

How young people in Indonesia see themselves as environmentalists: Identity, behaviour, perceptions and responsibility

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‘[E]nvironmental values are not deeply embedded in society, leading to undervaluation of natural resources and environmental services.’ (World Bank 2014)

This quote from the World Bank is about Indonesia, and seems an accurate description of the situation in Indonesia, but in fact we know very little about environmental values and awareness in Indonesia. There are almost no statistical data on perceptions of the environment or of environmental awareness in Indonesia. Given the many urgent environmental problems in Indonesia, this lacuna is quite serious. The research reported on in this paper is one of the outcomes of a large research project which aimed to see how education could help develop environmental awareness in Indonesia.¹

Researchers have addressed how, when and why individuals become environmentalists in the Global North, but countries in the Global South are much less studied.² Chawla studied the life histories (‘life paths’) of individual environmental activists in the US and Norway, and identified these influences: childhood experiences in nature; experiences of environmental destruction; environmental values held by the family; environmental organisations; role models (friends or teachers); and education (Chawla 1998; Chawla 1999). Her study is often too cavalierly encapsulated in the acronym SLE (Significant Life Experiences); it was controversial and raised many questions for further research (Chawla 1998; Chawla 2001; Gough 1999). The larger point for us here is that with one or two exceptions, such influences have not been identified for environmentalists in Indonesia.³

However, our goal in this paper is not to seek out individual environmentalists to find their motivations. Rather, we are interested in what we might call practising pro-environment citizens, who share an environmentalist subjectivity. Chawla noted that she believes that besides individual environmental activists who variously demonstrate, petition, lobby and participate in direct action to save wilderness, stop fracking, etc., environmentalism requires

a large population of citizens who support the protection of the environment in other ways as well: through their voting records on state and local referenda, through holding politicians accountable for their environmental positions, through recycling, reducing consumption and other day-to-day behaviors. (Chawla 2001: 455)

¹ Australia Research Council Discovery Grant, ‘Fostering Pro-Environment Consciousness and Practice: Environmentalism, Environmentality and Environmental Education in Indonesia’ (DP130100051).

² We use the terms ‘Global North’ and ‘Global South’ with reservations. As two of the authors are Australians, living in a rich country in the southern hemisphere, Global North feels odd. However, these terms are preferred to ‘developed’ and ‘developing’ due to the assumptions inherent in this pair.

³ Exceptions include Crosby (2013); Nilan and Wibawanto (2015).

The processes of creating new environmental subjectivities and practice *en masse*, and thus a new social movement for environmental sustainability, are complex, but all point to the value of education, whether formal or informal. Many hundreds of studies have been done in the countries of the Global North, using different disciplines and various theoretical frameworks. For many of these countries, we have small- and large-scale survey data on attitudes towards the environment, e.g. many using the NEP (New Environmental Paradigm) (Dunlap 2008; Dunlap & Van Liere 2008 [1978]; Dunlap et al 2000). Kollmuss and Agyeman usefully surveyed this literature, noting the ubiquity of the ‘gap’ between environmental sensibilities and environmental action (Kollmuss & Agyeman 2002). Preliminary work has begun in a few Asian contexts (Nickum & Rambo 2003; e.g. Nisihira, Kojima, Okamoto, & Fujisaki, 1997; Rambo 2003; Yueh & Barker, 2011). However, as far as we are aware, no-one has conducted a large-scale survey of attitudes towards the environment in Indonesia,⁴ nor has there been other research about how education can contribute to creating an environmental subjectivity among peoples in Indonesia.

What we do have are a few statements, like the one above from the World Bank, and acknowledgements from the Indonesia government,⁵ that are probably accurate but are not based on survey evidence, and a few small-scale studies with particular interests, e.g. a study of the attitudes to environmental issues of teachers in high schools in Jakarta (Hadisuwarno 1997); and a study of the knowledge of students on the sustainable management of natural resources at the preeminent university in Indonesia in the field, Institut Pertanian Bogor (Koch et al 2013). There are two related surveys done by Pew on perceptions of climate change. The 2006 survey, asked ‘Have you ever heard of the environmental problem of global warming?’ and Indonesia was one of the most climate-unaware countries in the world, with a considerably majority of the sample answering ‘No’ (Leiserowitz 2007: 4). By 2015, in answer to a different question, 41 percent of a different Indonesia sample said ‘Global climate change is a very serious problem’ (Pew Research Center 2015: 13).

Ma’ruf et al surveyed the relationships among environmental knowledge, attitudes and intended behaviour of students at three universities in Padang, Jakarta and Denpasar, Indonesia (Ma’ruf, Surya, & Apriliany 2016). While their results showed that students had good knowledge about the environment, there were only two questions on this in their survey. Their study revealed that only 32.3% of environmental behaviour intention was affected by environmental knowledge and attitudes.

The study by Kusmawan et al was of Chemistry students in senior high school in Indonesia. Kusmawan were interested to find out how different teaching styles affected students’ beliefs and attitudes towards the environment. They found that ‘More active learning approaches seemed to promote cohesion between beliefs, attitudes and intentions, with participation in community issues having a greater impact on student ecological affinity than field research projects’ (Kusmawan et al 2009: 257).

⁴ In this paper we are not talking about what we can call ethno-environmental attitudes and knowledge, i.e. local knowledge and ‘traditional’ understanding of local ecologies. While we recognise that these are important in the context of natural resource management at the local level (Laumonier, Bourgeois & Pfund 2008), such understandings are outside the scope of this paper.

⁵ For instance, in 2004 the Minister for the Environment wrote: ‘We must acknowledge that our attention to and consciousness of environmental problems is still very low. This is caused by the fact that most people in Indonesian society have not yet awoken to a real perception of the environment’ (Kantor Menteri Negara Lingkungan Hidup (Office of the State Ministry for the Environment), 2004).

The only really large survey was that by Bohensky et al, who surveyed 6,310 households in rural, peri-urban and urban areas in East Kalimantan in 2007 and Central Java in 2008, to investigate people's engagement with climate change (Bohensky, Smajgl & Brewer 2013). A strong majority of respondents had observed climate change (81.9%); 70.7% considered climate change a risk; 38.9 percent were taking reactive measures and 28.2% were taking proactive action. The authors were surprised at the high level of awareness, given the study by Leiserowitz (Leiserowitz 2007), but dismayed at the low level of conversion into action – though many studies, summarised in Kollmuss and Agyeman (2002), have observed this 'gap'. One must question the validity of people's reported observations of climate change, as scientists generally require a minimum period of 30 years as constituting a unit of time in which genuine climate change could be considered.⁶

This paper addresses the dearth of studies from Indonesia, and explores high school students' self-identification as environmentalists, as well as their reported pro-environment behaviour.

