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Redesigning Indonesian forest fiscal policy to support forest conservation

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ABSTRACT

The formulation of fiscal policy in the forestry sector was designed as a green incentive for local governments to conserve forest area in Indonesia. However, evidence demonstrates an increasing rate of deforestation occurred during the implementation of fiscal policy reforms. Thus, problems persist in the implementation of fiscal policies in the forestry sector. This study evaluates the gap between the rule and the implementation of forest fiscal policy, focusing on regulatory, economic, administrative, and informational instruments. There are four main findings of this study. First, there are several inappropriate and even conflicting regulations concerning local government authorities and forest conservation; second, the lack of coordination among agencies is one of the most important factors causing sub-optimal collection of "non-tax state revenues" from the forestry sector; third, forest fiscal policies in Indonesia mostly focus on collecting financial benefits from timber rather than preserving ecosystem functions, and; fourth, there is a weak management information system concerning forest fiscal policy. To address the gaps identified in this study, the implementation of green fiscal policy in the forestry sector must provide a comprehensive regulatory framework and improve the capacity of human resources.

1. Introduction

Improper fiscal policy is one of many causes that can lead to the over-exploitation of forest resources. When timber production is emphasized over conservation, depletion of forest resources and environmental degradation can result (Marwa et al., 2010; Nurrochmat et al., 2010; Nurrochmat, 2005b). Consequently, ecosystem services are not often considered in policy decisions. When ecosystem services remain inadequately quantified and unmarketed, the total economic value of a forest area can be used as a guide for decision-making (Salles, 2011). However, the total economic value of a forest, which necessarily includes economic services, often remains uncaptured within fiscal policies. To generate income from potential economic values of forest ecosystem services, these services need to be monetized and, if necessary, regulated (Nurrochmat et al., 2010).

Current forest fiscal policies in Indonesia are implemented through intergovernmental fiscal transfer (IFT). However, IFT implementation in Indonesia remains problematic. IFTs are based exclusively on timber production and do not consider total economic value. IFTs are applied in the forestry sector, particularly in the form of revenue sharing between central and local government. The transfer is based only on the level of production of timber, rewarding the local government for providing forest resources (Law 33/2004). According to Mumbunan (2012) there are three principles that guide the transfer of revenue sharing: (1) The derivation principle determines the revenue that is distributed to timber producing districts; (2) The realization principle determines the revenue that is channeled to the districts based on the realization of non-tax revenue in the forestry sector; (3) The equal share principle determines shared revenue is also distributed equally to non-producing districts, but within the producing district's province. It is also important to note that forest fiscal policy does not incorporate punitive elements. A producing district is not sanctioned for resource degradation; districts obtain shared revenue only from exploitating natural resources. Thus, current Indonesian IFTs remain based on the amount of timber and non-timber production, rewarding exploitation and failing to punish deforestation and forest degradation.

To address the unsustainable nature of Indonesian forest-based fiscal policy, several studies suggest that green fiscal policy can support conservation-focused programs in the forestry sector (Chaturvedi et al., 2014; Irawan et al., 2013, 2014; Kollner et al., 2002; Kumar and Managi, 2009; Ring et al., 2010; Ring, 2008; Santos et al., 2012; Scholtens, 2001). Other studies have demonstrated the importance of green fiscal policy design within the forestry sector for ameliorating ecosystem degradation, specifically through environmental or energy taxation (Bossier and Majocchi, 1996; Bossier and Broechet, 1995; Hamelink, 1998; Kunce and Shogren, 2008; Laroui and Leeuwen, 1996, the UK Green Fiscal Commission, 2009; Vollebergh, 2008). This

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study extends scholarship on environmentally conscious fiscal policy by analyzing the gaps between the conceptual basis of fiscal regulations in the Indonesian forestry sector and its implementation.

Specifically, this study evaluates the implication of *Penerimaan Negara Bukan Pajak* (*PNBP*) or "non-tax state revenue" in the forestry sector. This study also examines the levies and mechanisms of "shared revenue" for fiscal balance transfers from the central government to regions. This article focuses on "shared revenues", since they are often considered one of the drivers of deforestation and forest degradation. A series of studies indicate that there is a strong relation between "shared revenue" and deforestation rate (Article 33 Indonesia, 2014; Barr et al., 2006, 2010; Greenomics Indonesia and Indonesian Corruption Watch, 2004; Irawan et al., 2013, 2014; Mumbunan and Wahyudi, 2014; Oka, 2004; Prayitno et al., 2013; Subarudi and Dwiprabowo, 2007).

While this analysis proceeds at the national level, it uses East Tanjung Jabung District, Jambi Province as a regional sample site to substantiate and illustrate claims. This district contains forests with high-value ecosystem services, including Berbak National Park, production forests, peat-swamp forest, and the East Coast mangrove nature reserve. Thus, within East Tanjung Jabung District, there are options to utilize timber, non-timber forest products, and forest ecosystem services (BPPHP Wilayah IV Jambi, 2008). With high potential for carbon sequestration, Berbak National Park has been used as a demonstration activity for REDD+ (Reducing Emissions from Deforestation and Forest Degradation) planning, and as a model for implementing debt for nature swaps between Indonesia and the U.S. through "Tropical Forest Conservation Action for Sumatra" (TFCA-Sumatra). Hence, Tanjung Jabung Timur District provides an important model to illustrate how payments for ecosystem services might support the implementation of green fiscal policy.

