, which brings another question on how to treat this higher level of regime and its dynamic within an MLP perspective. Moreover, the notion of nested regimes also implicitly suggests that elements at the lower level of regime can be treated as elements without its wider networks; it implies that there is "isolation" or a certain "cut off point" that can be used to draw clear boundaries within this level of networks. Hence, it suggests conflicting conceptualization with the usual way in defining regime dimensions, which see its configuration as alignment of different regimes (elements with its networks and dynamics within it). This usual conceptualization is supposed to view the 'higher level' of regime as part of the networks of the regime elements. Hence, rather than see it as nested (which implies "isolation"), it supposed to view it as the alignment of elements or regimes with strong (close relationship) and weak (distant) linkage.

This study uses the later interpretation in defining the regime elements, which also brought other difficulties in applying this theory empirically. The difficulties were experienced in drawing the boundaries of social networks, which made up the regime as well as in determining the boundaries or draw a clear categorization for some elements between regime and landscape due to complex role and influences of some of its elements or aspects due to complex roles and influences of some elements.

The former issue is being described by Geels (2005b) as merely an empirical problem rather than a theoretical issue. He also mentions that it is impossible to define boundaries of social networks (Geels, 2005b). However, whether it is an empirical or theoretical issue, the vagueness of boundary brings some consequences in the application of this theory. Such as how far or to what extent should we investigate the process and dynamics of these networks, especially with regard to its influences towards the regimes, as well as more pragmatic issues such as determining and limiting the actors that need to be observed within a study. The latter issues are especially eminent in this study, as this study tried to apply a theory which was developed based on technology or tangible artifacts into a realm of indicator of intangible artifacts. As an indicator is an embodiment of concepts, it is highly influenced by values, norms or beliefs which spread across the regime as well as in the landscape. Some aspects can be relatively easy distinguished as landscape variables, such as war or regulation (take example of the decentralization regulation in Indonesia). However, it is also found that some aspects are more complex in terms of its influence and role. Thus, it causes a difficulty in determining whether it plays a role as landscape or as the regime factor. This raises the question whether it really is an exogenous variable or not.

Increasing inequality and poverty, for example, at first glance can be perceived as dynamics which happen at landscape level, which in turn influence niche and regime as it stimulates the concern towards the needs of alternative measurements. However, if we examine further, those aspects cannot completely be put as exogenous variable, as those notions (inequality and poverty) are also at some point being influence or shaped by GDP. Thus, it positions those issues as an external problems as well as internal problems of the regime. Another example is the global perception regarding the importance of economics in society (as well economic theory itself) and how society usually value wealth as measurement of success, which at some point can be regarded as external context that is beyond the influence of actors at niche or regime levels. However, the discussion in chapter three shows how developments in GDP has catapulted the importance of economics in society as well as shaped the focus of economic theory into wealth and income issues, which at some point also related to society's perception of wealth.

Apart from that, the application of MLP within this study also slightly diverges from common narrative and sequence style usually used in the transition theory as applied in historical based study. Geels (2011) mentioned that MLP uses process theory that used event sequences, timing and conjuncture of events to explain the outcomes. Hence, "to explain outcomes, the analyst thus needs to trace unfolding processes and study event sequences, timing and conjuncture" (Geels, 2011, p.34) which is then usually done using (causal) narratives explanation. This study, however, tried to explain the outcomes by examining the unfolding process within the identified elements but put less focus on the sequence of events. This type of explanation was being used for several reasons. First of all, the theory within this study is used as an explanation for the stability of regime and to understand why the transition has not occurred yet. Thus, it has its focus on underlying mechanisms of

current processes, rather than the sequence of events, as the sequence of events that led to transition has not occurred yet. Other pragmatic reasons are related to the time limitation, and lack of access (or in some cases lack of documentation) towards organizational documents or government documents which might be helpful to be used in tracing the timing of events. This is especially evident in the description regarding the introduction of GDP in Indonesia, as it is found to be difficult to find documents or other sources that recorded this event, as well as the process which leads to the adoption of this indicator within Indonesia's policy.

