Inequality and environmental sustainability

For many years, researchers have explored the relationship between income inequality and social development. Recently, however, the inverse correlation between income inequality and environmental sustainability has received greater attention. *Prima facie* that change of focus makes sense: it seems reasonable to accept that it is more difficult to achieve social development in a poor quality environment than in a healthy habitat. Hence, it seems logical to analyse the environment and, therefore, the factors that have, or are thought to have, an adverse impact on it, in relation with inequality.

Boyce presents the argument that great economic inequalities increase environmental harm. He defines an environmental harm as a manmade impact on the natural environment that reduces human well-being (2007, p.4). He accepts that this definition is anthropocentric, but embraces it regardless because he believes that what is good for other species is either good for humans too or clashes with human well-being entirely. In this paper, Boyce’s definition of environmental harm will be accepted. Moreover, his argument will be scrutinised in greater detail with the aim of assessing the relationship between environmental sustainability, inequality and population size.

To do this in a systematic manner, the first part of the paper will be dedicated to the main concern Boyce raises, namely the question of why some people are able to impose environmental harms onto other people (p.4). The three possible answers to this question have one thing in common: in all cases, those who suffer are incapable of defending themselves. Following this observation, the paper considers how to give those who suffer a voice. It does so in two ways: first, an ethical approach is used to demonstrate how the interests of future generations can be taken into consideration, and, afterwards, the argument that inequalities must be reduced between existing peoples to give the powerless a chance to defend themselves will be explored. Once it has been established that inequalities should indeed be reduced, it will be argued that population size must consequently also be stabilised, or fall, to improve environmental sustainability. Once this argument has been analysed in greater detail, it will be concluded that a clear relationship exists between population size and environmental sustainability and that to achieve the latter, equality must be achieved. It will also be argued that to do so successfully, it is necessary to promote population stabilisation, and that, moreover, it is necessary to stabilise population size once greater equality has been achieved in order to guarantee long-term environmental sustainability.

The ability to impose harm on others

Humans do not act without incentive. They act to yield a result. Thus, when human activity causes environmental harm — and therefore reduces human well-being — there must be an incentive that explains such acts. Boyce asks this question and assumes that environmental harm must create enough economic benefit for some to accept the reduction of well-being of others. In order words, the sum of gains must be valued higher than the sum of incurred losses. Following this assumption, he poses a very interesting
question: *Why are some people able to impose environmental harms onto another group of people?* (2007, p.4).

Boyce sees three possible answers to that question. Firstly, it might be that those whose well-being is jeopardised by the actions of others are not yet alive. Future generations are not present to defend their own well-being and therefore, the current generation can easily make choices that will affect them adversely. Secondly, it may be that those who are harmed do not see a connection between their peril and the degradation of the environment resulting from the activities that yield the gains of others. Lastly, it may be that those who see their well-being shrink are aware of the origins of their suffering but simply do not have the power to actively change their fate.

When these three possible answers are considered, it is clear that the party that suffers is in every case the party without the power to defend itself. Non-existence, a lack of knowledge or an inability to influence fate: the reasons for the incapacity to defend one’s interest differ vastly. Yet, it seems clear that it is necessary to give the powerless a strong voice if we truly want to reduce the prevalence of environmental harm — thereby improving environmental sustainability. This is a challenging task because it is impossible to equip the future with a voice in the same way in which the illiterate could be empowered by being taught to read. For this reason, it is necessary to approach the issue from multiple angles. Considering impacts on future inhabitants of Earth requires a discussion of intergenerational ethics. Compensating for a lack of ability or a lack of information, however, appears to be a matter of distributive justice. Empirical findings are also available for such matters and can thus be used to test ideas.

**Intergenerational responsibility**

*The non-identity problem*

When actions in the present affect future generations, questions regarding intergenerational fairness can be raised. We may question whether the present generation has a moral responsibility towards future generations and, if so, how that should influence current decision making processes. If this ethical component is considered, it has the capacity to steer discussions regarding, for example, climate change policies in a different direction than if only short-term monetary gains were considered.

