

INDIGENOUS PEOPLE IN THE DYNAMICS OF LAND USE CHANGES, FOREST FIRES AND HAZE IN RIAU PROVINCE, INDONESIA

***Helmi¹, Defriman Djafri¹, Cut Mutiani¹, Nurdin²,
M. Badri², and Yefni²***

¹Andalas University, Indonesia

²Islamic University Sultan Syarif Kasim (UIN SUSKA), Pekanbaru – Indonesia.

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Outline

- Introduction.
- Sustainability science perspective.
- Research results.
- Complexities and drivers of forest fire and haze problems.
- Ethical framework for collaborative supports to indigenous people and overcome haze problem.
- Conclusion and recommendation.



Introduction



Why the research important?

- Indigenous people are victims of the haze problem, their livelihood depends on the cultivation of the forest land, and they themselves are parts of the dynamics of stakeholders interactions relating to land use changes and forest fires → haze problem.
- It is associated with the principle of social responsibility stipulated in Article 14 of Universal Declaration on Bioethics and Human Rights.
- Three out of five elements of the concerns about social responsibility are relevant, including:
 - (1) improvement of living condition and the environment;
 - (2) elimination of marginalization and exclusion of persons on the basis of whatever grounds; and
 - (3) reduction of poverty and illiteracy (IBC, 2010: 9).



About the research - 1.

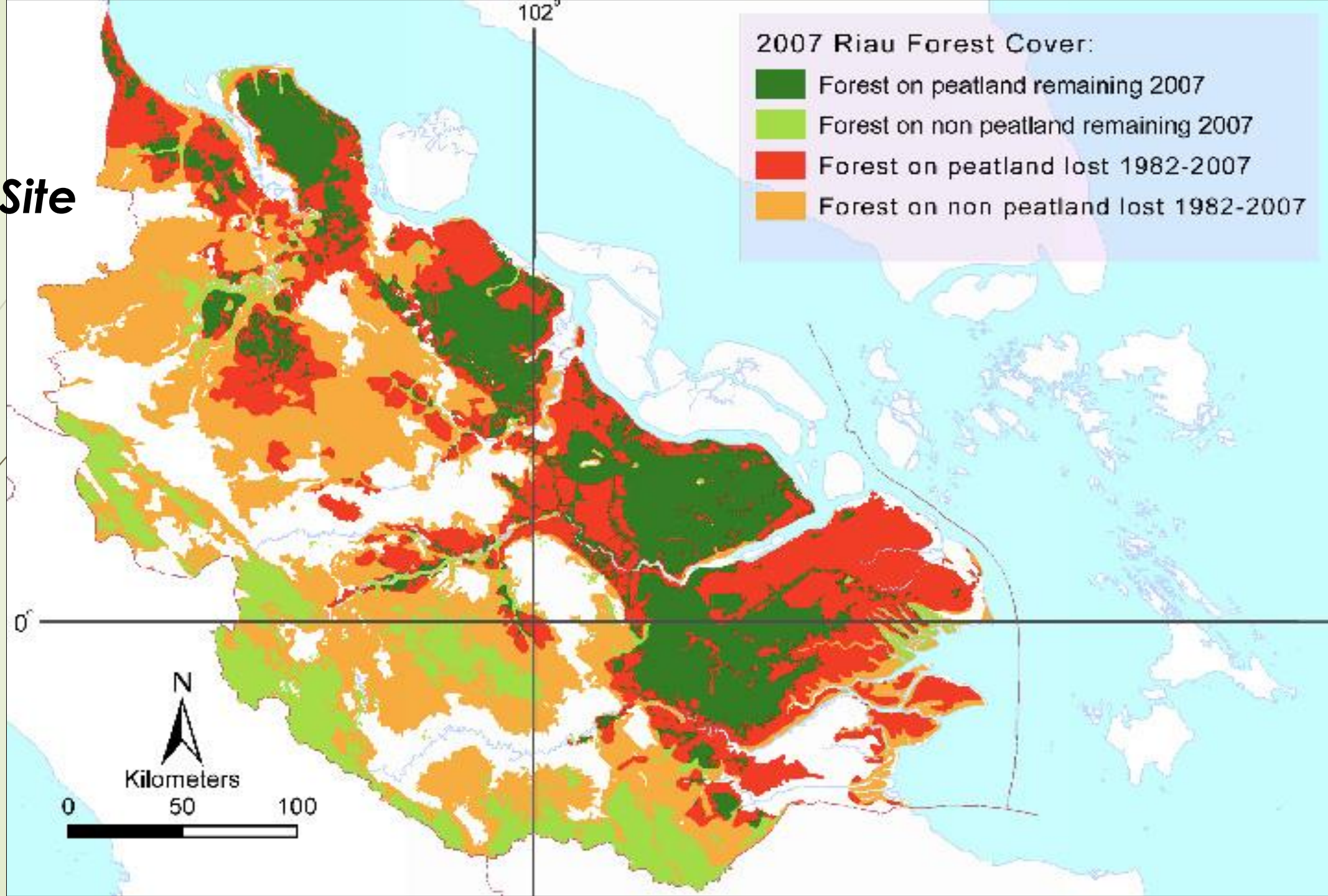
- Aims to develop better understandings of the interaction between the ecosystem and the local community that creates the haze problem, its effects on them, and the related socio-cultural, local knowledge factors and agricultural practices.
- Specific objectives:
 - (i) identify the stakeholders and socio-economic-cultural-policy drivers of haze;
 - (ii) investigate the linkages between forest fire and haze problem to the indigenous people; and
 - (iii) develop a sustainability framework for collaborative support to indigenous people and to overcome the forest fire and haze problem.