Methodology

The Project

As mentioned above, this paper is one of the outcomes of a large team research project which aimed to identify how various types of education can contribute to creating environmentally aware citizens in Indonesia. A team of mainly anthropologists and sociologists conducted ethnographic field research as well as critical discourse analysis of government and NGO policies and programs, curricula and textbooks. Each team member had their own field site and particular interest, e.g. environmental education (hereafter EE) in schools, EE by NGOs, environmental clubs in universities, and so on. In addition, various members of the team conducted surveys, according to the researcher's interest and the educational context they were researching.

The team survey (Survei Pendidikan Lingkungan 2014-2015)

The team designed a set of questions (detailed below) that were common to all surveys, in order to help fill that lacuna noted above: that we lack knowledge about environmental values and awareness in Indonesia on a broad scale. This paper presents results from that set of common questions for 1,000 students in senior high schools in two major cities in Indonesia, Jogjakarta and Surabaya.⁷

The common team questions were designed at a team meeting. Some of the questions are the same as or similar to those used in Prabawa-Sear (2010). There was one overarching question about participants' identity as an environmentalist: Do you identify as an environmentalist?

⁶ The World Meteorological Organisation, Inter-governmental Panel on Climate Change and other eminent organisations use a 30-year period as the standard reference period with regard to climate change. The period 1961 to 1990 is the last standard reference period and 1991-2020 is the next standard reference period.

⁷ Other papers in this Special Issue detail results from other contexts, e.g. XXXXXX.

This was followed up with questions about activities and behaviour that aimed to show this self-identification in action. Of course, a survey can only report on respondents' reported behaviour: we were not able to compare actual behaviour with reported behaviour. The other common team questions asked respondents to identify the most important environmental issues, at local, national and global levels; to identify whose responsibility it is to address the problem; to say how they (the respondents) can act on the problem; and to identify the main constraints that hinder efforts to address the environmental issues.⁸

Data collection

The second author conducted ethnographic fieldwork for her doctoral study in Jogjakarta and Surabaya. In Surabaya, she was working through the good offices of an environmental NGO, hereafter TENGO. TENGO is working in partnership with the Surabaya government, under the leadership of the Mayor, to implement her policy of compulsory EE in schools. They run a program called the Eco Schools Program in nearly 1,500 schools in Surabaya. TENGO approached the schools for permission to survey students. In Jogjakarta, the second author approached the schools directly. The schools in Jogjakarta were all participating in the national Adiwiyata Program, an EE program run by the national Ministry of Environment and Forests.⁹

Thus, all of the selected schools participated in either the Adiwiyata Program or TENGO's Eco Schools Program and so all the students in our survey had been exposed to EE programs at school. In this they were, by definition, not representative of schools in Indonesia. Most students in most schools in Indonesia are not exposed to EE. For this reason, participants in our survey are more environmentally aware and active than most students in Indonesian senior high schools. Schools were selected to ensure a range of public and private schools; non-religious, Catholic and Islamic schools; high-achieving and high socio-economic status schools and lower-achieving and lower socio-economic status schools; vocational schools and general schools.¹⁰

The number of schools participating in the survey was much higher in Surabaya than in Jogjakarta because there are many more schools participating in environmental programs there, and it was much easier to get access to the schools through TENGO as a result of their

⁸ The questions were grouped according to scale. The first set of four questions was about the local level: A. What is the most important local environmental issue? B. Whose responsibility is it to fix this problem? C. What do you think you can do about it? D. What are the problems/constraints that hinder those efforts? The next set of four questions was about the national level, and the third set about the global level. Piloting of the surveys revealed that we had to change the wording for 'local'. We settled on 'Apa masalah lingkungan yang paling penting **di tempat tinggal anda saat ini?**' What is the most important environmental issue where you currently live?

We would be the first to acknowledge that identifying 'the most important environmental problem' at any level is a difficult task. Indeed, we would expect that answers would vary among scientists and environmentalists. We were not seeking 'the right answer': rather, we wanted to explore students' understandings of what they might consider constitute 'environmental problems' at different scales.

⁹ The Adiwiyata Program is a nationwide environmental education program that was developed in the Ministry of the Environment in 2006. Implementation began with primary schools in Java, in 2006. By 2013, it was claimed that around 1,000 schools were involved, and 'Some 463 schools, in 28 provinces of Indonesia, were awarded the National Adiwiyata Certificate by the Ministry of Environment' (Clearinghouse 2015).

¹⁰ The structure of the Indonesian education system is described in (Jackson & Parker 2008).

working partnership with the Surabayan government. Once schools accepted our request to survey students, we asked for a range of classes (science, social science and language streams),¹¹ ages and genders. In some cases these requests were met and in others they were not. Teachers often commented that they would make ‘good’ students available despite our requests for a representative sample of students. It was particularly difficult to get access to year 12 students because they were supposed to be focussing on their national exams, and we were interrupting class time.

Approximately half of the surveys were completed in classrooms, with the other half completed in the grounds of the schools. The students were all environmental club members or student leaders (i.e. members of the OSIS, Organisasi Siswa Intra Sekolah, School Student Council). The researcher or a TENGO colleague was present in all cases. Prior to handing out surveys, the researcher or TENGO representative provided a brief introduction, explaining that this survey was for an Australian research project on environmental education in Surabayan and Jogjakartan high schools and that participation was voluntary and anonymous. Teachers were invited to take a break while the surveys were being completed and most teachers took up the offer. Students were asked to direct any questions to the researcher or TENGO representative and to complete every question in the survey. Where possible, we checked that surveys were complete as the students handed them in and returned any with missing sections to students for completion. The researcher and TENGO representatives walked around while surveys were being completed in an attempt to limit the sharing of answers.¹² In instances where the Australian researcher was present, students were invited to ask questions of the researcher after the survey was complete.

The respondents

The characteristics of the respondents are tabulated in Table 1. The median age of students was 16, and most students were in Grade 11, the middle grade of senior high school. Two-thirds were girls. This gender imbalance was not intended, but we think it is because girls are disproportionately active in environmental organisations.¹³ The religious breakdown of our respondent group follows the national census statistics quite closely: 90.8% of our respondents were Muslim; 5.4% Protestant; 2.9% Catholic; 0.2% Hindu and 0.7% ‘Other’.¹⁴

The last census, in 2010, showed that 52.78% of young people aged 16–18 attend school (BPS (Badan Pusat Statistik), 2010b). These are young people from more socioeconomically

¹¹ In senior high school, students must choose one of three streams. The science stream is the most academically prestigious and consists of subjects like Physics, Chemistry and Mathematics. Next comes the social science stream, with subjects like Geography, History and Economics, and the least prestigious is the languages stream. Not all schools offer all three streams; the most common streams are science and social science. 55.1 per cent of our respondents were from the more academically prestigious science stream. We tested the significance of subject stream for the survey questions addressed below, and found there was no significance.