Nevertheless, MLP in transition theory is found to be helpful in providing a guidance or framework for this study. Some differences were also observed during the implementation of this theory. However, as mentioned by Geels (2011), this theory serves as " 'heuristic devices' that guide the analyst's attention to relevant questions and problems" (Geels, 2011, p.34) and it is more like a middle-range theory than a grand theory. Furthermore he continued his explanation by making remarks about the transfer of evolutionary principle in biology to social evolution which did not necessarily means that the detailed mechanism should be similar (Geels, 2011).

6.3. Conclusion and recommendation

Despite numerous alternative indicators that have been developed and proposed to challenge the prevalent use of GDP, to date, none of these alternatives are able to match the prevalence and influence of GDP indicator as a development progress indicator. This study aimed to understand this phenomenon by taking case study of the use of GDP information within RPJMN, the national development plan in Indonesia. By analyzing the placement and positioning of GDP information within RPJMN, it is found that GDP is largely discussed under the prosperity aspects of national development objective. It is used as the measurement (and the operationalization) of welfare which indicates the condition that is being referred to as the confusion between means and ends. Furthermore, in term of its use as an indicator, an interesting fact about the utilization of GDP is also found; apart from being used as measurement of progress and classified as impact indicator, the importance of GDP within development planning also comes from its functionality as input indicator that enables the policy planner to project and estimate what kind of strategies or even resources that are needed to achieve the development targets. This is considered as one of the important findings of this study, as it is perceived that this aspect has not been properly addressed in the development or designation of alternative indicators, which currently still focus on its functionality as the measurement of achievement.

Moreover, it is also observed that the prevalent use of GDP information within RPJMN is embedded and rooted in more complex mechanisms, which entangled many factors to enable such practice to be reproduced over time. Using transition theory and MLP on transition as the conceptual framework, this study reveals several aspects that maintain and reproduced such practices within RPJMN. In general, factors that enable and maintain the

prevalent use of GDP within RPJMN can be categorized as factors that enable the production of GDP (infrastructure, data production as well methodology) and factors or elements that related to its application such as the user preferences, as well as rules that influence and channel this practice such as the shared belief or policy framework. Another important finding of this study is the role of the macroeconomic framework which can be perceived as the type of routines and rules that induce and channel the prevalent use of GDP within RPJMN. In addition to that, dynamics in the wider context, such as the international influences, also contribute to the stability of the prevalent use of GDP.

Furthermore, it is also found that the current alternative indicators are still unable to match the prevalent use of GDP due to several factors which bring about the mismatches of these alternatives with the current conditions and mechanism or configuration that maintain the prevalent use of GDP within RPJMN. Moreover, this study also highlights several strategies and conditions that might help to foster the development, adoption or more central use of these alternative indicators, such as: the establishment of a common framework, improvement in regulation, pilot implementation, synchronization strategies and internalization of values of these alternative indicators. Political will and leadership aspect are also found to be important aspects that can be used to help these alternatives to play a greater role within development planning.

Apart from that, the historical chapter within this report provides an interesting background on how the definition of economy along with its measurement, GDP, changed over time as it was shaped by the needs and problems at that time. Thus, this brings about an essential question: do we need to replace or complement GDP with other indicators, thus improve our understanding and change our practices in utilizing the GDP, or redefine our (concept of) economy?

This study builds its conceptual framework based on the transition theory and its multilevel perspective which is usually applied in technological realm. This aspect is considered as a novel aspect of this study, as it serves as a contribution on the wider application of this theory. Despite some difficulties and differences in the application of this theory, the theory is found to be useful to help understanding the mechanism of stability of prevalent use of GDP within RPJMN. It also helps to explain why the alternative indicators have not yet been able to match the prevalent use of GDP.