About the research - 2.

- It uses sustainability science perspective in an attempt to formulate solutions to sustainable development problem which aim at generating welfares for all relevant stakeholders.
- It is closely associated with the principle of social responsibility stipulated in Article 14 of Universal Declaration on Bioethics and Human Rights.
- A combination of methods was adopted, including literature review, focus group discussion (FGD), and field observation.

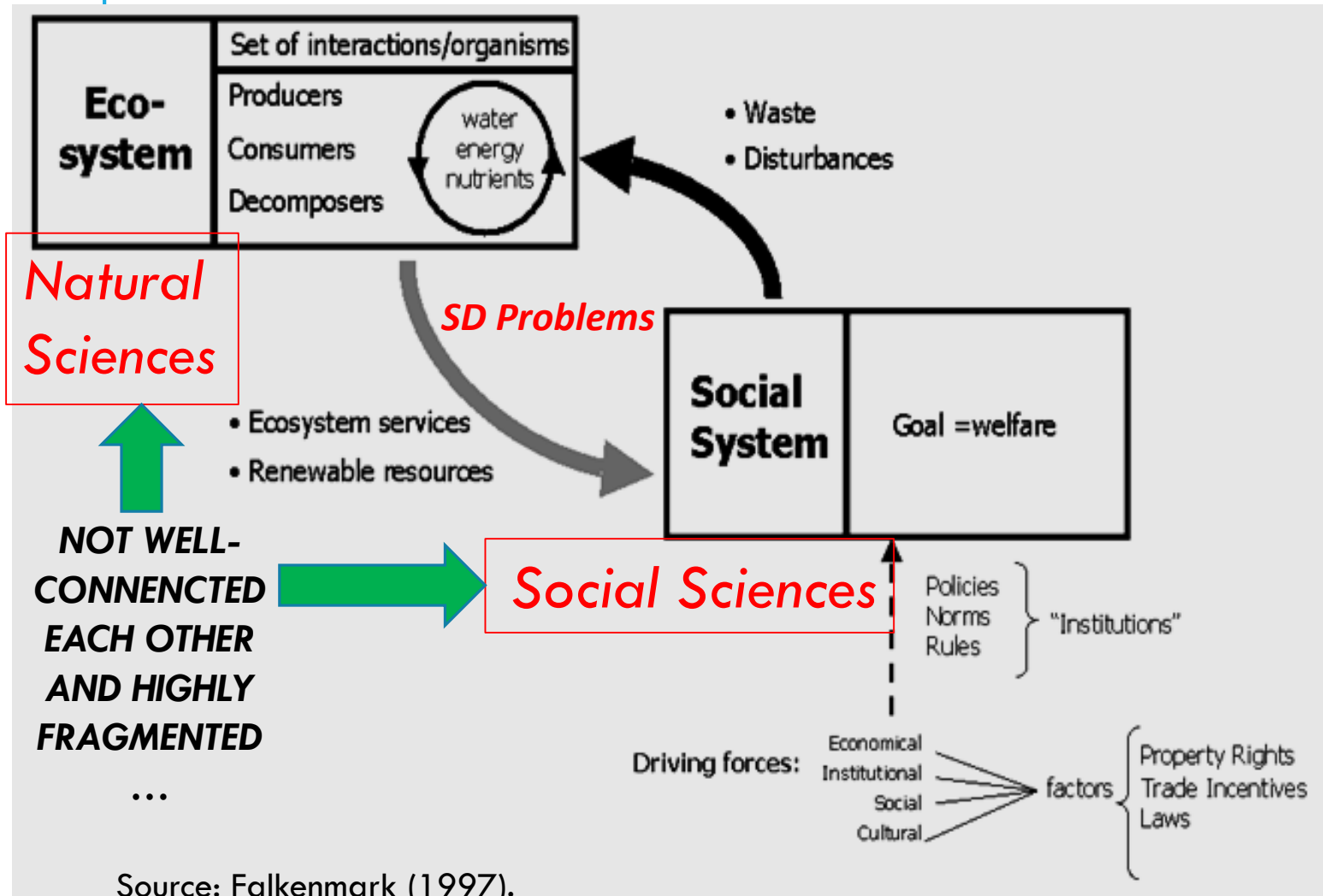
Research Site





Sustainability Science Perspective

LIFE SYSTEMS ON EARTH, SD PROBLEMS AND DOMAINS OF SCIENCES



- Physics, chemistry, biology and the environmental sciences can deliver wonderful solutions to some of the challenges facing individuals and societies, but whether those solutions will gain traction depends on factors beyond their discoverers' ken. **If social , economic and/or cultural factors are not included in the framing of the questions, a great deal of creativity can be wasted** (p.5).

- If you want science to deliver for society, through commerce, government or philanthropy, you need to support a capacity to understand that society that is as deep as your capacity to understand the science (p.5).

- The need to establish multidisciplinary projects – and **integrate natural sciences, social sciences and humanities from the outset.**

Source: Nature, Journal of Science, Vol 517, 1 January 2015

Sustainability Science -1

- ... is a science discipline aim at generating scientific knowledge as the basis to formulate **science-based innovative solutions to the sustainability problems** and delivery of sustainable development goals (SDGs).
- Elements of sustainability science:
 - **interdisciplinary** (trans-disciplinary);
 - **solutions oriented** (of SD problems/issues/challenges);
 - **optimising social and humanity potential** (through learning process approach);
 - **Maintaining continuation of benefits stream** (from ecosystem);
 - **aim at well-being for all.**

Challenges for advancement and practicing Sustainability Science

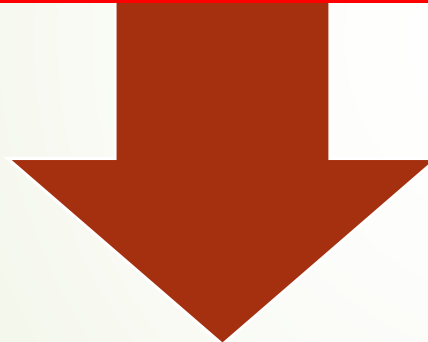
- The obstacles are (Komiyama and Takeuchi, 2006: 3-4):
- "(1) **complexity** of the problems and the **specialization of the scholarship** that seek to address them;
- (2) the **scientific discipline** that examines this complex problems have themselves **grown increasingly fragmented** in recent years, so much research is conducted from a highly restricted perspective with regard to both phenomena identification and problem solving; and
- (3) **piecemeal approach** which constraining the development and application of comprehensive solutions to these (sustainable development) problems".

FOREST FIRE AND HAZE PROBLEM



Upstream: Ethical elements and social responsibility issues.

Indigenous people



Downstream: Haze problems and impacts.

Both are equally important as stated in the conclusion of the IBC Report: "... it is requires not only a serious effort to improve health and health care delivery (downstream problem) but also **acceptance of responsibility to minimize or eradicate avoidable risk of threats to health and well-being (upstream problem)**" (IBC, 2010: 45).