The dilemmas caused by intergenerational fairness are widely discussed in academia. Philosopher Derek Parfit famously argued in his 1986 publication *Reasons and Persons* that future generations cannot possibly claim to be harmed by present generations. Parfit claims that each act, regardless of whether we believe it to be morally right or wrong, influences future generations heavily. Who will be born in the future depends on what choices are made and at which time. Consequently, each choice that is made influences who will be born at a later stage (p.352-359). This line of thought could perhaps be formulated as follows: *Choice X can only lead to future generation X, while choice Y can only lead to future generation Y*. According to this logic, one can only be born in one scenario, because choice X cannot possibly lead to generation Y. Therefore, no one could ever claim to be wronged by a past generation. After all, the only alternative to a particular life would be death, and a life worth living is always preferable to death. Hence no one is worse off than one would otherwise have been, and there is thus no right to claim to be harmed by past actions.
Parfit introduces a climate change case to illustrate his argument. In this example, there is an ongoing debate about whether to follow a policy of depletion (X) or a policy of conservation (Y). Would the present generation inflict a wrong onto future generations by choosing a policy of depletion which would yield them greater gains in the short term? Unsurprisingly, he concludes that it would not be morally wrong to make that choice because policy X would lead to generation X. It is unlikely that people from that generation would prefer death over life, even if it meant living in a resource-scarce world (p.362-365). Facing a lifetime of resource scarcity may feel wrong, but nobody is being wronged. It is clear that this reasoning makes it easy for present generations to impose environmental harms onto future generations. They are simply robbed of the right to complain, if only hypothetically.

**The principle of prudential justification**

The answer that results from Parfit’s philosophical elaborations is intuitively unattractive. It seems wrong to exclude the interests of future beings from our debates on the grounds that they cannot claim to be harmed by our decisions. Can we really say that it is not our concern whether we leave behind a depleted earth so that future generations have nothing to build their lives on? That is arguably very selfish, but it offers existing generations an easy way out of complex discussions. To counter this line of thought, an alternative line of reasoning must be found that is convincing and allows future generations to defend themselves, even if only indirectly. Since this is not possible in practice, the only solution is to look for another way to represent the interests of future humans in the debates of the present. To do this, we can call upon the principle of prudential justification, a concept used by Otsuka and Voorhoeve (2009, p.189).

The principle of prudential justification is introduced in the context of a classic moral dilemma. In this dilemma — commonly referred to as the one-child case — two expectant parents are asked to make a choice knowing that there is a 50 per cent chance that their child will be healthy and a 50 per cent chance that it will be born with severe disabilities. They can either move to the city, which would benefit the child most should it be born handicapped, or to the suburb, which would be most beneficial for their child should it be healthy. Otsuka and Voorhoeve argue that the key to solving this dilemma is to pick that option in which well-being is maximised for the one child. To do this, it is necessary to determine in which scenario the greatest possible well-being can potentially be achieved. In their example it is clear that most well-being would be achieved if the parents were to live in the suburbs with a healthy child. Therefore, parents should opt to move to the suburb. That decision is justified on grounds that it would be in the unborn child’s rational self-interest to make this choice. Even if it turns out that the child is handicapped upon birth, it could be explained to him that the choice to move to the suburb was made with his best interests at heart. Due to non-existence the child was incapable of making a choice; therefore, his parents opted on his behalf for the scenario that had the greatest potential for well-being (Otsuka, 2014). This is the principle of prudential justification.

The one-child case is, in many ways, similar to any intergenerational dilemma. Firstly, the relationship between a parent and a child is similar to the relationship between different generations. It is, after all, by definition true that any future human is a product of an existing
human pairing. Altogether, that means that we could refer to the current generation of mankind as ‘the parent’ and to the future generation as ‘the child’. Secondly, neither the current generation of people, nor the parents in the example, have a notion of the precise identity of their child. The only thing that is guaranteed is that there will be a child in each case. Its specific qualities and preferences are unknown. Thirdly, in both cases a choice needs to be made between different scenarios. Regardless of that decision, the well-being of the yet unborn child will be affected.

Naturally, there are limitations to how similar both cases are. These do not, however, hinder the comparison significantly. A major difference could be the scope of either example. A future generation is substantially bigger than one child, but this is irrelevant when you see an intergenerational relationship as a parent-child relationship. A second difference is one of time. The time between the birth of a parent and its child is relatively short, due to limited time of fertility and human mortality, but a choice that is made by the existing generation could affect generations that live much further in the future, perhaps in 500 years’ time. This, however, is no different to the decisions made by a parent that affect their grandchildren or great grandchildren, and so on.