Furthermore, for further research, more in depth analysis on other regime influence and networks related to it are recommended, to enhance and provide more comprehensive view on the mechanism and configuration that influences and maintains the stability of current practice in utilizing GDP information. Moreover, especially in the case of alternative indicators that will bring broad consequences (particularly in the economic production and consumption aspect) such as green GDP, a broader scope of interviewees is also suggested, especially interviewees from economic sectors which in turn will be affected by the implementation of this indicator. In addition to that, due to resource and time limitations,

this study was only able to cover a small aspect in the tension and dynamics of actors within the regime, niche and landscape. Thus, it is also recommended for further research to focus on these aspects, putting more emphasize on the power struggle and its implication.

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Appendices

Appendix 1: List of interviewee

Code	Name	Organization	Date	Method
R1	Agung Dorodjatoen	KPPN/BAPPENAS – Directorate of spatial and land planning (staff)	28 April 2014	Direct interview
R2a	Buyung Airlangga	BPS-Statistics Indonesia – Directorate of production account (Director)	28 April 2014	Direct interview
R2b	Etjih Tasriah	BPS-Statistics Indonesia – Chief of Mining, Energy, and Construction Accounts Section	28 April 2014	Direct Interview
R3	Agung Widodo	KPPN/BAPPENAS – Directorate of regional development (analyst)	2 May 2014	Direct interview
R4a	Suharti	KPPN/BAPPENAS – Head of sub directorate of primary and early childhood education	9 May 2014	Direct interview
R4b	Kalih Fachriansyah	KPPN/BAPPENAS – Sub Directorate of primary and early childhood education (Staff)	9 May 2014	Direct interview
R5	Rudi Arifiyanto	KPPN/BAPPENAS – Forum for public consultation	9 May 2014	Direct interview
R6	Ano Herwana	BPS-Statistics Indonesia – Head of sub-directorate of environment statistics	12 May 2014	Direct interview
R7	Wahyuningsih Darajati	KPPN/BAPPENAS –Environmental Directorate (Director)	12 May 2014	Direct interview
R8	Dwi Retno Walujeng Wahyu Utami	BPS-Statistics Indonesia – Head of sub –directorate of regional resilience statistics	13 May 2014	Direct interview
R9a	Sumedi Andono Mulyo	KPPN/BAPPENAS – Directorate of regional development	19 May 2014	Direct interview
R9b	Septaliana Dewi Prananingtyas	KPPN/BAPPENAS – Directorate of regional development (staff)	19 May 2014	Direct interview
R10	Margo Yuwono	BPS-Statistics Indonesia – Directorate of Analysis and Development Statistics (director)	20 May 2014	Direct interview
R11	Cut Sawalina	KPPN/BAPPENAS – Head of sub-directorate of economic analysis and statistics	20 May 2014	Direct interview
R12	Enny Sri Hartati	Institute for Development of Economic and Finance (INDEF) – Director	20 May 2014	Direct interview
R13	Dwi Ratih S Esti	KPPN/BAPPENAS -EKPS	21 May 2014	Direct interview
R14	Yulius	KPPN/ BAPPENAS- Directorate of Macro Planning	23 May 2014	Direct interview
R15	Akhmad Fauzi	IPB- Professor at the Graduate	28 May 2014	Direct interview

		Program in Resource and Environmental Economics, Faculty of Economics, Bogor Agricultural University		
R16	Hamong Santono	The International NGO Forum on Indonesian Development (INFID) - Program Officer Post-2015 Development Agenda	27 June 2014	Skype Conference
R17	Chandra Kusuma	Ministry of Finance -Analyst for ASEAN Policy, Fiscal Policy Agency	23 September 2014, 31 October 2014	Written interview (Email)

Appendix 2: Interview topic (and example of questions)

Topic 1. Introduction: Role in the formulation of RPJMN

- What is your (or your institution/division) role in RPJMN formulation? Your (institution/division) interest?
- How is it being accommodated in RPJMN?

Topic 2. Development and its measurement: view on development, welfare and GDP

- What are the important aspects for Indonesia's development plan? What should be the goals of development?)
- What is the relation between welfare and development within RPJMN? How is welfare being interpreted, assessed and measured within the national development plan?
- How is the standing of economy and welfare within RPJMN? Is GDP being equalized to economy and (economy) to welfare?

