

# Critical Review of Spatial Planning of CAT Watuputih, Rembang Zone, Central Java, Indonesia

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**Abstract.** The Act 26 of 2007 on spatial planning stipulates that spatial planning at national, provincial and local level must be based on environmental carrying capacity and environmental carrying capability. Provincial governments generally finished its spatial planning in 2010 and the city and regency's governments in 2011. This paper reviews the spatial planning of Central Java and Rembang Regency regarding the use of CAT (ground water basin) Watuputih, Rembang Zone. Both spatial planning determined that CAT Watuputih was allocated for conservation and for mining. The mixed use zoning stimulates conflict between private sector and government on one side and local people along with academician and NGOs on another side. The SEA (Strategic Environmental Assessment) studies initiated by central government found that CAT Watuputih has strong indication to be KBAK (natural landscape area of karst) need to be conserved while at the moment there have been 21 mining permit holders operating since 1998. The lesson learned from the review is that formulation of spatial planning must be conducted participatory by involving relevant stakeholder, objective and accountable.

## 1 Introduction

The issues regarding spatial planning revolve around inconsistency and the quality of document. The inconsistency is related to the use of space which is not suitable with allocation determined by spatial planning. This was steamed by the orientation of development heavily toward economic growth as noted by Triana [1]. The phenomena have been occurring at most cities in Indonesia and it is popularly called market driven development.

Many green open space, parks, agriculture land, forest have been easily changed for housings, malls, industries, infrastructures and other commercial facilities. Historical sites have been turn down and changed to be commercial facilities. Quality of spatial planning is related to the spatial planning which are based on environmental carrying capacity and environmental carrying capability as mandated by the Act 26 of 2007 on spatial planning. This paper reviews the policy in determining spatial planning of CAT (ground water basin) Watuputih, the environmental and social implications of that policy and proposed recommendation to deal with these problems.

## 2 Literature review

Based on the Act 26 of 2007, spatial planning must incorporate economic, social and environmental aspects. However, according to Budihardjo [2], spatial planning is oriented more on economic and physical

aspects without taking into account social and cultural aspects. Act 26 of 2007 initiated by the Ministry of Environment stipulates that the spatial planning must be based on environmental carrying capacity and environmental carrying capability. However, even, most spatial planning have been accompanied by Strategic Environmental Assessment (SEA) as required by the Laws, the environmental carrying capacity and environmental capability were not fully incorporated by other Ministries, provincial and local governments in formulating their spatial planning. Zhou et al [3] tried to establish a coordinated spatial planning system by taking a case study of Yulin City in Shaanxi Province in China and found that conflict among relevant department revolves around "integration of multiplanning"

The problems must be dealt are how to position and integrate key departmental planning. Grêt-Regamey et al [4] on their studies are aimed to integrate ecosystem services into spatial planning and identified conflict of interests between developers and farmers aiming at securing their fertile land. Lerouge et al [5] evaluated ecosystem services to explore scenarios for adaptive spatial planning and noted that the ecosystem service concept shows a great potential to contribute to an adaptive spatial planning paradigm, however, it is not yet a mainstream practice in spatial decision making. Natarajan [6] found a possible role for 'local knowledge' in producing planning knowledge. The 'spatiality' of local knowledge is a particular interest in constructing spatial planning,

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### 3 Research methods

The type of research is analytical descriptive outlining the driving factors of determining spatial planning and identifying environmental and social impacts. A case study taken is CAT Watuputih, Rembang Zone, Central Java, which is a conflicting area between the government and cement factory on one side and local people, NGOs and academician on other side. The data collection techniques include document (literature) review, content analysis from mass media, physical and social observation and informal interview with relevant interests consisting of government, local people and mining license holders. The data obtained is analyzed qualitatively.

### 4 Results and discussions

Spatial planning of Rembang Regency of 2011-2031 was based on National Spatial planning and provincial spatial planning. Based on National Spatial Planning of 2008, CAT Watuputih is allocated for other uses meaning that this area could be allocated for any use considered suitable with the type of land. Provincial regulation (Perda) number 6 of 2010 on spatial planning states that CAT Watuputih is determined as protection area in which a recharge area categorized as geological conservation area. This Perda recommends that spring area such as Watuputih must be allocated for conservation area.

