The contributions in this special issue are based on the general assumption that political and economic decisions always have an ecological impact and that societies have always transformed, (re-)produced, manufactured, and crafted nature. Environmental transformations are never socially neutral but are strongly connected to power relations (Görg, 2003). The enforcement of power over nature evolves in a dialectical process with the enforcement of power over humans (Pye, 2015). Furthermore, social, cultural, and political power asymmetries shape the production of knowledge, the definition of problems, and the search for solutions with regard to socio-ecological phenomena. Both gender and ethnicity are decisive factors in societal relations to nature. Gender constitutes a critical variable in human-nature relationships (Resurreccion & Elmhirst, 2008; Rochelleau, Slayter-Thomas, & Wangar, 1996) as does the category of ethnicity with its strong impact on group formation (Afiff & Lowe, 2007; Bertrand, 2004; Li, 2000). In this special issue we address how both categories interact and enforce each other in contested development processes, focusing on access, control, knowledge production, and identity-formation in struggles over land, nature, and natural resources.

INDONESIA’S DEVELOPMENTALIST AND EXTRACTIVIST PARADIGM

During the New Order, Suharto’s authoritarian development regime was based on the extraction of the natural resources of the ‘Outer Islands’ for enhancing progress of the center (Java) (Haug, Rössler, & Grumblies, 2017). Backed by foreign investments, the Outer Islands and especially the uplands were constructed as marginal areas and their inhabitants as ‘isolated tribes’ (suku terasing) which should be ‘civilized’ in the name of development and modernization (Li, 1999). Following this aim, since the 1980s, transmigration programs have been enforced in order to establish the presence of the Javanese ‘center’, to strengthen a national identity, and to relieve population pressure in Java (Elmhirst, 1999). Thousands of families have been resettled from Java to the Outer Islands and endowed with land and assets so as to cultivate the land and ‘civilize the people’. In the same context, the 1997 implemented village law (UU No. 5/1979) aimed at the homogenization of village governance based on the Javanese model of the desa. The law transformed the socio-political and territorial organization of former communities and banned customary rights to land. In the context of
the developmentalist and extractivist agenda, huge forest areas were destroyed, put under state control, or commercialized for extracting natural resources or converting them into agricultural land. The commodification and devastation of nature entails transformations in livelihood strategies and economic structures as well as the weakening and abolishment of the socio-political and territorial organization of local communities. Consequently, conflicts regarding the access and control of land and resources occur (Hall, Hirsch, & Li 2011; Nevins & Peluso, 2008; Pichler & Brad, 2016).

Today, the national model of development still connects economic growth and social development with the extraction of natural resources (for mining, see Großmann, Padmanabhan, & Braun, this issue). The national Masterplan for Acceleration and Expansion of Indonesia Economic Development (Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia, MP3EI) for the period of 2011 to 2025, adopted by the former president Susilo Bambang Yudhoyono (SBY), stresses this developmentalist paradigm. According to their economic capacities and advantages, the MP3EI divides regions into Economic Corridors to achieve Indonesia’s goals of self-sufficiency, advancement, justice, and prosperity (Coordinating Ministry for Economic Affairs, 2011). Subsequently, Sumatra has been defined as a Center for Production and Processing of Natural Resources and as the Nation’s Energy Reserves (Coordinating Ministry for Economic Affairs, 2011, p. 51), referring to palm oil, rubber, coal, shipping, and steel. Java, on the contrary, should serve as a Driver for National Industry and Service Provision (Coordinating Ministry for Economic Affairs, 2011, p. 74), stressing the production of food and beverages, textiles, and transportation equipment. Kalimantan should develop to become the Center for Production and Processing of National Mining and Energy Reserves (Coordinating Ministry for Economic Affairs, 2011, p. 96), focusing on oil and gas, coal, palm oil, steel, bauxite, and timber.