¹² It is common in schools in Indonesia for students to complete work communally, sharing ideas and answers.

¹³ The gender aspects of environmentalism in Indonesia are very interesting. Our fieldworkers noted that although girls are disproportionately active as the ‘foot soldiers’ of environment clubs and organisations in schools, the leaders of ENGOs are almost always young men, and this was the pattern found in Blora also (Crosby 2013).

¹⁴ According to the 2010 census, 87.18% of the population follow Islam; 6.96% Christianity; 2.91% Catholicism; 1.69% Hinduism and the remainder Buddhism, Confucianism and ‘other’ (BPS 2010a).

secure families, but it is too broad a generalisation to say that they are, by definition, middle class, as some have intimated. What we can say is that these young people come from families on at least adequate monthly incomes, and they are at least aspirational middle class. Students at these schools expect to find ‘white collar’ work, in offices, clinics, businesses, schools and universities – virtually none aim to become farmers or fishers (Nilan et al, 2011, pp. 716-620)

Although there has not been a lot of research into the question of how subjects come to assume an environmentalist identity, Payne has suggested that, ‘For the vast majority of younger people, identity issues and options are now utterly entangled in the lifestyle preoccupations and consumptive imperatives of a technologically-replete, image-driven postmodernity’ (Payne, 2001, p. 74). While Payne is probably talking about young people in countries of the Global North, we can see something of the entangled identities of the students reported on in this study. Perhaps most noteworthy is the fact that almost all of the students owned mobile / cell phones, albeit not all of them were ‘smart phones’ connected to the internet. Sometimes teachers asked students to use their phones for research in class. While some of the students owned the newest iPhones, most tended to use older versions of the cheaper brands such as ASUS or Huawei, or older versions of the more expensive Samsung. This symbol of participation in the global media world is the single most visible status symbol that students in schools in Indonesia can display, as they all wear school uniforms.

Fourteen schools participated in the survey: only two in Jogja and 12 in Surabaya. Seven schools are state senior high schools, with 55.8% of our student respondents; four are vocational schools, with 28.2% of our respondents, and one is a state *madrasah*.¹⁵ State senior high schools are generally considered the most desirable schools; typically the children of public servants, professionals and other members of the middle class attend these schools. However, richer people will often send their children to academically superior private schools, particularly the Christian schools. In Surabaya we tried to enlist Year 11 students, as it was the beginning of the school year and students in Year 10 had not yet experienced much exposure to the programs we were studying.

Table 1: Characteristics of Respondents (n=1,000)

	n (%)	Median (IQR)
Age		16 (16)
Sex:		
Male	332 (33.2)	
Female	668 (66.8)	
Religion:		
Islam	908 (90.8)	
City:		
Jogjakarta	173 (17.3)	
Surabaya	827 (82.7)	
Year level:		
10	286 (28.6)	

¹⁵ Vocational schools can be public or private: we had two of each in our sample. *Madrasah* are administered by the Ministry of Religion (MOR), rather than the Ministry of Education and Culture (MOEC). However, 70 per cent of their curriculum comes from MOEC; the additional curriculum (30 per cent) comes from the MOR.

11	523 (52.3)	
12	191 (19.1)	

Source: Survei Pendidikan Lingkungan 2014-2015

Identity as an Environmentalist

Our understanding of personal ‘identity’ derives from the now large body of literature on identity studies that grew out of the postmodern critique as well as the ‘culture wars’ over history and race/ethnicity, gender/sexuality and youth studies from the 1960s (e.g. Calhoun, 1994; Clarke et al 1976; Erikson, 1968; Giddens, 1991; Hall, 1990, 1996). We acknowledge that identity is a hybrid of external ascription and individual development, and is fluid – changing according to context. Identity is historically produced and historically specific, so female identity is different in 19th century Batavia to female identity in 20th century Jakarta, and also diverse, because a person’s identity is formed within their particular milieu: their family, neighbourhood and school, and the perceptions within that milieu of what ‘a girl’ or ‘a boy’, a ‘Chinese’ or a ‘Javanese’, should be like. Individuals develop their individual identity over time, adapting to the surrounding expectations, constrictions and opportunities, in unique ways, but commonalities are produced because of group expectations and common experiences. Humans are social animals and are almost never purely autonomous. Identity is an expression both of social structure (in Giddens’ sense) and of agency, as individuals ‘ad lib’, perform, resist, negotiate and comply. Because of this, identity is always ‘in process’. While there has been considerable research conducted on how people become environmentalists, this work has not commonly engaged with the identity literature.¹⁶

Given the reported low level of environmental awareness in Indonesia, perhaps the most startling statistic in the survey was that **81.9% of our respondents self-identified as an environmentalist**. We can explain this very positive association with an environmentalist identity by reference to the selection of schools: all schools in the survey participated in either the Adiwiyata program or TENGO’s Eco school program. We should also mention that the researcher was known to be researching environmental education, and to the extent that students understood what that was, and wanted to give her what she wanted, the students were probably anxious to present their school in a good light. There is also the well-known phenomenon, alluded to above (Kollmuss & Agyeman, 2002), that environmental attitudes are much more positive than environmental actions.

Another team member, Pam Nilan, was researching environmental sensibilities among university students. She did not select the universities, the courses nor the respondents with reference to any environmental attributes or environmentalist affiliations. She surveyed 804 undergraduate students in four different cities: Jakarta, Bandung and Jogjakarta in Java, and Palembang in Sumatra. In contrast to the strong identification with environmentalism from our school students, more university students said that they were not an environmentalist (52.2%) than said they were (47.8%).

¹⁶ Some exceptions include (Dillon, Kelsey, & Duque-Aristazabel, 1999; Payne, 2001).