The one-child case and the intergenerational dilemma therefore can both be expressed in the same manner, and can both be solved using the principle of prudential justification. Any attempt at establishing which scenario would result in greater well-being for succeeding generations would find that policies of environmental conservation are more beneficial in the long term than policies of depletion. Therefore, it is reasonable to assume that future generations would promote this view if they had the possibility of voicing their opinion in current debates. In the one-child case, the principle of prudential justification is seen as the way of giving a voiceless non-existent being a voice. If we intend to give future generations a voice to defend themselves, we should thus embrace the principle of prudential justification.

**Empowerment**

While the principle of prudential justification could give a voice to physically non-present people, it cannot be applied to people who are already alive. Boyce (2007) proposes that education is the key to overcoming a lack of information. Education on the topic of environmental sustainability would increase the likelihood that harmed people draw a connection between their suffering and the activities that cause that suffering. They might, for instance, realise that some of the illnesses they are confronted with are fostered by polluted water, and that the waterbeds they rely on are polluted due to failing sewage systems. Such knowledge could transform lives for the better, provided that the harmed have the means to do so.

Unfortunately, it is often the case that those who are harmed by the actions of others lack the power to defend themselves. Boyce is particularly interested in the group that suffers in this way, because it most directly relates environmental harm to inequality. He holds that human beings are socially differentiated from one another in terms of wealth and influence (2007, p.5). People’s ability and willingness to purchase goods largely determines what is produced. You can be willing to purchase a diamond, but you will be unable to do so unless you have the means. This is important in cases of conflicting interests. Those who have both the willingness and the ability to
pay for something, hold an advantage over those who have the desire but no ability to pay. Thus, when an affluent group of people expresses the will and the ability to pay for the mining of diamonds, and less-affluent people express the desire to preserve the mountain from which those gems would be mined, but have no ability to finance that desire, it is likely that the former group would be successful. Boyce proceeds to argue that this means that the poor not only bear a disproportionate share of the costs resulting from environmental harm, but they are significantly more likely to be disadvantaged in this way in unequal societies. Ultimately, he concludes that it is necessary to reduce inequalities in order to improve both environmental quality and overall human well-being (p.6-10).

Environmental sustainability and inequality

Boyce’s conclusion asks for a deeper analysis of the relationship between environmental sustainability and inequality. To do this, it is necessary to go back to the initial assumption that activities that affect the environment adversely would not occur if no one benefits from this at the expense of others. Namely, if no one suffered a harm there would be no problem, and if no one gained from harmful activities there would be no reason to execute them. The hypothesis that follows from this is that the affluent can more easily harm the poor in cases where great economic inequalities prevail. Laurent attempts to answer why this is the case in greater depth. He claims that social inequalities play an important role in the emergence of environmental crises. Not only do they strengthen the ecological irresponsibility of the rich, they also force the poor to keep up with the economic growth of the wealthy, increase social vulnerability, reduce environmental sensitivity and reduce the collective ability to fight for the preservation of natural amenities (2013, p.3).

Inequality as a catalyst

1. Unnecessary economic growth

When the wealth of a state is distributed unevenly, and the majority of wealth is owned by a minority, the remaining part of society will have to accumulate more wealth in order to maintain their quality of life. There simply is less left for the poor when the rich acquire a bigger share of the total wealth. To overcome this, they will have to generate more wealth (Laurent, 2013, p.5). Unfortunately, there has been, historically, a strong correlation between economic growth and environmental degradation and therefore, increasing economic growth is bad news for the sustainability of the environment.

Economic growth depends on various factors, but one of these is the availability of natural capital (DEFRA, 2010, p.8). Yet, the use of natural capital for production purposes changes the environment irreversibly. Finite resources, such as oil, coal and gas, are not renewable. But even the consumption of renewable sources, such as trees, can be problematic when there is not enough time for the resource to actually recharge. So far, economic growth and environmental harm have not been successfully decoupled. Former European Environment Agency (EEA) Director Jacqueline McGlade stated in 2011 that:

Many different environmental analyses carried out in 2011 once again demonstrated that environmental harm falls when economic growth slows down. We need to break this link between
environmental damage and economic growth if we are to achieve continued prosperity, without destroying the natural systems that sustain us.⁶

Research conducted by the EEA found that as transport-demand fell in 2009, after the financial crash, CO² emissions fell by 7.1 per cent in Europe and air pollution was reduced significantly (2011). Laurent used data generated by Saez and Piketty to demonstrate that the widening of the inequality gap in the United States between 2009 and 2010 caused a CO² emission growth of 3.3 per cent. Had the inequality gap not widened but stayed exactly even in the same time period, emissions would have fallen by one per cent (2013, p.6).