As can be observed in his government plan, the current president Joko Widodo follows this developmentalist paradigm (Widodo & Kalla, 2014). He aims at strengthening the national economy by extracting and refining (hilirisasi) natural resources, whereas the exploitation of coal and gas should secure the national energy supply and enhance export revenues. At the same time, Joko Widodo takes into account local communities and stresses fair governance. This includes the ‘fair distribution’ of natural resources aiming at the enhancement of benefits and respect of local communities and a planned moratorium on giving permits for the establishment of oil palm plantations and mining sites. He prolonged these aspects in his speech on 4 January 2017, in which he promulgated equality, the redistribution of assets, and the reform of land rights as his main objectives.

Unsuccessful Attempts to Enhance Fair Distribution and Environmental Protection

Joko Widodo’s aim to enhance the fair distribution of natural resources exemplifies a slight change in the relationship between the state and natural resource extraction in respect to policies and regulatory framework. Yet, his attempts to enhance equality, rights, and environmental protection still lack impactful implementation, as he mostly proceeds the ineffective regulations and programs of his predecessors. Since the 1990s, the Indonesian government has tried to limit the negative effects
of commercial use of natural resources for people and the natural environment. For example, national parks in which agricultural activity was prohibited were established to increase environmental protection. However, these policies have caused severe land conflicts between the local population, migrants, and state officials. In this issue, Stefanie Steinebach and Yvonne Kunz elaborate on the establishment of the Bukit Duabelas National Part in Sumatra in 2000 and show that neither ‘indigenous’ nor ‘non-indigenous’ people could assert land rights. In 1997, and in an extended version in 2009, a comprehensive environmental protection law was adopted (UU No. 23/1997 and UU No. 32/2009), which includes, among other things, the obligation to carry out an environmental impact assessment (Analisis Mengenai Dampak Lingkungan, AMDAL) for all projects affecting the environment. However, the assessment is commissioned and financed by the investor or the company and the results are mostly evaluated by a commission of experts who benefit from the investment as, for example, government representatives. Therefore, compensation payments are often very low or promised but not paid. NGOs and communities see the AMDAL process very critically as it is primarily a formality in which the negative impacts and rehabilitation measures for people and the environment are not taken seriously (see Großmann, Padmanabhan, & Braun, this issue). Overall, the attempts to enhance fair distribution through the establishment of national parks and impact assessments were double-edged. The overlap of areas with community lands, protected areas and indigenous conservation sites cause policy and regulatory uncertainties over land use and property rights. Priorities and interests differ not only vertically between local communities, the national state, and companies but also horizontally between different local groups and local elites (see Steinebach & Kunz; Großmann, Padmanabhan, & Braun, this issue).

The Need for Transdisciplinarity

One response to the challenges of environmental transformations and climate change is a transdisciplinary approach (Christinck & Padmanabhan, 2013). Transdisciplinarity goes beyond the interdisciplinary cooperation between different academic disciplines and recognizes the valuable contribution that practitioners’ expertise can bring to problem-oriented research (Jahn, Bergmann, & Keil, 2012). Therefore, an understanding of transformation processes demands an assessment of their relationships with human values and socio-economic development pathways. A transdisciplinary approach is concerned with the reconciliation of the development of human society with the planetary boundaries in which it takes place (Clark & Dickson, 2003) and reflects on power relationships at the heart of current unsustainable socio-ecological interactions. In their contribution, Yunita T. Winarto, Cornelis J. Stigter, and Muki T. Wicaksono describe such an inter- and transdisciplinary project, that is, the implementation of Science Field Shops for farmers in Java to learn agrometeorology in order to better respond to phenomena related to climate change. The authors argue that through an inter- and transdisciplinary educational commitment in the frame of Science Field Shops, farmers not only develop strategies to cope with environmental change resulting from climate change but also learn to contest conventional national development paradigms.
THE GENDER-ETHNICITY-ENVIRONMENT NEXUS