Environmental Behaviour

So our sample is atypically ‘environmentalist’ in orientation for high-school students in Indonesia. Bearing in mind the oft-remarked ‘gap’ between environmental sensibilities and environmental action, as highlighted by (Kollmuss & Agyeman 2002), our next task was to try and work out what our respondents meant by ticking the environmentalist box. We first asked students if they have ever participated in environmental activities, without suggesting what these might be. Over 75 percent of students said they had (76.8%). Given the high percentage who self-identified as environmentalists, perhaps it is surprising that 23.2% said ‘no’. Then we presented them with a range of environmental care activities that are common in Eco and Adiwiyata Schools and asked them if they ‘usually’ do those things: making *biopori* (cylindrical holes stuffed with leaves and organic matter, dug into the compacted ground in cities to improve water absorption), participating in clean-ups, making compost, growing plants for herbal remedies, managing waste through activities such as a recycling bank, and re-using containers such as drink bottles and lunch boxes, and then we asked them an open question for miscellaneous other environmental activities.

Table 2: Environmental ‘Care’ Activities conducted by senior high school students

Activity	% of students who say they usually do the activity
Clean-ups	62.8
Waste management such as recycling bank	41.7
Re-using containers such as drink bottles and lunch boxes	40.2
Making <i>biopori</i>	34
Making compost	31.4
Growing plants for herbal remedies	14.7

Source: Survei Pendidikan Lingkungan 2014-2015

Clean-ups are the most common activity and that is not surprising: Indonesian students usually have to clean up their school rooms and yards on Fridays or Saturdays, whether or not their schools are Eco or Adiwiyata Schools. Perhaps in other schools this would not be seen as an environmental activity. It should be noted that not all the students would be involved in all the activities at each school: a student might be on the ‘compost team’ and therefore not be involved in digging *biopori*. Re-using containers is the only behaviour that could be freely chosen, though would usually need the cooperation of mothers.

The open-ended question about ‘other’ environmental care activities elicited 21 individual responses, ranging from praiseworthy activities such as using waste water from air-

conditioners and *wudhu* (water used for washing before prayers) to watering plants, and cleaning up rubbish from mountain tops, to more dubious ones such as burning rubbish. It was interesting that two students listed ‘not smoking’ as an environmental activity – an answer that might not have occurred to students in Global North countries.

It is quite difficult to compare reported environmental behaviours across countries, because the local contexts are different. For instance, students in Perth schools have never heard of *biopori*, and drainage of ground water is not a problem; they do not generally engage in composting because there is no opportunity to do that; drinking water is available from taps; and while litter is something of a problem, there are no group clean-ups, unlike in Eco and Adiwiyata Schools (Prabawa-Sear, 2010).

The next questions were about environmental activities that aimed to advance knowledge or educate about the environment: through environmental lessons, learning in groups or with friends, through workshops or training, or campaigning such as through social media, or on the street. Clearly these young people are engaging in a range of environmental learning, training, communication and advocacy activities – more than a quarter of our sample say they are engaged in campaigning, e.g. via online media as well as on the streets.

Table 3: Environmental ‘Knowledge’ Activities conducted by senior high school students

Environmental lessons	Study groups/ learning with friends	Training	Campaigning, e.g. via online media, on the streets
453	293	335	261

Source: Survei Pendidikan Lingkungan 2014-2015

In the final question of the survey we returned to the question of the students’ environmental behaviour. We provided a list of behaviours, as in Table 4, and asked students how often they carried out this behaviour, on a four-point scale ranging from ‘never’ to ‘always’.

Table 4: Frequency of Everyday Pro-environment Behaviours

Always-----Never				Variables	Variables	Never-----Always			
4	3	2	1			1	2	3	4
143	241	420	196	Refuse plastic bags when shopping (6)	Turn off the taps when not using water (2)	3	27	97	873
166	304	393	137	Print on both sides of the paper (4)	If no-one else is watching TV, turn it off when you leave the room (1)	16	94	163	727
272	318	309	101	Encourage friends to recycle at school (13)	Bring a drink bottle or lunch box to school (5)	58	147	214	581

420	322	172	86	Go by car or motorbike even when it's not far to go (8)	If there are no bins, just throw rubbish on the ground (7)	50	141	317	492
263	371	296	70	Tell friends about environmental things that you have learnt (15)	Go by car or motorbike even when it's not far to go (8)	86	172	322	420
313	382	241	64	Tell your parents/ older friends about environmental lessons (11)	Walk or ride a bicycle when going somewhere close (3)	62	264	262	412
412	262	264	62	Walk or ride when going somewhere close (3)	Recycle at school (12)	40	235	370	355
253	369	319	59	Pick up litter (16)	Tell your parents/ older friends about environmental lessons (11)	64	241	382	313
581	214	147	58	Bring a drink bottle or lunch box to school (5)	Encourage friends to recycle at school (13)	101	309	318	272
492	317	141	50	If there are no bins, just throw rubbish on the ground (7)	Tell friends about environmental things that you have learnt (15)	70	296	371	263
355	370	235	40	Recycle at school (12)	Pick up litter (16)	59	319	369	253
727	163	94	16	If no-one else is watching TV, turn it off when you leave the room (1)	Print on both sides of the paper (4)	137	393	304	166
873	97	27	3	Turn off the taps when not using water (2)	Refuse plastic bags when shopping (6)	196	420	241	143

Source: Survei Pendidikan Lingkungan 2014-2015

Table 5: Frequency of Everyday Pro-environment Activities
(Grouped Answers, 'Rarely' and 'Often', arranged according to declining frequency of
'Often')

Variable	Rarely	Often
VII.2. Turn off the taps when not using water.	30	970
VII.1. If no-one else is watching TV, turn it off when you leave the room.	110	890
VII.7. If there are no bins, just throw rubbish on the ground.	191	809
VII.5. Bring a drink bottle or lunch box to school.	205	795
VII.8. Go by car or motorbike even when it's not far to go.	258	742
VII.12. Recycle at school.	275	725
VII.11. Tell your parents/ older friends about environmental lessons.	305	695
VII.3. Walk or ride a bicycle when going somewhere close.	326	674
VII.15. Tell friends about environmental things that you have learnt.	366	634
VII.16. Pick up litter.	378	622
VII.13. Encourage friends to recycle at school.	410	590
VII.4. Print on both sides of the paper.	530	470
VII.6. Refuse plastic bags when shopping.	616	384

Source: Survei Pendidikan Lingkungan 2014-2015

Comparing these two tables, and our other survey answers, and considering them internally, we can identify some inconsistencies and commonalities. Turning off taps when not in use is something that is in the power of young people and easy to do, so this frequency and consistency is understandable. Similarly, turning off the television when not in use, is something these young people can and do do.