2. Transferring damage

For a consumer to demand the supply of a good, its benefits must outweigh any personal costs the consumer might experience as a result of its production. For example, if the acquisition of a diamond will so badly affect the air a potential consumer breathe that it would impact his or her health adversely, it is likely that the consumer would no longer desire to obtain the jewel. If the damage is, however, borne by someone else, the behaviour of the consumer will most likely not change. As we established previously, those in charge of determining what is produced are those with both the willingness and the ability to purchase, i.e. the rich. Laurent (2013, p.7) states that when the gap between rich and poor grows, it is easier for the wealthy to transfer damage caused by the activities to the poor in other locations. This influences the consumer’s cost-benefit analysis, as when the costs of production are unseen, he or she is more likely to continue to demand a product. When it is easy to remove environmental destruction from one’s sight, the chances of ecologically irresponsible behaviour increase.

This problem manifests itself in many ways. There are plenty of examples of large companies that move their production factories from developed to developing nations to evade the glaring eye of criticism in their homelands. In affluent countries it is generally understood that this happens, but still wealthy consumers continue to enjoy their mass-consumption lifestyles at the expense of the poor (Shah, 2006). This trend is not only visible in relation to manufactured goods. Rich countries also tend to waste scarce resources, while poor countries lack them. Even when affluent states become reliant on certain natural sources, they have the funds to import them, so that their population is largely unaware of the seriousness of scarcity. The UK faces a water crisis. It has been estimated that between 1,100 and 3,300 mega litres are over-abstracted in the UK on a daily basis (Less, 2011)⁷. This, in itself, harms the environment, but it is still not enough to quench the thirst of the UK’s households and industries. Therefore, great quantities of water are imported from countries that themselves face shortages, leaving locals to face that fate (Vidal, 2010).⁸ It is probable that reduced inequality between states would give the poorer nations a better chance of acquiring water. That would in turn give wasteful states a good incentive to adopt more sustainable life patterns.

Similar problems occur within states. Laurent illustrates this with an example where small Spanish farms suffer from drought because large tourist ventures have the purchasing power to buy up a big percentage of the available water for their recreational facilities. Consequently, wealthy tourists are able to enjoy the natural resource in a carefree way, at the expense of the impoverished farmer (2013, p.7). A more equal power balance
between tourist businesses and farmers would, in this case, make it more difficult for the former to harm the latter.

3. Social vulnerability

The negative impact of inequalities on physical and mental health has been researched extensively. In England and Wales, a correlation was found between deprivation and environmental quality. Polluting facilities were mostly located in deprived areas. A similar pattern was exposed in France, where poor and immigrant communities are disproportionately exposed to industrial and nuclear sites, incinerators and other waste-management facilities (Martuzzi, Mitis and Forastiere, 2010, p.22). It has been proven that environmental degradation has a negative influence on human health — for example, exposure to air and water pollution causes significant health problems (Drabo, 2010, p.157). Health problems make humans more vulnerable, and reduce their chances of competing with people who are unaffected, thereby likely widening the inequality gap further.

4. Collective action

Inequality has an adverse influence on the sustainable management of common resources. The reason for this is that the successful implementation of environmental policies requires broad consensus (Laurent, 2013, p.11). The more inequalities present themselves, the more likely it is that political polarisation occurs as well. After all, the more inequalities exist, the greater the chance is that concerns, incentives and desires for change differ vastly. When political parties have incommensurable ideas, it is very difficult to agree on the creation of a successful policy. The incapacity to create policies can cause harm to the environment, because when there cannot be agreement on how to stop the exploitation of the environment, nothing happens and the harm continues to exist. The troublesome Kyoto protocol negotiations are a good example of a case where the incentives and ideas of the nations of the world did not align well. After five years of intense negotiations, the United States, at the time the biggest carbon emitter, refused to ratify the agreement (Harvey, 2012). While this does not render the Kyoto protocol completely useless, it does illustrate how difficult it is to reach a global consensus.