This article is divided into six sections. The first section introduces the problem definition and overall content of the study. The second discusses the analytical framework used in this study, followed by the third section, which addresses forest fiscal policy and its implications for conservation. The fourth section then evaluates the implementation gaps of forest fiscal policy, while the fifth formulates the strategies to overcome those gaps. The sixth section concludes this article.

2. Analytical framework

This research uses gap analysis to understand the conceptual basis of fiscal policies in the forestry sector and their implementation on the ground. Avishek et al. (2012) uses gap analysis to assess appropriate policy in ecosystem management, identify the gap between theory and policy, and develop recommendations for bridging gaps in ecosystem management. In addition to gap analysis, this study analyses the conflicting assumptions in policy implementation (Dunn, 1994). We use "analysis of assumption" to evaluate the gap between policy and its implementation (Dewar et al., 1993; Ekawati et al., 2012; Pratiwi, 2008).

To observe the gaps between fiscal policy and implementation in the forestry sector, we examine four policy instruments, drawing on the forest policy-making process (Krott, 2005). According to Krott, forest policy is determined by cooperation among stakeholders and the implementation of regulatory instruments. The forest policy-making process contains policy formulation and policy implementation. Policy formulation is a process through which programs are developed. These programs are then implemented using: (1) regulative instruments; (2) informational instruments; (3) administrative instruments; and (4) economic instruments.

Boecher and Toeller (2003) differentiates four types of policy instruments that influence collective action, i.e. informational (or persuasive), cooperative, economic, and regulatory policy instruments. Informational instruments attempt to influence collective action by providing information to citizens and other actors. Cooperative instruments use the coordination mechanism of negotiations between stakeholders. Regulatory instruments apply "command-and-control" principles. Finally, economic instruments use market-based coordination mechanism of prices to influence actors' behavior. Further, he argues that the choice of a policy instrument is affected by institutions, problem structure, and discourses on instrumental alternative (Boecher, 2012). Wang and Chang identify three policy instruments for low carbon development: (1) law and regulations, (2) industry standard and (3) finance and taxation. In all three of these studies, regulations and economic instruments are essential apparatuses for policy implementation, labeled "policy instruments" (Boecher and Toeller, 2003; Krott, 2005; and Wang and Chang, 2014).

Analyzing gaps between the formulation and implementation of current forest fiscal policy elucidates the necessary conditions for implementing green fiscal policy. To identify gaps, we analyze the compatibility of policies and regulations with their appropriate implementation (Nurrochmat et al., 2014; Sahide et al., 2015). To analyze policy gaps, we provide a definition for each policy instrument and how it is currently being implemented (Table 1). Fig. 1 presents the analytical framework for this study.

3. Fiscal policies in forestry sector and their implication in forest conservation

Some studies suggest that one of the underlying causes of forest degradation in Indonesia is the implementation of decentralization policy marked by the Local Government Law[1] and Law of the Fiscal Balance between Central and Local Governments[2] (Barr et al., 2006; Ekawati et al., 2012; Nurrochmat, 2005b; Wisuandini, 2009). Based on those laws, some authority previously held by the central government was transferred to local governments. The transfer was intended to give local government greater ability to utilize local resources (Nurrochmat et al., 2012). However, these rights have led to the over-exploitation of natural resources within districts to raise local revenue (Barr et al., 2006, 2010; Ekawati et al., 2012; Nurrochmat, 2005a; Wisuandini, 2009). Since the issuance of Law 25/1999 (on fiscal balance) and Law 34/2000 (on regional taxation), regional governments have had the opportunity to generate their own revenues through the collection of taxes and fees from local natural resources. Forest-rich district governments were thus able to charge levies when issuing district logging licenses. These forest-rich districts employed a variety of approaches to generate *Pendapatan Asli Daerah* (*PAD*), or locally-source revenue from timber extraction, particularly during 2000–2002 (Barr et al., 2006; Nurrochmat, 2005a). Then, the government issued Government Regulation (GR) 34/2002 on Forest Administration and the Formulation of Plans for Forest Management, Forest Utilization, and the Use of the Forest Estate, which were later replaced by GR 6/2007 and GR 3/2008. These regulations reassigned principal authority of forest administration to the central government. With the introduction of GR 34/2002, the Ministry of Forestry also took steps to reduce the authority of district heads to issue small-scale logging permits. After withdrawing the authority of district heads to issue forest enterprise permits, the Local Government Law and the Fiscal Balance Law were revised into Law 32/2004 and Law 33/2004. The withdrawal of the forest enterprise permit given by the district head and the revision of Law 32/2004 and Law 33/2004 were intended to reduce deforestation and forest degradation in Indonesia. However, these policies for forest resource distribution have not generated a decrease in forest degradation because the suite of forest finance policies does not focus on district forest management. Instead, this suite of fiscal policies encourages exploitation of forest resources (Nurrochmat et al., 2010).

[1] Law No. 22/1999 that has been replaced by Law 32/2004 and then, Law No. 23/2014.
[2] Law No. 25/1999 that has been replaced by Law No. 33/2004.