There is some inconsistency when we look at behaviour around litter. In Table 2, we saw that most students said that they are usually engaged in 'clean-ups' (62.8%). If litter is perceived as a problem (see below), the fact that ~500 of 1,000 mainly 'environmentalist' students will 'always' throw litter on the ground if there are no bins, and that 80% of them 'often' throw litter on the ground, is a concern. And it is surprising that only one-quarter 'always' pick up litter. While throwing litter is not perceived as 'dirty', picking up litter is. We hypothesize that the concept of 'the clean-up' actually contributes to littering practice, because it implies that it is someone else's job to clean it up later. In other words, young people don't have to be responsible for their own waste. It is encouraging that so many students bring food containers

from home – and the three tables (2, 4 and 5) are consistent in this. This should help to minimise rubbish, as well as reduce use of materials. However, it is disappointing that students do not generally think to print on both sides of the paper or refuse plastic bags – again, these are individual actions that are in their power. Reducing the use of paper, and minimising the use of such problematic materials as plastic, will help the environment in many ways.

There is also internal inconsistency over mode of transport: Three-quarters (74%) say they go by car or motorbike even if it’s not far to go, while over two-thirds (67.4%) say they walk or ride by bicycle when going somewhere close.

When it comes to telling friends and family pro-environment messages, there is some consistency in the survey answers, and we are encouraged (and a bit surprised) that so many (313) reported ‘always’ telling their parents and seniors about environmental matters.

Perceptions of Environmental Problems

The team devised some common team questions around perceptions of environmental problems locally, nationally and internationally; perceptions of what our respondents could do about these problems; the barriers to their solution; and finally perceptions of who should be responsible for solving the problems. First we report on the students’ perceptions of the most important environmental problem ‘in the area where you live’. This was an open-ended question and students were free to enter as many words as they liked. We have grouped them into rubbish / waste¹⁷ (76.5%), water pollution (9%), air pollution (7.2%) and other / don’t know (7.3%), realising that rubbish /waste can be encompassed by pollution.

Table 6: In your opinion, what is the most important environmental issue where you currently live? (n=1,000)

Issue	Frequency	Percent
Rubbish/waste	765	76.5
Water pollution	90	9.0
Air pollution	72	7.2
Other/no answer	73	7.3

Source: Survei Pendidikan Lingkungan 2014-2015

Given that all our respondents live in urban areas, it is not surprising that waste was the answer provided by more 75% of our 1,000 participants. Breaking down the figures by city (Yogyakarta versus Surabaya), a larger percentage of students in Surabaya (78.96%) considered waste the most important problem than in Yogya (64.7%). We put this down to the fact that the Surabayan government, TENGO and the students involved in environmental activities in Surabaya were very active in waste management, whereas the Jogjakarta government is yet to act on this problem

¹⁷ The term in Indonesian, *sampah*, does not distinguish between waste and rubbish.

When asked to identify the most important issue nationally, ‘waste’ disappeared. Most students (52%) identified ‘pollution’ as the most important environmental issue nationally.

**Table 7: In your opinion, what is the most important environmental issue nationally?
(n=1,000)**

Issue	Frequency	Percent
Pollution	522	52.2
Exploitation of natural resources / the environment	157	15.7
Natural disasters	128	12.8
Exploitation of natural resources in the forest	121	12.1
Other / no answer	72	7.2

Source: Survei Pendidikan Lingkungan 2014-2015

It may be that students are not well informed about environmental matters nationally, and that they just extrapolated from their local experience and knowledge. It is also not clear if their identification of ‘pollution’ included waste (as this was the most serious issue locally) as well as smoke pollution from forest fires. The coding is important here: students were asked an open-ended question and they answered in words – there were no pre-defined categories. We have broken down ‘the exploitation of natural resources’ into ‘the exploitation of natural resources generally / in the environment’ and ‘the exploitation of natural resources in the forest’ as these were common categories. If combined, they still only comprise 27.8% of the total.

The identification of natural disasters as the most important environmental problem facing Indonesia (although only 12.8% made this claim), raises some interesting points. Indonesians have only recently begun to understand that their country suffers an unusually high occurrence of natural disasters, especially those due to tectonic movements (earthquakes, and resultant tsunami, and volcanism) around the so-called Pacific “ring of fire”. Alongside these naturally-caused disasters are a host of human-induced disasters, such as floods and smoke haze. Much of the devastation wrought by disasters is due to unwise land use activities and settlement patterns, overpopulation, weak implementation of laws, and corruption, which tend to magnify the effects of natural hazards, causing human disasters.¹⁸ It is also noteworthy that climate change is not seen as a national problem. Given Indonesia’s dubious distinction as the world’s fourth largest emitter of carbon pollution, that lack of awareness is a source of consternation.

Climate change (often called global warming) does make an entry at the international level: when asked what was the most important environmental issue internationally, over one-quarter of the 1,000 students identified global warming. More students, though, identified pollution (34.3%) as the most important problem globally. It is hard to know if students saw

¹⁸ See (Blaikie, Cannon, Davis, & Wisner, 2004) (Cannon, 1994) (Warren, 2016)

pollution as separate from global warming, or if one was seen as a subset of the other. Number three position went to the exploitation of natural resources and the environment.

Table 8: In your opinion, what is the most important environmental issue internationally? (n=1,000)

Issue	Frequency	Percent
Pollution	343	34.3
Global warming	258	25.8
Exploitation of natural resources / the environment	169	16.9
Natural disasters	38	3.8
Other / no answer	192	19.2

Source: Survei Pendidikan Lingkungan 2014-2015

Unsurprisingly, the results on perceptions of environmental problems in our sample schools are quite different to those reported elsewhere. In Perth, Western Australia, for instance, students perceive that lack of water is a very serious local problem, but that is not mentioned in our sample. On the other hand, those same students identified that having quick showers (lasting less than 5 minutes), was one of the most difficult “green” behaviours” for them (as was picking up rubbish) (Prabawa-Sear, 2010, p. 79). In these Perth student responses, we see a contradiction between attitudes and behaviour on the use of water.

Who is Responsible for the Environment?