5. Economic sensitivity

Inequalities in society increase the likelihood that the poorest in society will object to a priority placed on the protection of the environment. They will simply feel that they have more urgent needs that need to be met. This does not mean that they cease to care about the quality of their environment altogether; it merely means that they cannot afford to see environmental protection as a top priority (Laurent, 2013, p.12). Economic development would then be prioritised over environmental sustainability. Consequently, the environment degrades further, reducing well-being in the long term.

People living in environmentally degraded areas often actively partake in destroying that environment. This is usually a consequence of economic problems. Poverty will drive people to harm their land to ensure their survival (Hassan, Zaman and Gul, 2014, p.68). Even in countries that are not considered to be among the absolute poorest, such economic sensitivity prevails. Laurent uses a case in which the French government failed to adopt a carbon tax in 2009 to illustrate this. The French opposed the proposed tax on economic grounds. They felt that
the poorest of society would be hit hardest by the carbon tax when unemployment and poverty rates were on the rise. Therefore, 69 per cent of the French public felt that it was right to abandon the carbon tax project (2013, p.12). Had the burdens and benefits of society been distributed more evenly, the chances are that people would not have opposed the proposal on those grounds.

**Inter-country comparisons**

While it is widely acknowledged that it is difficult to measure accurately the impact of inequality on environmental sustainability, many findings have been presented that tentatively try to establish the extent of the correlation. The Gini index shows how far the distribution of income among individuals within an economy deviates from a perfectly equal distribution. Thus, an increase of the Gini ratio implies an increase of inequality. A one per cent increase in the Gini ratio is, for example, associated with a rise of almost two per cent in the number of threatened species (Nazrul Islam, 2015, p.3). In other words, increased inequality affects species adversely.

Inter-country comparisons have been conducted to analyse further the correlation between inequality and environmental sustainability. Both countries that are similar in terms of development, and countries that differ significantly, are contrasted. Such comparisons are always difficult. The functioning of a state is influenced by a wide range of variables. The political climate, demographics, geographical location and history, among others, can be very influential. Naturally, a war-torn country with a large population in an area facing drought faces different challenges than a large, democratic state with low population numbers and plenty of natural resources. This does not mean that such comparisons have no value.

**Similar countries**

Evidence has been presented that shows that affluent countries with higher inequalities consume more resources and generate more waste than affluent countries with lower inequality rates. While many factors possibly influence these differences, there is enough reason to suspect causality (DESA, 2015, p.4)
A similar pattern was found when waste generation was analysed. Sweden, which has a low inequality ratio, also generates a comparatively low amount of waste per capita. The United States, by contrast, has a much higher inequality measure and also generates a significantly higher amount of waste per person (Nazrul Islam, 2015, p.6). Again, the chart shows a relatively linear correlation between the two values.

Non-similar countries

Comparisons between developed and developing nations also yield interesting results. It is often assumed that the relationship between economic growth and environmental degradation could be expressed as an inverted U-curve, meaning that GDP growth causes environmental damage until society starts demanding environmental protection and is affluent enough to achieve that. Yet, this assumption does not conform to observations. There are indeed rich countries that have seen their CO₂ emissions and consumption levels grow beyond sustainability levels, while some developing nations perform rather well in terms of environmental preservation. But, while some affluent countries have started the process of environmental preservation, this does not apply to all. This suggests that it is not the Growth Domestic Product (GDP) on its own that determines the level of environmental degradation, but that income distribution plays a role too (Haupt and Lawrence, 2012).

The Environmental Performance Index (EPI) is a measure that has been created in an attempt to establish a scientifically viable index that can be used to make inter-country comparisons of environmental performance (EPI, 2016). In the EPI, countries are ranked based on 25 performance indicators that cover environmental public health and ecosystem vitality. The higher the score, the better a country performs on the EPI scale. In 2010, the ranking illustrated that certain developed countries perform strongly in the environmental health objectives but very poorly on climate change and emission related points. Some developing nations, however, have moderate scores on all indicators. This meant that Nepal ranked higher than the United States. The United States were penalised for bad air pollution policies and poor climate change regulations and therefore ended up at rank 61. The United States is very affluent. Yet, the score shows clearly that the idea of an inverted U-curve of environmental degradation can be questioned. While the EPI scores from 2016 show that the United States improved its performance greatly, the top positions on the list remain in the hands of countries known to have low inequality rates: Finland, Iceland, Sweden, Denmark and Slovenia hold the first five places. All five score below 30 on the GINI index, while the United States scores 40.5.