Research results

Social indigenous system

- The indigenous people called Petalangan have existed in Pelalawan before Hinduism came to the region. Petalangan people had lived under the influence of several kingdoms prior to the Indonesian independence (Marzali, 2014).
- The social indigenous system in Pelalawan is called Pebatinan (Batin system). There are 29 Pebatinan in Pelalawan, each of which is led by a Batin.
- This system is based on communal ownership and control over land and forest, which is called hutan tanah ulayat → divided into three categories:
- **Rimba perladangan**: seasonal forest land to grow food crops, using slash and burn method;
- **Rimba cadangan**: reserved forest to harvest timber and non-timber forest products as income sources; and
- **Rimba kepungan sialang**: forest allocated specifically as habitat for bees to produce honey, which is seasonally harvested by indigenous people.

Norms and ethics related to forest and land use rights and management

- ***Nyanyi Panjang***: is a type of cultural event in the form of singing poems containing norms and ethics in the social life of the community → through the event, the community is reminded from time to time **about the principles of interactions among different aspects of their land- and forest-based life.**
- ***Menumbai***: is the **practice of harvesting honey from Sialang trees.** Sialang is a term used to represent a group of tree types which are suitable as habitat for bees (*Apis dorsata* type) to produce honey. This practice is conducted two or three times a year during the night with a torch made of coconut fruit fiber as the only source of light. The honey will be **then shared among the team of harvesters, clan leaders, and the other clan members** following *adat* rule.

Community preparedness to deal with forest fires and haze

- The existence of MPA (Fire Care Community) → still having problem with its sustainability.
- The possibility to build the capacity of MPA to be able to provide small-scale land clearance services to the community and small scale (legal) investor to prepare land for agricultural purposes.
- Members of MPA can be trained to improve their technical skills and provided with supporting equipment.
- The MPA can be given the right to cultivate land which functions as a showcase of how to properly conduct land clearance.
- The earning from the cultivated land can also support MPA operational costs and the livelihood of the active members in the long term.
- → This initiative can be part of the future strategies to deal with the threats of forest fires and haze.