We turn now to the group of questions around responsibility. The question looks forward, not backward: i.e. it is not a question about who caused an environmental problem, but rather, who is going to be responsible for solving the problem. For each level – local, national and global – students were asked an open-ended question: In your opinion, who is responsible for addressing this most important issue? Remembering that over 75% of students had identified rubbish / waste as the most important environmental problem at the local level, it is perhaps not surprising that the vast majority (91.5%) identified society (*masyarakat*) as being responsible:

Table 9: In your opinion, who is responsible for addressing this (most important) issue (locally)? (n=1,000)

Issue	Frequency	Percent
Society	915	91.5
Society and government	30	3.0
Government	29	2.9

Other	26	2.6
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Source: Survei Pendidikan Lingkungan 2014-2015

This coded term, ‘society’, was mainly made up of responses such as ‘all people’ (*semua orang* 10.3%), ‘all citizens’ (*semua warga* 9.4%), ‘we ourselves’ (*kita dirinya, diri sendiri*), all of us (*kita semua* 4.2%), society (*masyarakat* 3.8%), all of society (*semua masyarakat* 3.7%), the whole of society (*seluruh masyarakat* 1.9%), citizens (*warga* 1.8%), all of the citizens (*seluruh warga* 1.5%), and variants of these. Students often identified themselves in concert with local citizens or inhabitants, as responsible for their own environment, and this was pleasing. Dividing the 915 ‘society’ responses into those who explicitly identified themselves as being responsible, and those who identified only some group such as society, residents or citizens, 152 indicated that they included themselves as being responsible (all of us, we ourselves, etc.). However, we should not put too much meaning onto this, as there is nothing that excludes the writer in answers such as ‘all people’ or ‘all citizens’.

What is surprising is the few students who identified ‘the government’ as responsible for addressing the environmental issue. This assumption of rubbish / waste as a social responsibility rather than a government responsibility reflects the reality in Yogyakarta, where the provincial government has been uninterested in environmental matters and citizens are left largely on their own to cope with their rubbish. Almost 91% of Jogjakartan students identified ‘society’ as responsible. However, 82.7% of our respondents were from Surabaya, where the city government has assumed responsibility for garbage and composting services, and just over 91% of Surabayan students also identified ‘society’ as responsible.

When we turn to what the students themselves perceived that they could do to address the issue that they had identified as most important locally, unsurprisingly there were some who said they could put rubbish in the appropriate receptacle (34%). Other than this, the answers were distressingly vague: 34% suggested they could protect the environment, 22.6% suggested they could strengthen knowledge or awareness, and 4% suggested greening the environment. The paucity of these responses suggests the inadequacy of the EE that is being conducted by TENGO and the Adiwiyata program: these programs focus on group activities, the nature of which is decided not by students themselves but by NGO workers and the government. There is no education about the complexity of environmental problems, nor is there training in problem-solving.

Table 10: In your opinion, what can you do to address this (local) issue? (n=1,000)

Issue	Frequency	Percent
Contribute by protecting the environment	342	34.2
Throw rubbish in the bin / manage and provide rubbish facilities	341	34.1
Campaigning and enriching knowledge about environmental issues	226	22.6
Greening the environment	40	4.0

Other / no answer	51	5.1
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Source: Survei Pendidikan Lingkungan 2014-2015

The next question – again, an open-ended question to be answered in students’ own words – asked students what they considered the main barriers to addressing the main environmental issue that they had identified at the local level. Again the students focused on society rather than government: almost 75% identified factors such as limited environmental awareness and knowledge and lack of care for the environment as the main barrier; only 9.6% identified limited facilities and services. Interestingly, lack of discipline was identified by 7.6% of students. ‘Discipline’ has been identified as a ubiquitous key word in education in Indonesia (Parker & Nilan 2013: 95-99), and is a much-desired value of students. In a different survey of senior high students in Indonesia, laziness was identified by middle class students as the main barrier that they anticipated in achieving their life goals (Nilan et al. 2011: 721-724). These answers all reflect a neoliberal, responsabilisation discourse that assigns responsibility for addressing problems to the individual.

**Table 11: In your opinion, what are the barriers to addressing this (local) issue?
(n=1,000)**

Issue	Frequency	Percent
Limited knowledge / awareness / care about the environment	740	74.0
Limited facilities	96	9.6
Lack of discipline	76	7.6
Other / no answer	88	8.8

Source: Survei Pendidikan Lingkungan 2014-2015

Moving to the national level, where ‘pollution’ was identified as the most important issue by 52% of students, the ‘exploitation of natural resources’ by 27.8% and ‘natural disasters’ by 12.8% of the total, we go through the same set of questions: who is responsible for the issue, what can you do to address this issue, and what are the barriers to addressing this issue. We were surprised that for the national level, more than two-thirds of students still considered that ‘society’ is responsible for addressing these problems. Again, students saw the role of government as very limited: only 9.4% identified the government alone as responsible, and another 17.1% identified the government as responsible ‘with society’.

Also notable is the silence around industry and business. Indonesia does have a reasonably strong framework of environmental legislation, including planning regulations that require new developments to have environmental impact assessments. However, it is an open secret that implementation is weak, with decentralisation fostering corruption and nepotism at

devolved levels, rendering national and international protections and commitments weak, if not useless (McCarthy & Robinson 2016; Setiawan & Hadi 2007).

Table 12: In your opinion, who is responsible for addressing this (most important national) issue? (n=1,000)

Issue	Frequency	Percent
Society	675	67.5
Society and government	171	17.1
Government	94	9.4
Other	60	6.0

Source: Survei Pendidikan Lingkungan 2014-2015

At the national level, students again suggested rather vague actions that they could do to address the issue: contribute by protecting the environment (68.1%) and run a campaign and strengthen understanding and knowledge about environmental issues (20.8%) were the main responses.

Table 13: In your opinion, what can you do to address this (national) issue? (n=1,000)

Issue	Frequency	Percent
Contribute by protecting the environment	681	68.1
Campaigning and enriching knowledge about environmental issues	208	20.8
Advocating about the environmental problem to government	22	2.2
Other / no answer	89	8.9

Source: Survei Pendidikan Lingkungan 2014-2015

Students identified two main barriers to addressing the most important environmental issue at national level as

- a. the low level of awareness, care, knowledge and capacity among society (79.1%) and
- b. the government's failure to prioritise the handling of environmental issues (10.2%).

**Table 14: In your opinion, what are the barriers to addressing this (national) issue?
(n=1,000)**

Issue	Frequency	Percent
Society's limited knowledge / awareness / care / capacity about the environment	791	79.1
Government doesn't prioritise handling environmental issues	102	10.2
Other / no answer	107	10.7

Source: Survei Pendidikan Lingkungan 2014-2015

At the international level, students had identified 'pollution' as the most important problem (34.3%), followed by 'global warming' (25.8%), which might refer to the same thing, and the exploitation of the environment (16.9%). In answering the question, who is responsible for addressing this issue, again, what is striking is the low expectation of government: over two-thirds of students answered 'humanity' or 'society' or similar (67.7%); only 6.2% answered 'the government' or 'the state/s'; and 9.6% replied 'all sides'. And again, there was silence around industry as responsible for cleaning up the obvious pollution.