This Perda also determines that Kendeng Utara mountains including CAT Watuputih is used as cultivation area such as mineral metal and non metal mining, stone and coal, even though without being accompanied with map of spatial pattern. While spatial planning of Rembang regency stipulated at Perda (Regency Regulation) number 14 of 2011 in which CAT Watuputih which has function as recharge area is allocated for conservation. However, the attachment of this regulation stipulates that Watuputih area is allocated for mining use.

This inconsistency of regulation is also caused by inadequate national regulation which does not elaborate in detail the use of CAT. The consequences are that there have been now 21 mining permits issued and operated at CAT Watuputih since the first permit issued in 1998. Both spatial planning at provincial and local (Regency) levels have been accompanied with Strategic Environmental Assessment (SEA) incorporating environmental carrying capacity and environmental carrying capability. However, the involvement of relevant stakeholders including those concerns with environment was considered late where the draft of SEA almost finished. Consequently, the need, interest and aspiration of stakeholder specifically local people were not taken account well. Local people are worried about water resources being degraded which is currently utilized for potable water and irrigation of their rice field. Another reason for inadequacy of environmental consideration are the lack of guidance for measuring environmental carrying

capacity and environmental carrying capability. It is the fact that based on SEA studies initiated by the Ministry of Environment and Forestry and the Office Secretariat of President, CAT Watuputih has a strong indication to be KBAK (natural landscape of Karst need to be conserved. CAT Watuputih is considered fulfilling the indicators of KBAK include (a) as a scientific function (b) as water recharge (c) as water conservation (d) as permanent spring water (e) has caves forming underground rivers

### 5 Conclusions and recommendation

Act 26 of 2007 mandates to improve the quality of spatial planning document by incorporating environmental carrying capacity and environmental carrying capability. This stipulation has been followed formally and not substantially by the government at all levels in formulating its spatial planning. Consequently, spatial planning do not express the need, interest and aspiration of local people and stimulates conflict between private sector and the government orienting toward economic growth on one side and local people and their allies who are worried about water resources degradation.

It is recommended that (1) the existing minings at CAT Watuputih must be environmentally audited to improve their performance and to identify the termination of permit (2) the mining permit holder which has not have operated recommended to operate at other places within Rembang zone parallel with the revised spatial planning (3) the technical guidance of measuring environmental carrying capacity and environmental carrying capability is urgently issued by the Ministry of Environment and Forestry (4) the existing spatial planning at local level should be revised by involving all stakeholders including local people.

### References

1. N. Triana. *Kebijakan Penataan Ruang Bopunjur. Disertasi PDIH UNDIP. (Policy of Spatial Planning of Bogor, Puncak and Cianjur, West Java. Dissertation of Doctorate Program of Law, Diponegoro Universit.* (2013)
2. E. Budihardjo. *Prepared for EIA Course. Environmental Study Centre, Diponegoro University.* (2003)
3. X. Zhou, X. Lu , H. Lian <sup>a</sup>, Y. Chen <sup>c</sup>, Y. Wu. *Habitat International.* **65.** 32-48. (2017)
4. A. Grêt-Regamey, J. Altwegg, E.A. Sirén, M.J. van Strien, B. Weibel. *Landscape and Urban Planning.* **165.** 206-219. (2016)
5. F. Lerouge, H. Gulinck, L. Vranken. *Journal homepage. www.elsevier.com.locate/ecolink.* (2017)

6. L. Natarajan. *Progress in Planning*. **111**. 1-22. (2015)
7. Departemen Pekerjaan Umum. *Undang-Undang no 26 tahun 2007 tentang Penataan Ruang (Ministry of Public Works. Act 26 of 2007 on Spatial Planning)*. (2007)
8. Kementerian Lingkungan Hidup. *Undang-Undang no 32 tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup. (Ministry of Environment. Act 32 of 2009 on Environmental Protection and Management)*. (2009)