Indonesia is of specific relevance within the field of gender studies, as scholars have stressed the tendency of only minor stratification of social relations along the category of gender (Colfer, 2008; Delong, 1998; Metje, 1995; Sanday, 2002; Tsing, 1990). In more recent decades, however, research has pointed towards rising gender inequality in predominantly Muslim regions (Schröter, 2013) which exists side-by-side with gender equal or gender symmetric groups. One of these groups are the Dayak Benuaq in Kalimantan (see Michaela Haug, this issue), which are generally characterized by well-balanced gender relations. However, new gender asymmetries are emerging due to environmental change. Haug indicates that the increasing exploitation of natural resources has led to far reaching social and political transformations which (re) produce, in various ways, gendered economic, political, and social inequalities. As men and women possess different environmental knowledge, roles, and responsibilities, gender plays a crucial role for determining access to and control over natural resources and often influences how men and women are incorporated into new labor systems. Rising inequalities are also illustrated in the contribution by Kristina Großmann, Martina Padmanabhan, and Katharina von Braun, where women’s rights and access to and control over land and cash, as well as status within the mining community decrease (see also Byford, 2002; Lahiri-Dutt & Mahy, 2007; Macintyre, 2002). Similar observations are made regarding the exploitation of palm oil where women are described as increasingly marginalized (Julia & White, 2011; Li, 2015).

Most existing literature on environmental change and gender focuses on women rather than on gender relations and tend to depict women as victims, stressing their vanishing access, control, and status. Only recently, Rebecca Elmhirst and Ari Darmastuti (2015) have developed a more nuanced description in their gender specific analysis of environmental change, governance, and power structures, which also takes the materiality of resources into account. They elaborate on the continuing embeddedness of multi-local livelihoods with reference to the use of diverse natural resources. Changing economic systems and social structures, they assert, lead to new (self-)concepts of gender identities, gender roles, work activities, control, and responsibilities. In her contribution to this issue, Michaela Haug follows this approach by describing women’s and men’s integration in differently gendered socio-economic systems, analyzing inclusions and exclusions of men and women in different contexts. Generally speaking, while there is a great number of studies on gender relationships in Indonesia, there is still a limited body of academic literature on issues of human-nature relationships with a gender focus – a gap which we aim to bridge in this issue.

Much of the contested environmental transformations, as the increasing exploitation of natural resources, deforestation, and expansion of palm oil production, take place within the domains of indigenous communities and in areas of rich biodiversity. Therefore, environmental transformations often entail power struggles between and amongst members of indigenous communities, state officials, representatives of companies, and members of environmental organizations. During the Suharto era, ethnicity was abolished from public and political discourse. Since the 1990s, however, ethnicity has seen a revival in Indonesian politics (Davidson & Henley, 2007;
van Klinken, 2007), which is connected to the strengthening of the concept of indigeneity supported by global indigenous peoples’ movements (Hauser-Schäublin, 2013). In struggles over natural resources, indigeneity becomes a means to strengthen community and secure land rights against state and corporate claims (Großmann, 2017; Li, 2000). Major concerns in these struggles circle around land rights and the legitimization of territorial claims in the context of land grabbing and green grabbing (Afiff & Lowe, 2007; Fairhead, Leach, & Scoones, 2012; Hall, 2011; McCarthy, Vel, & Afiff, 2012; Peluso, 2009, 2011; Pichler, 2015). In this issue, Stefanie Steinebach and Yvonne Kunz reflect on the highly political process of creating ethnicity in the case of local indigenous land rights in the province of Jambi, Sumatra. As they show, the right to land cannot be equally implemented by all indigenous groups, as in the case of the Orang Rimba – an ethnic group in Sumatra that can easily be categorized as ‘indigenous people’ but that cannot yet assert territorial claims against the state.

**Why Combining Gender and Ethnicity?**

As already expressed, changes in the environment lead to far reaching changes of local livelihoods, often inducing economic, political, and social inequalities and deprivation due to indigenous peoples’ dependency on natural resources. Therefore, both indigenous men and women are negatively affected by the limited access and control to land and resources as well as other forms of political and economic exclusion. Yet, women may experience ethnicity differently than men. Scholars and women’s rights organizations document negative effects on indigenous women’s well-being, working conditions, their precarious situation of rights, access, and control pertaining to natural resources, as well as their marginalization and exclusion within processes of environmental change (Down to Earth, 2014; International Women and Mining Network, 2004).