### Population, inequality and environmental sustainability

#### Hypothetical equality

The outlined impact of inequality on the environment suggests strongly that Boyce is right when he pleads for the reduction of inequalities to improve environmental sustainability. This, in turn, leads to two other questions: what steps must be taken to reduce inequality and what conclusion would we reach when greater equality is achieved? It is not easy to answer these questions, but this paper will argue that population stabilisation is a necessary — not
sufficient - condition that must be met in order to successfully close the inequality gap and deal with the conclusions that would lead to. To build that argument, it is necessary to return to the initial assumption that environmental degradation only takes place when some benefit and others lose. It has been established that those who lose are mostly the poor and that winners are mostly the rich. This is worse when strong inequalities prevail.

In a hypothetical scenario where greater equality is achieved, it would be significantly more difficult to harm the environment at the expense of others. People would no longer lack the means to oppose destructive activities, nor the information to understand the impact of certain actions on the environment. There is no doubt that the world would still face serious problems in this scenario. After all, even in an equal environment, resources remain finite. However, in this scenario questions of scarcity can no longer be solved by moving the burden onto the poor. In fact, there are only three possible ways of coping:

1. Depleting the Earth, making it practically uninhabitable for future generations and other species that can coexist with humans, without reducing current human well-being.

2. Accepting a massive decline in resources per capita, causing a lower level of well-being, and optimising the use of resources.

3. Optimising the use of resources and promoting population stabilisation or decline to maintain or improve well-being.

The first option, in which the Earth is actively depleted, can be dismissed on grounds that it is wrong to impose such harms on future generations that cannot defend themselves. The principle of prudential justification would lead to the conclusion that it is not right to rob the future from well-being — or rather our children. The second option is not viable either, since reduced human well-being is part of the endorsed definition of environmental harm. If well-being reduces, environmental harm still prevails even though no longer caused by inequality. It may be true that people in affluent countries could reduce the number of resources they currently use strongly without compromising their well-being. Yet, for all to achieve the well-being of the rich too many resources would still be required. Hence, it appears improbable that economic equality and no decline in resources per capita could co-exist when population size increases. Therefore, the humans in the equalised version of our Earth would most probably reach the third conclusion in their attempts to create sustainable societies.

**Population stabilisation**

Population stabilisation would allow humanity to create sustainable societies in a scenario where inequalities are no longer problematic. The reason for this is simple: the fewer people who demand the production of goods, the easier it will be to produce sustainably. In addition to less environmental harm, each person in this scenario would have a bigger individual share of resources. Population stabilisation can also help to achieve a world where inequalities are less problematic.

Traditionally, large families are associated with poverty. In recent times, however, this has started to change in developed nations. Big families are increasingly associated with the rich, making them aspirational rather than a necessity. If you can afford to raise many children, you must be wealthy. As Wendy Martin — an American author and cultural critic — noted:

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When you think about, it’s logical that a big family equals a big status symbol: it’s expensive to raise kids anywhere, and especially in New York City, where full-time nannies, private schools, and summer camps are standard expenses.\(^{14}\)

Figures support this thought: a significant rise of big families is visible among the top 1 to 1.5 per cent richest Americans, while the poorest families do not have larger than average families (Hymas, 2011). The same trend is visible in the UK where increasing numbers of influential personalities have big families — such as renowned chefs Jamie Oliver and Gordon Ramsay and the Beckham’s. This creates the idea that children are status symbols, associated with great success (Day, 2012).

While this may be a new trend, there are of course still large families that experience poverty. In fact, large families, especially those with single parents, are at greater risk for poverty due to higher costs of living, greater difficulty in finding well paid employment and obstacles to entering the workforce due to caring responsibilities (EAPN, 2016). In the UK, the child poverty rate for large families is among the highest in the OECD. This is mostly ascribed to unemployment and low earnings. Each additional child reduces the chance of leaving poverty by 20 per cent and increases the chance of falling back into poverty by 35 per cent (HM Government, 2014).