Table 15: In your opinion, who is responsible for addressing this (most important international) issue? (n=1,000)

Issue	Frequency	Percent
Society - humankind	677	67.7
All sides	96	9.6
Governments / states	62	6.2
Other / missing	165	16.5

Source: Survei Pendidikan Lingkungan 2014-2015

Answers to the What can you do? question for the international level, were again vague: 61.2% replied that they could contribute to the protection of the environment, and 13.9% said they could participate in campaigns to enhance awareness among society.

**Table 16: In your opinion, what can you do to address this (international) issue?
(n=1,000)**

Issue	Frequency	Percent
Contribute by protecting the environment / ecosystem	612	61.2
Campaigning about environmental issues to society	139	13.9
Advocating about the environmental problem to government	5	0.5
Other / no answer	244	24.4

Source: Survei Pendidikan Lingkungan 2014-2015

Again, in answer to the question about the main barriers to addressing the issue at international level, most students responded that the low level of awareness, care, and capacity in society was the main barrier (63.3%) and only 7.4% saw this as a failure of governments.

**Table 17: In your opinion, what are the barriers to addressing this (international) issue?
(n=1,000)**

Issue	Frequency	Percent
Society's limited knowledge / awareness / care / capacity about the environment	633	63.3
Government doesn't prioritise handling environmental issues	74	7.4
Other / no answer	293	29.3

Source: Survei Pendidikan Lingkungan 2014-2015

The strong frequency of Indonesian students' opinion that lack of knowledge was the most important barrier to addressing environmental problems, at all three levels, stands in contrast to the opinions of students in high schools in Perth, Western Australia. They latter almost never mentioned this as a problem; and considered that the main barriers to their own effective "green" behaviour were negative social attitudes (such as that it was not "cool" to pick up somebody else's rubbish), lack of motivation and lack of infrastructure (such as recycling bins) (Prabawa-Sear, 2010).

Conclusion

We began this paper by noting the serious lacuna in knowledge about environmental awareness and sensibilities in Indonesia, explaining that this paper was an attempt to begin to fill the hole. The students reported on in this article are unusual in Indonesian education in that they have been exposed to (varying levels of) environmental education. We were pleased to find that a strong majority of students did self-identify as environmentalists. However, after looking at their reported environmental behaviours and their perceptions of environmental problems, we began to ask, **What does it mean to self-identify as an environmentalist in Indonesia?**

We did not expect to find the romantic answers that often appear in such surveys in richer countries, where respondents not infrequently talk about life-changing experiences in the woods or the importance of saving wilderness or iconic species such as whales, baby seals and orangutan. We did expect to find concern at rubbish / waste and indeed this issue was the issue of most concern at the local level. But we were surprised by the fact that in all the answers to our questions about environmental issues, perceptions and behaviours, students never once raised the issue of consumption or of consumerist culture. There was never any attempt to link the issues of waste, pollution (the issue of most concern at the national and international levels) or global warming (which only appeared as the No.2 problem at international level) to consumption of material goods or of carbon-based, non-renewable energy. We think this failure to identify the complex interactions among environmental problems and human behaviour reflects the shallow and activity-dominant form of EE conducted in these schools.¹⁹

It is important to discover how senior high school students in Indonesia see their world and their place in it. They will be the next generation of teachers and parents, business leaders and politicians in the fourth most populous country in the world. It is a country that is developing quickly, and will therefore not only be depleting its globally-important resources of forests, mangroves and its rich marine and coastal biodiversity at breakneck speed for (non-renewable) energy, transport and material goods, but also it will be pumping out vast amounts of carbon and other warming and toxic pollutants.

We have found that student participants in our research seemingly agree with the World Bank and the Government of Indonesia, that ‘environmental values are not deeply embedded in society, leading to undervaluation of natural resources and environmental services.’ However, students go much further than merely noting a low level of awareness of environmental problems in society. This survey has shown that, overwhelmingly, young people believe that ‘society’ – rather than governments or industry – is responsible for addressing environmental problems. They tend to include themselves as being responsible for addressing local problems, but are vague about what they can actually do to ameliorate or solve other environmental problems. Further, they barely mention the role that governments must play, and do not think to mention that industry or consumers should be responsible. Thus, it would seem that while young people are happy to self-identify as environmentalists, they have absorbed the neoliberal message of small government and assigned responsibility to ‘society’: those who are least aware, most ignorant, and most poorly equipped to meet the challenges of environmental destruction.

¹⁹ This is documented in other articles in this Special Issue, see **XXXXX**.

References

- Blaikie, P., Cannon, T., Davis, I., & Wisner, B. (2004). *At risk: Natural hazards, people's vulnerability and disasters* (2nd ed.). Oxon: Routledge.
- Bohensky, E. L., Smajgl, A., & Brewer, T. (2013). Patterns in household-level engagement with climate change in Indonesia. *Nature Climate Change*, 3(April), 348-351.
doi:10.1038/NCLIMATE1762
- BPS (Badan Pusat Statistik). (2010a). Sensus Penduduk 2010 (2010 Census). Retrieved 24 August 2016 <http://sp2010.bps.go.id/index.php/site/tabel?search-tabel=Penduduk+Menurut+Wilayah+dan+Agama+yang+Dianut&tid=321&search-wilayah=Indonesia&wid=0000000000&lang=id>
- BPS (Badan Pusat Statistik). (2010b). Sensus Penduduk 2010 (2010 Census). Education. Retrieved from <http://sp2010.bps.go.id/index.php/site/topik?kid=6&kategori=Pendidikan>
- Calhoun, C. (1994). Social Theory and the Politics of Identity. In C. Calhoun (Ed.), *Social Theory and the Politics of Identity* (pp. 9-36). Cambridge: Blackwell Publishers Inc.
- Cannon, T. (1994). Vulnerability analysis and the explanation of "natural" disasters. In A. Varley (Ed.), *Disasters, Development and Environment* (pp. 13-29). Chichester, New York, Brisbane, Toronto and Singapore: John Wiley and Sons.
- Chawla, L. (1998). Research methods to investigate significant life experiences: Review and recommendations. *Environmental Education Research*, 4(4), 383-397.
- Chawla, L. (1999). Life paths into effective environmental action. *Journal of Environmental Education*, 31(1), 15-26.
- Chawla, L. (2001). Significant life experiences revisited once again: Response to Vol 5(4) 'Five critical commentaries on significant life experience research in environmental education'. *Environmental Education Research*, 7(4), 451-461.
- Clarke, J., Hall, S., Jefferson, T., & Roberts, B. (1976). Subcultures, Cultures and Class. In S. Hall & T. Jefferson (Eds.), *Resistance Through Rituals: Youth Subcultures in Post-War Britain* (pp. 9-74). London: Hutchinson.
- Clearinghouse, S. S. P. a. C. (2015). Adiwiyata School Program in Indonesia. Retrieved from <http://www.scpclearinghouse.org/c/11-scp-asia-and-the-pacific/scp-initiatives/790-adiwiyata-school-program-in-indonesia.html>
- Crosby, A. (2013). Remixing environmentalism in Blora, Central Java 2005 - 2010. *International Journal of Cultural Studies*. doi:10.1177/1367877912474535
- Dillon, J., Kelsey, E., & Duque-Aristazabel, A. M. (1999). Identity and Culture: Theorising Emergent Environmentalism. *Environmental Education Research*, 5(4), 395-405.
- Dunlap, R. E. (2008). The New Environmental Paradigm Scale: From Marginality to Worldwide Use. *The Journal of Environmental Education*, 40(1), 3-18.
- Dunlap, R. E., & Van Liere, K. D. (2008 [1978]). The "New Environmental Paradigm": A proposed measuring instrument and preliminary results [Reprint of original 1978 article]. *The Journal of Environmental Education*, 40(1), 19-28.
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale. *Journal of Social Issues*, 56(3), 425-442.
- Erikson, E. H. (1968). *Identity, Youth and Crisis*. New York: Norton.
- Giddens, A. (1991). *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Cambridge: Polity Press.
- Gough, S. (1999). Significant life experiences (SLE) research: a view from somewhere. *Environmental Education Research*, 5(4), 353-363.
- Hadisuwarno, H. (1997). *High School Teachers' Knowledge of and Attitude Toward Environmental Issues in Jakarta, Indonesia*. (Ph.D. Thesis), Florida State University.
- Hall, S. (1990). Cultural Identity and Diaspora. In J. Rutherford (Ed.), *Identity: Community, Culture, Difference* (pp. 222-237). London: Lawrence & Wishart Limited.