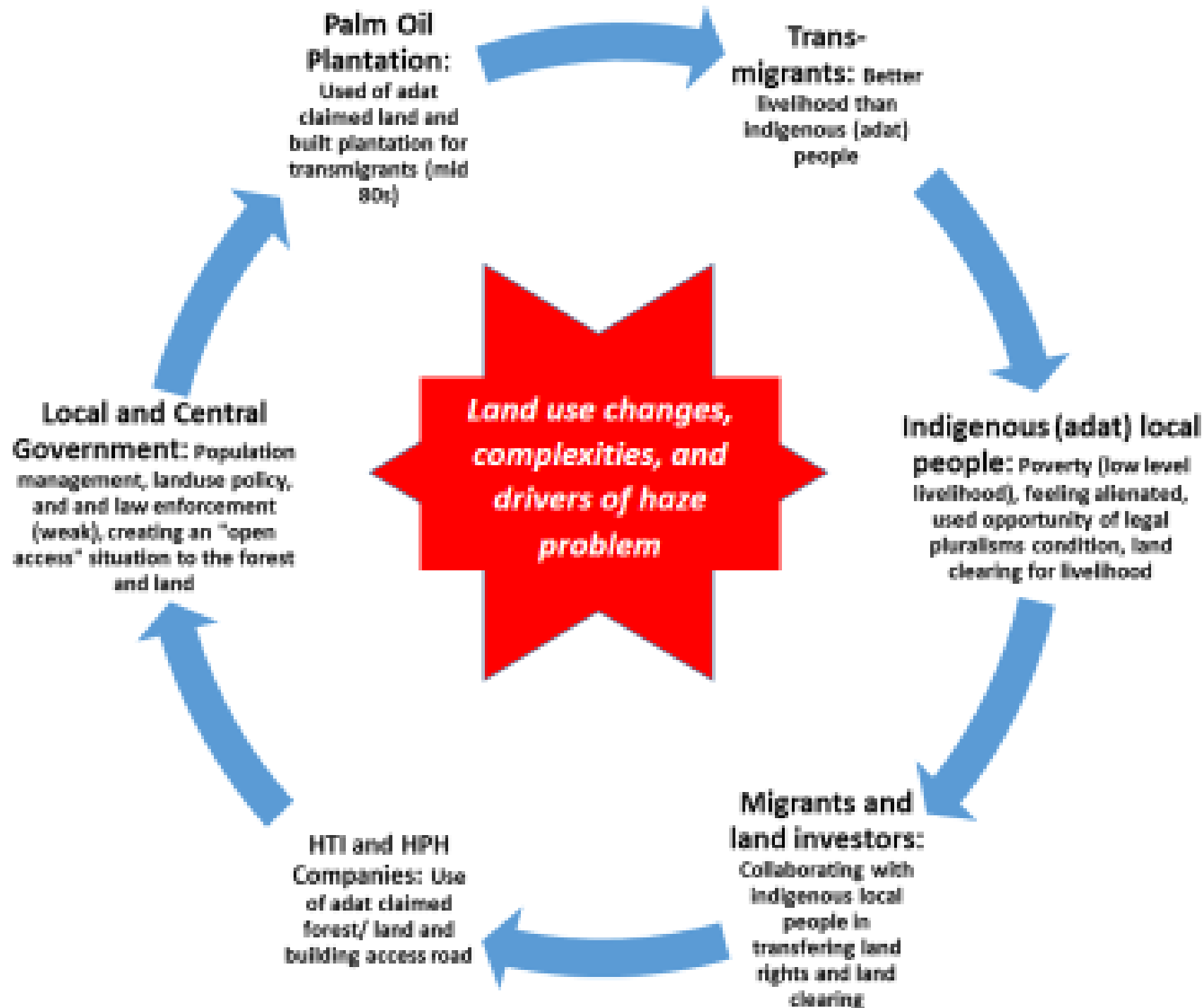
Stakeholders

- Purnomo (2015) identified 17 stakeholders involved in the complex problem of haze and forest fires, including land claimants; farmers' groups (two); marketing team of cleared land; government agencies of different levels (five); land speculators; land buyers (two); palm oil and industrial plantation business persons and corporations (three); non-government organizations; and universities and research institutes.
- In this research the stakeholders classified into four main categories:
 - 1) Indigenous people;
 - 2) Migrants and land investors;
 - 3) Palm oil and industrial forest plantation corporations; and
 - 4) Government agencies.

Complexities and drivers of forest fire and haze

- 1) **Haze problem is a consequence of land clearance for plantation** (mainly palm oil and rubber). This situation is then worsened by illegal logging. Dry season with less rainfall and reduced soil water table also make forest and peatland more prone to be burned, and fire spread to a larger area. Two *factors which make land clearance attractive* include: (1) an *increased in land price* after clearance; and (2) the existence of *palm oil factories which do not require plantation*; instead, they obtain raw materials from non-corporate plantation which is mainly located on the area either under overlapped property right regimes or disputed tenurial status (between the state, *adat* communal rights, and corporate concession).
- 2) The forest concession given by the government to palm oil companies, industrial forest (HTI), and **logging concession (HPH) have overlapped the adat communal land** claimed by indigenous people. This has created *conflicts between the companies and the indigenous people*. In addition, the development of *palm oil plantation* in earlier periods which was intended for and ***distributed to trans-migrants from outside*** Riau Province has *left indigenous people with the feelings of being alienated and unequally treated*.
- 3) **Road construction** in industrial forest (HTI) locations to transport timbers has made it easier to access the forest and thus **attracted even more land clearance**.