The developing world

The assumption that the poorest want more children because children present parents with social security when they are old and because children can be used as a labour force is not unusual (Merrick, 2002, p.41). Yet, comparisons made between poor countries that experienced rapid fertility decline and countries that did not found that high fertility does in fact increase absolute levels of poverty by slowing economic growth and worsening the distribution of additionally acquired resources (p.43). Birdsall, Kelly and Sinding similarly conclude that rapid population growth seems to have had a strong adverse effect on economic growth between 1960 and 1995 (2001, p.9). Not only do big families make it more difficult to escape poverty, research conducted in the Philippines suggests that big families today face greater poverty than they would have in the past (Orbeta, 2005). While the incidence of poverty in a nine-member household fell from 59.9 to 57.3 between 1985 and 2000, the poverty incidence for a four member household fell from 36.4 to 23.8 in the same time period. This means that the difference in poverty incidence widened (p.5). Orbeta recommends that any poverty alleviation effort must be accompanied by a population regulation strategy (p.19).

Population stabilisation strategy

One of the major reasons for having many children in spite of poverty is a lack of access to and use of reliable birth control methods. It was estimated by the World Health Organisation (WHO) in 2015 that 225 million women in developing countries had the wish to delay or stop childbearing, but are not using modern contraception. There is a comparatively high number of unwanted births among poor families. Research has suggested that is largely caused by the unaffordability of reliable contraceptives for the poor (White, 2015). Lastly, there are incentives to have extra children that are provided by governments. Subsidies for additional children, for example, could incentivises parents to have another child.\(^{15}\) In order to achieve population
stabilisation it is important that people are no longer incentivised to have extra children by external bodies. Raising children is expensive and subsidies will most likely not cover these expenses. Moreover, it is important to provide family planning services so that the number of unwanted births and pregnancies can be reduced. Access to contraception methods and improved sex and relationship education would also contribute to this goal.

**Conclusion**

In this paper, Boyce’s question of why some individuals are able to impose environmental harms on others was explored in detail. It was established that it is only possible to do this when those who suffer from such harms have no way to change their fate. This suggests the necessity to equip the harmed with a voice in order to improve environmental sustainability. It was shown that future generations can be included in current debates through the principle of prudential justification, but that it is necessary to reduce inequality to empower the existing voiceless. Following this, it was determined that population stabilisation is a necessary conclusion that would be drawn by humanity once the adverse influence of inequality has been eliminated so that the level of well-being of humans can be maintained or improved. Population stabilisation also has a positive effect on the elimination of inequality in the first place as it is a step towards combatting poverty. Given this, it can be concluded that population stabilisation is good for environmental sustainability.
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Reference list


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1 Boyce has been named a pioneer of the discussion on the correlation between inequality and environmental sustainability in many works, including Laurent (2013) and Drabo (2011).

2 He refers to the eradication of small-pox which is arguably good for human well-being but not for the virus species that causes it (2007, p.4).

3 Parfit arrives at this conclusion after an extensive discussion of the timing of conception and of the qualities that make a person a person. This leads him to conclude that if one was but conceived a second later, one would be someone else entirely. Since any act...
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Influences who meets whom when and where, he believes that everyone can only exist in one scenario. Had one thing be different in the past, you would not exist in the way you exist now.

4 Otsuka and Voorhoeve use utility points to express well-being. A healthy child in a suburb has a utility of 25, but only 20 in the city. A handicapped child has a utility of 10 in the city and of 6 in the suburb. Hence, a move to the suburb has the highest well-being potential.

5 In 2010, UN secretary general Ban Ki-moon said that polluted water kills more people annually than war. Untreated sewage is a major cause of water pollution.


7 Over-abstraction of water means that more water is abstracted from a source than is sustainably possible. Over-abstraction causes the drying up of rivers and the unacceptable reduction of groundwater aquifer water levels.

8 In 2010, the average Brit used nearly 3,000 litre of imported water per year.

9 This explanation is offered by the World Bank.

10 It must be noted that the extinction of certain species such as viruses and bacteria could be beneficial for mankind. However, it is often the case that the species that are threatened with extinction are beneficial for biodiversity.

11 There are doubts about the empirical validity of the EPI, in part due to its relatively recent creation and therefore limited database. It is, however, the only cross-country index that is focussed on environmental sustainability and can thus can still offer some interesting insights.

12 The 25 indicators are linked to ten policy categories, namely: Environmental Burden of Disease; Water Resources for Human Health; Air Quality for Human Health; Air Quality for Ecosystems; Water Resources for Ecosystems; Biodiversity and Habitat; Forestry; Fisheries; Agriculture; and Climate Change.

13 These values were found in the World Bank’s 2011-2015 Gini index column.


15 This is exactly what Italy aims to achieve with its plans to double child benefit to combat what is described as an "apocalyptic" decline in the country’s birth rate (BBC, 2016).