- Hall, S. (1996). Introduction: Who Needs Identity? In S. Hall & P. du Gay (Eds.), *Questions of Cultural Identity* (pp. 1-17). London: Sage Publications Ltd.
- Jackson, E., & Parker, L. (2008). 'Enriched with knowledge.' Modernisation, Islamisation and the future of Islamic education in Indonesia. *Review of Indonesian and Malaysian Affairs*, 42(1), 21-54.
- Kantor Menteri Negara Lingkungan Hidup (Office of the State Ministry for the Environment). (2004). *Kebijakan Pendidikan Lingkungan Hidup (Environmental Education Policy)*. Jakarta.
- Koch, S., Barkmann, J., Strack, M., Sundawati, L., & Bögeholz, S. (2013). Knowledge of Indonesian university students on the sustainable management of natural resources. *Sustainability*, 5(4), 1443-1460. doi:10.3390/su5041443
- Kollmuss, A., & Agyeman, J. (2002). Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239-260.
- Kusmawan, U., O'Toole, J. M., Reynolds, R., & Bourke, S. (2009). Beliefs, attitudes, intentions and locality: the impact of different teaching approaches on the ecological affinity of Indonesian secondary school students. *International Research in Geographical and Environmental Education*, 18(3), 157-169.
- Laumonier, Y., Robin Bourgeois, R., & Pfund, J.-L. (2008). Accounting for the Ecological Dimension in Participatory Research and Development: Lessons Learned from Indonesia and Madagascar. *Ecology and Society*, 13(1), 15.
- Leiserowitz, A. (2007). *International Public Opinion, Perception, and Understanding of Global Climate Change*. Retrieved from
- Ma'ruf, Surya, S., & Apriliyani, P. D. (2016). Knowledge, Attitudes and Behavior of University Students towards Environmental Issues in Indonesia. *Sains Humanika*, 8(1-2), 81-88.
- McCarthy, J. F., & Robinson, K. (Eds.). (2016). *Land and Development in Indonesia. Searching for the People's Sovereignty*. Singapore: ISEAS Publishing.
- Nickum, J. E., & Rambo, A. T. (2003). Methodology and Major Findings of a Comparative Research Project on Environmental Consciousness in Hong Kong (China), Japan, Thailand, and Vietnam. *Southeast Asian Studies*, 41(1), 5-14.
- Nilan, P., Parker, L., Bennett, L., & Robinson, K. (2011). Indonesian youth looking towards the future. *Journal of Youth Studies*, 14(6), 709-728.
- Nilan, P., & Wibawanto, G. R. (2015). "Becoming" an environmentalist in Indonesia. *Geoforum*, 62(2), 61-69.
- Nisihira, S., Kojima, R., Okamoto, H., & Fujisaki, S. (Eds.). (1997). *Environmental Awareness in Developing Countries: The Cases of China and Thailand*. Tokyo: Institute of Developing Economies.
- Parker, L., & Nilan, P. (2013). *Adolescents in Contemporary Indonesia*. New York: Routledge.
- Payne, P. (2001). Identity and Environmental Education. *Environmental Education Research*, 7(1), 67-88.
- Pew Research Center. (2015). *Global Concern about Climate Change; Broad Support for Limiting Emission*. Retrieved from <http://www.pewglobal.org/2015/11/05/global-concern-about-climate-change-broad-support-for-limiting-emissions/>
- Prabawa-Sear, K. A. (2010). *Barriers to environmental behaviour change: A case study of the behaviours and attitudes of year 11 and 12 practical geography students*. (Masters), Murdoch University.
- Rambo, A. T., Midori, A-U., Lee, Y. F., Nickum, J. E. and Takashi, O. (2003). Environmental Consciousness in Southeast and East Asia: Comparative studies of public perceptions of environmental problems in Hong Kong (China), Japan, Thailand and Vietnam (Preface). *Southeast Asian Studies*, 41(1), 3-4.
- Setiawan, B. B., & Hadi, S. P. (2007). Regional Autonomy and Local Resource Management in Indonesia. *Asia Pacific Viewpoint*, 48(1), 72-84.

- The World Bank. (2014). *World Bank and Environment in Indonesia*. Retrieved from <http://www.worldbank.org/en/country/indonesia/brief/world-bank-and-environment-in-indonesia>
- Warren, J. F. (2016). Typhoons and the Inequalities of Philippine Society and History. *Philippine Studies: Historical and Ethnographic Viewpoints*, 64(3-4), 455–472.
- Yueh, M. M., & Barker, M. (2011). Framework Thinking, Subject Thinking and 'Taiwan-ness' in Environmental Education. *Australian Journal of Environmental Education*, 27(1), 134 – 148.