

## **Modeling Of Sustainable Mineral And Coal Governance Based On Systems Thinking And U Theory.**

Public administration plays a very vital and strategic role for the sustainability of the life of the nation and state. Within the scope of public administration, there are branches of public policy; where what is meant by public policy is all forms of activity related to government policy with the aim of solving all problems that occur in the public sphere. Government policy is a form of government response or reaction in overcoming a public problem. The problems that arise usually reflect the situation and conditions in the public sphere that can potentially cause social tensions or social unrest.

Public policy on natural resource management (SDA), especially minerals and coal (minerba) in Indonesia, is controlled by the state for the greatest welfare of the people (Article 33 paragraph 3 of the 1945 Constitution of the Republic of Indonesia) by giving the government authority to cooperate with business actors and/or through state company. The absence of a mineral and coal governance guideline since the 1999 reform until the issuance of the 2009 mineral and coal law was the initial stage of the emergence of various chaos in the mineral and coal sector. The problem of mineral and coal decentralization is complicated by the amendment of Regional Government Law No. 32 of 2004 to be No. 23 of 2014 which focuses on the transfer of several powers, including mineral and coal to the control of the provincial government, which changes the architecture of mineral and coal management and its bureaucracy.

Such matters reflect that sustainable mining governance is complex, with various interests involved from central, regional, community, private and international government levels. The transformation of mineral and coal governance requires in depth research in order to make this sector contribute as much as possible to the welfare of the people in the framework of a prosperous Indonesia. The author uses a mixed methodology of qualitative by soft systems thinking (SSM, Soft System Methodology) and enriched Theory U, with the help of social network analysis (SNA, Social Network Analysis) and testing findings (novelty) with the SEM-WarpPLS as quantitative multiple predictive methodology.

This qualitative research method is based on the SSM system thinking methodology with the aim of: 1) Describing and analyzing the general description

and structuring of mineral and coal governance problems in Indonesia, 2) Describing and analyzing the implementation of national mineral and coal governance based on SSM analysis, SNA and U theory, The quantitative method is to 3) Determining model of sustainable mining governance based on the collaborative analysis of SSM-SNA-U theory.

By using the SNA NodeXL approach of mineral and coal policy law No. 4 of 2009, it can be concluded that the actor most accessed (in degree) is IUP / WIUP while the actor who has the most access (out degree) is the government. Meanwhile, IUP (exploration / production operations) is an influential actor in determining the main policy relationship (betweenness centrality). Meanwhile, IUP OP and IUPK are the closest actors and are widely discussed (closeness centrality). The most central actor (eigenvector centrality) is the name of the company.

Content analysis by SNA Nvivo of the Minerba Law Number 4 of 2009 found several important findings, that mineral and coal as a non-renewable resource is controlled by the state with development and implementation based on the principles of externality, accountability and efficiency, involving the central and local governments. Mining businesses must provide maximum economic and social benefits for the welfare of the Indonesian people by accelerating regional development and encouraging community/small and medium business economic activities.

The conclusion from the analysis of the SNA NodeXL analysis regarding local government governance policies of Law No. 23 of 2014 is that further provisions, the regional head is the actor who has the most access (in degree), while the actor who has the most access (out degree) is the minister. As for the regional head, government affairs, regional autonomy are the influential actors in establishing the main policy relationship (betweenness centrality). Meanwhile, DPRD members are the closest and most discussed actor relations (closeness centrality). The most central actor (eigenvector centrality) is the district/city regulation.

New research findings (research novelty) of qualitative analysis about the root causes of mineral and coal governance policies in Indonesia with the SSM approach and the U theory perspective include:

- a. Improvement of the permit and land use system
- b. Management of commodity production and trade
- c. Supervision of mining production
- d. Increase in added value and development of downstream industries

- e. Supervision of quality standards, handling of social and environmental impacts
- f. Improvement of the tax system and state revenues, as well as financial and investment aspects
- g. Mineral and coal funds
- h. Effectiveness of regional development and decentralization
- i. Law enforcement, prevention and eradication of corruption, and institutional strengthening.

Based on the quantitative analysis of the SEM-WarpPLS predictive method considering of its indicators for each supporting factor as a review of the qualitative research findings, it can be concluded that:

1. Sustainable mining governance in Indonesia is closely related and is a function of the SSM system thinking process, which includes decentralization, U theory, governance, environmental quality, quality of CSR, and economic development that occurs.
2. Decentralization plays a central role in attracting quality of environmental, quality of governance, quality of community, and quality of economy as well as driving or driving the maintenance and improvement of sustainable mining governance.
3. Transformation of mineral and coal governance based on U theory has a role to strengthen the effect of Quality of environmental and Quality of governance on sustainable mining governance, besides that it has an absolute role so that Quality of community and Quality of economy increase.
4. Sustainable mineral and coal governance is a function of governance, economic, community, environment, mediated by decentralization and moderated by governance theory U.

Keywords : Public policy, Sustainable mineral and coal governance, SSM, SNA, Theory U, De(re)centralization, SEM-WarpPLS, Welfare state.