Topic 3. The use of GDP

Interpretation and influence of GDP information in RPJMN

- How important is GDP in assessing development and welfare? Why?
- What is the role and influence of GDP in RPJMN?
- How GDP is it positioned, interpreted and use in RPJMN? (As an indicator impact/outcome/output indicator? objective of development?) Why?

Factors and conditions that cause the prevalent use of GDP

- Why does GDP become an important target or indicator in RPJMN?
- How and why is GDP being linked with development goals and national priorities? (Why are the narration of national priorities and the development challenge and evaluation in RPJMN being centered around GDP?
- What are the factors and conditions that caused those practices?

History of GDP and its institutionalization process within RPJMN

- How was GDP introduced in Indonesia? How is it become adopted within RPJMN?
- Is there any change in how GDP is use or interpreted within RPJMN over time? Why? How? Under what circumstances?
- What are the factors and conditions that caused the continuity use of GDP within RPJMN?
- Where does the commitment to use GDP within RPJMN come from? (In which RPJMN formulation stages that GDP is introduced and discuss? Which actors that support or involved in it?

Topic. 4. Alternative indicators

Identifying the alternative indicators and the constraining factors

- What are the current available indicators that suitable to complement/replace GDP within RPJMN?
- How does the development progress of those alternatives? What are their current situation and condition?
- How are they currently used and positioned within RPJMN (if it is already adopted within RPJMN)? How is the possibility for the current alternatives to be adopted alongside/replace GDP within RPJMN? Why?
- Is there any initiative to use complement or alternative indicators for GDP? How is the process being carried out? Why? What are the constraining or supporting factors? (pro, contra and debate around this initiative)
- Why are these alternative/complement indicators still having less central position than GDP within RPJMN? What are the constraining factors? What are the reasons that prevent RPJMN for using it or for putting it in more central positions (the mismatches)? (Where does it comes from?)
- Are there any gaps on how these indicators supposed to be used and how it currently used? What? Why? Suggestion to improve these conditions?

Identifying the leverage points

- What are the factors and conditions that needed for these alternative/complement indicators to be included or play more central role or replace GDP within RPJMN? What kind of arrangement that is needed for these indicators to be recognized as the important aspects in RPJMN?
- What kind of initiatives or influences that needed to support it? How?
- Who are the potential actors that might able to advocates this change? Through which way?

Development of alternative indicators (questions for institutions/organizations that develop the alternative indicators)

- What kind of studies that has been done in developing the alternative indicators? How is the development of those indicators? Who are the involved actors? What is their role or contribution?
- What were the background factors that induce these studies and development of those indicators?
- What were the results? How do you communicate or publish those results? Can I get an access to those results or publications?
- How was the response from government, society etc? Is there any support or opposition?
- How is the development of that alternative? How long it has been developed?
- Is the current alternatives are ready to be adopted (degree of maturity) within policy making process (especially RPJMN)? Why?
- Is there any agreement on its readiness (degree of maturity)? Why? Who agree or disagree with it? Is there any consensus on how to use it? Why, how, who?

- Are there any changes in how these indicators perceived, positioned or used (especially within the development policy plan or other policy process?) Why? How? If there were no changes, are there any possibilities for changes? Why? How? What cause the stagnancy?

Topic 5. Additional information

- Do you have any others remarks regarding this topic?
- Do you know others governmental documents and institutions, publications, policy, planning process or any other initiatives that related, discuss or might be the source of the (prevalent) use of GDP?
- Do you know others governmental documents and institutions, publications, policy, planning process or any other initiatives that related or discuss the alternative or complement indicators?
- Do you have any suggestion for another person or institutions that might became the valuable resource regarding this topic?