- 4) The difficult economic condition of **indigenous people** (around **75% are classified as poor households**) and their **low educational level** have **limited their income sources to logging** (in the adat communal forest land claimed by indigenous people), **involvement in land clearing activities**, and **transfer of land rights to migrants** from outside Riau Province **and land clearing investors**.
- 5) Migrants, whose population have prevailed quickly, hope to improve their livelihood through land-based economic activities in Riau Province. **Indigenous people, feeling alienated** by the government, **consider migrants and land clearing investors as partners to improve their livelihood** through land clearance (**by fire**) and **land right transfer**.
- 6) The **government**, both central and local, **did not have a firm standpoint and policies** to tackle various aspects of the problem. Related regulations were considered insufficiently enforced. The migrants residing within the Tesso Nilo National Park area have integrated into the nearby village, **leading to** an expansion of **village area coverage, further land conversion, and an “open access”** situation.



Initial Ethical framework for collaborative supports to indigenous people and overcome haze problem

- This ethical framework consists of four components:
- (1) property right regimes: state, private, communal, and open access
- (2) Ethical issues: The state-related ethical issue (protect and improving welfare of the people); Ethical issue of the private sector/corporations (CSE-R); Ethical issue of the community (environmentally friendly behavior in using and managing land and forest).
- (3) elements for actions and transition towards sustainability (cultural, socio-economic, and environment); and
- (4) addressed sustainability issues, by taking into account: (1) the social and cultural structures of indigenous people which are land- and forest-based; and (2) indigenous people have already developed local wisdom for sustainable management of land and forest. .