Gender-based inequalities are often intersected by inequalities based on class, age, race, and ethnicity. Therefore, environmental changes have different effects on the knowledge, access, benefit, control, and power relations of men and women as well as of indigenous and non-indigenous peoples. Intersectional approaches analyze the mutual construction and reinforcement of various categories of stratification, that is, class, race, ethnicity, and gender (Schubert, 2005). In this issue, Michaela Haug argues that in the case of the Dayak Benuaq, next to gender and ethnicity, age and education are constitutional factors when considering the impacts, reactions, involvement, and coping strategies of the group regarding development agendas and environmental changes. Intersectional intertwinements, however, are rarely explored in research on environmental transformations and there is a lack of gender-specific analyses of indigenous peoples’ natural resource management and their reaction to environmental transformations.

**Strategic Essentialism**

The instrumentalization and essentialization of ethnicity and gender is understood as *strategic essentialism* (Spivak, 1988). Based on particular characteristics, indigenous groups distinguish themselves, or are distinguished from others in order to substan-
tiate claims for the restitution of traditional rights to land and other natural resources. One example is the construction of a specific Dayak identity that is utilized for political mobilization (McCarthy, 2004; Schiller, 2007; van Klinken, 2006). In this issue, Angelina Matthies elaborates on an example of strategic essentialism in the Philippines: While the *purok* system is promoted as an indigenous system of self-organization at the sub-village level in the context of community-based disaster risk management (CBDRM), it is embedded in a top-down modus operandi and accompanied by institutional authority and clientelistic structures that disenchant the promoted community-based disaster risk management implemented by self-organized citizens. In another example in this issue, Kristina Großmann, Martina Padmanabhan, and Katharina von Braun show how civil society organizations and development institutions in Indonesia deploy ethnicity- and gender-coded strategic essentialisms in natural resource management discourses as they often depict indigenous women as the ‘better’ conservers of nature and stress their fundamental role in environmental protection.

**THE CONTRIBUTIONS**

The contributions to this special issue elaborate on conflicts and alliances concerning struggles over natural resources along ethnic and gendered lines. The authors describe how indigenous men and women perceive, value, and cope with socio-ecological transformations and indicate emerging and sustained gender asymmetries. Finally, they analyze interdisciplinary and transdisciplinary programs that address environmental transformations caused by climate change.

Stefanie Steinebach and Yvonne Kunz analyze processes and impacts of indigenous land titling in a controversial national park case in Indonesia. Although rights against the state can be enhanced, injustice between local communities emerge and transform local social structures. In her gender-specific analysis of environmental transformation processes among the Dayak Benuaq in Indonesia, Michaela Haug observes emerging asymmetries between men and women due to different ways of inclusion in new economic systems. However, as she argues, gender is interwoven with other kinds of inequalities such as ethnicity, class, age, or education that take effect in different contexts. This is also argued by Kristina Großmann, Martina Padmanabhan, and Katharina von Braun in their literature review on the intertwinement between gender and ethnicity in Indonesia’s mining sector. The authors assert that gender, ethnicity, and other categories of differentiation are important in unfolding governance, rights, access, roles, and identities in the complex environmental transformations in the mining sector in Indonesia. In their case study on Science Field Shops in Indonesia, Yunita T. Winarto, Cornelis J. Stigter, and Muki T. Wicaksono elaborate on the cooperation between farmers and so-called farmer-learning-focused-scientists. While trans- and interdisciplinary collaboration is seen to enhance positive responses to environmental transformations induced by climate change, future challenges remain particularly in the transdisciplinary collaboration with local universities and governmental authorities.

As the contributions to this issue show, members of local communities are differently affected by Indonesia’s national developmentalist and extractivist paradigm.
New power constellations and the strengthening of indigenous groups can result in the rise of new elites that may impact the exclusion and discrimination of others. Therefore, one challenge in current environmental struggles is the empowerment of former marginalized groups without creating new exclusions. The contributions also stress that multiple categories of differentiation, beyond that of gender and ethnicity, should be included in elaborations on power struggles in the context of environmental change. Although, gender and ethnicity are critical variables in human-nature-relationships, age, education, status, descent, and other categories are equally important. Contextualized research which takes various categories of differentiation into account is essential in order to understand the complex impacts of environmental transformations as power and new exclusions set up along these lines.

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