Appendix 3: Main national development targets of RPJMN 2010-2014

Main national development targets of RPJMN 2010-2014

NO.	DEVELOPMENT		TARGETS	
TARGETS ON DEVELOPMENT OF WELFARE OF THE PEOPLE				
1.	**Economic**			
	a)	Economic growth rate	Average of 6.3 – 6.8 percent per year	
			Growth of 7 percent before 2014	
	b)	Inflation rate	Average of 4 - 6 percent per year	
	c)	Open unemployment rate	5 - 6 percent at end of 2014	
	d)	Poverty rate	8 - 10 percent at end of 2014	
2.	**Education**			
			Initial Status (2008)	Target in 2014
	a)	Increased average school stay of population of 15 years and older (years)	7.50	8.25
	b)	Decline in illiteracy rate of population aged 15 and over (percent)	5.97	4.18
	c)	Increased Net Enrolment Rate of elementary schools (percent)	95.14	96.0
	d)	Increased Net Enrolment Rate of junior high school (percent)	72.28	76.0
	e)	Increased Gross Enrolment Rate of senior high schools (percent)	64.28	85.0
	f)	Increased Gross Enrolment Rate at universities of those in 19-23 years age bracket (percent)	21.26	30.0
	g)	Reduced disparity in participation and quality of education services among regions, gender, social-economic groups, and between education units that are implemented by the government and private institutions		
3,	**Health**			
			Initial Status (2008)	Target in 2014
	a)	Increased life expectancy (years)	70.7	72.0
	b)	Decreased maternal mortality rate per 100,000 live births	228	118
	c)	Decreased infant mortality rate per 1,000 live births	34	24
	d)	Decreased prevalence of nutrition deficiency (deficient nutrition and malnutrition) in infants (percent)	18.4	Less than 15.0

No.	Development		Targets
4.	**Food**		
	a)	Production of paddy	Growth rate of 3.22 percent per year
	b)	Production of maize	Growth rate of 10.02 percent per year
	c)	Production of soybean	Growth rate of 20.05 percent per year
	d)	Production of sugar	Growth rate of 12.55 percent per year
	e)	Production of cow meat	Growth rate of 7.3 percent per year
5.	**Energy**		
	a)	Increased capacity of electricity generating stations	3,000 MW per year
	b)	Increased electrification ratio	Reaching 80 percent in 2014
	c)	Increased production of crude oil	Reaching 1.01 million barrel per day in 2014
	d)	Increased utilization of geothermal power stations	Reaching 5,000 MW in 2014
6.	**Infrastructure**		
	a)	Construction of the Trans Sumatra, Java, Kalimantan, Sulawesi, West Nusa Tenggara, East Nusa Tenggara, dan Papua Roads	Reaching a length of 19,370 km by 2014
	b)	Construction of an integrated inter-mode and inter-island transportation network, in accordance with the National Transportation System and Multi-mode Transportation Blueprint	Completed in 2014
	c)	Completing the construction of the Optic Fiber Network in Eastern Part of Indonesia	Completed before 2013
	d)	Repairing the transportion system and network in 4 big cities (Jakarta, Bandung, Surabaya, and Medan)	Completed in 2014

No.	Development	Targets
Targets of Development of Democracy		
1.	The increased quality of democracy in Indonesia.	1) The increased conduciveness of the political climate for the growth of the quality of civil liberties and political rights of the people that balanced by the increasing compliance with the law; 2) The increased performance of democratic institutions, with an average index of 70 by the end of 2014; 3) Implementing the general election in 2014 in a just and democratic manner, with a participation rate of the people of 75 percent and with the reduced discrimination in the right to be elected and to vote. 4) Increased services in information and communication
		In 2014 the: ► Index of Indonesia's Democracy : 73
Development Target on Law Enforcement		
1	The attained atmosphere of justice through enforcement of the rule of law and maintenance of public law and order.	1) Perception of justice seekers for having a sense of comfort, certainty, and security in their interaction and being satisfactorily served by law enforcers. 2) Increased trust and respect of the general public to the law enforcing apparatus and institutions 3) Supporting a conducive business climate so that economic activities can proceed securely and efficiently
		Corruption Perception Index (CPI) in 2014 of 5.0, and increase from 2.8 in 2009.

Source: Cited from Presidential Regulation No.5 of 2010, annex I-46 – I-49