Property right regimes	Ethical issues	Elements for actions and transition toward sustainability	Addressed sustainability issues
State land and forest (currently not assigned any usufruct right, but also claimed as communal forest land)	State responsibility to protect the interests of indigenous people as well as other legal inhabitants, and improve their welfare	<ul style="list-style-type: none"> • Development of <i>keputusan sialang</i> forest under community forestry status (HKm) where appropriate; • Establishment of a collaborative model for developing palm oil and industrial forest plantation, which is between the corporations and indigenous people/other legal inhabitants, and facilitated by the government; • Development of state-owned permanent food crop land which is cultivated by local people, managed by village authorities, and with arrangements of yield sharing; • Social and cultural empowerment of indigenous people to sustainably manage land and forest, and to improve their livelihoods (i.e establishment and empowerment of MPA). 	<ul style="list-style-type: none"> • Conservation of land, forest, water, and biodiversity; • Local economic development (NTFP); • Economic growth and employment; • Food security.

Property right regimes	Ethical issues	Elements for actions and transition toward sustainability	Addressed sustainability issues
Land and forest under concession to corporation (both palm oil plantation and HTI - still valid and on-going)	Corporate social responsibility	<ul style="list-style-type: none"> • Supporting local economic development and forest conservation (i.e development of <i>kepungan sialang</i> forest as for ecotourism purposes); • Development of state-owned permanent food crop land, which is cultivated by local people and managed by village authorities with yield sharing arrangements; • Empowerment of MPA. 	<ul style="list-style-type: none"> • Local economic development (NTFP, eco-tourism); • Conservation of land, forest, water, and biodiversity; • Food security.

Property right regimes	Ethical issues	Elements for actions and transition toward sustainability	Addressed sustainability issues
Land and forest under expired concession	Re-establishment of rights of indigenous people for a decent life	<ul style="list-style-type: none"> • (Inside TNNP): Development of <i>kepungan sialang</i> forest with the rights of indigenous people to harvest NTFP; • (Outside TNNP): Establishment of a collaborative model for developing palm oil and industrial forest plantation, which is between the corporations and indigenous people/other legal inhabitants, and facilitated by the government; • Development of state-owned permanent food crop land which is cultivated by local people and managed by village authorities with yield sharing arrangement; • Social and cultural empowerment of indigenous people to sustainably manage land and forest, and to improve their livelihoods (i.e establishment and empowerment of MPA). 	<ul style="list-style-type: none"> • Social development & empowerment; • Local economic development (NTFP, eco-tourism); • Food security.

Property right regimes	Ethical issues	Elements for actions and transition toward sustainability	Addressed sustainability issues
Communal land and forest	<ul style="list-style-type: none"> • State responsibility to protect the interests of indigenous people and improve their welfare; • Corporate social responsibility 	<ul style="list-style-type: none"> • Development of local economy and conservation of forest (i.e improvement of <i>kepungan sialang</i> forest as eco-tourism destination). • (Wherever possible and agreed upon): Establishment of a collaborative model for developing palm oil and industrial forest plantation, which is between the corporations and indigenous people/other legal inhabitants, and facilitated by the government; • Development of state-owned permanent food crop land, which is cultivated by local people and managed by village authorities with yield sharing arrangements; • Social and cultural empowerment of indigenous people to sustainably manage land and forest, and improve livelihoods (i.e establishment and empowerment of MPA). 	<ul style="list-style-type: none"> • Local economic development (NTFP); • Economic growth and employment; • Food security; • Conservation of land, forest, water, and biodiversity.

Conclusion and recommendation

- One of the major root causes of forest fires and haze is the taken-over by the state of the land and forest under communal claim, which is then given under concession of (mostly palm oil) corporations → this has left indigenous people with the feelings of being unequally treated, unable to get benefits from the land, and alienated in their own homeland.
- On the other hand, the development of palm oil plantation and industrial forest has contributed significantly to economic growth.
- Recommendation: Key solutions to the problem should be based on re-establishing the rights of indigenous people and empowering them so that they can actively engaged in relevant processes.
- This research offers an initial ethical framework (which still needs further development) as the basis for the stakeholders to take actions in the transition towards sustainability and avoid the haze problem.



Thank you.