

## **Stoic Virtue Ethics and Establishing a Nuclear Power Plant: Perspective Bangladesh**

**Nasrin Sultana\***

[**Abstract:** Electricity plays an important role in our modern life. However, the process and raw materials used in the production of electricity are not always good for environment. For example, coal and natural gas fired power plants release carbon dioxide that contribute to global warming, whereas hydroelectric power plants are harmful for aquatic lives. So, most developed countries consider nuclear power plants as an alternative to coal and gas fired power plants as nuclear power plants are environment friendly and also can produce more electricity than other power plants do. Considering this fact, the Government of People's Republic of Bangladesh has established the first nuclear power plant project named Nuclear Power Plant (RNPP) project in Rooppur, the western part of Bangladesh, using Russian reactors designed with post-Fukushima safety features. In terms of cost, technical complexity and risk profile, it is the largest ever undertaken power plant in the country. However, there is a possibility of spreading radiation producing particles over a wide area that can even cause death for human and non-human species. Now, the question arises: as human beings should we support establishing nuclear power plants to save the nature to ensure a safe world for our future generation as well as for non-human species? Or should we depend on coal, gas or hydroelectric power plants which are cheaper than nuclear power plants? In this paper, I have tried to answer to these questions from Stoic ethical point of view. At first, I have discussed the stoic virtue ethics with a special emphasis on Seneca's view and try to show that a virtuous person should be disposed to support establishing a nuclear power plant in Bangladesh. For, by supporting the nuclear power plant a person can act appropriately as a member of the universe as a whole and can cultivate the disposition of prudence, temperance, justice, friendliness toward other members of the community, *i.e.* our future generation and non-human species.]

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\* **Nasrin Sultana:** Assistant Professor, Department of Philosophy, Jahangirnagar University.

## 1. Introduction

People, in modern life, cannot imagine a single day without electricity. For, electricity makes our life easy and fast. Electricity improves the way of entertainment. Besides, food, transport, even clothing are now dependent on electricity. Thus, electricity plays an important role in our modern life. However, there are some drawbacks of producing electricity, especially the process and raw materials used in production of electricity are not always good for environment. For example, coal and natural gas fired power plants release carbon dioxide that contribute to global warming. On the other hand, hydroelectric power plants are harmful for aquatic life. As a result, some non-human species are going to be extinct and our future generations are at risk. Thus, most developed countries are planning to set power plants which are both environment friendly and also can produce more electricity than other power plants do. Bangladesh is one of those countries which thinks that a nuclear power plant can be an alternative to coal, gas or hydroelectric power plants.

However, a nuclear power plant is not beyond risk. There is a possibility to spread radiation producing particles over a wide area that can even cause death for human and non-human species. Moreover, a nuclear power plant is more expensive than any other plants. Now, the question arises: as human beings what character traits should we have regarding this situation? Should we support establishing nuclear power plants to save the nature to ensure a safe world for our future generation as well as for non-human species? Or should we depend on coal, gas or hydroelectric power plants which are cheaper than nuclear power plants? In this paper, I will try to answer to these questions from Stoic ethical point of view. So, at first, I will discuss the stoic virtue ethics with a special emphasis on Seneca's view and try to show that a virtuous person should be disposed to support the nuclear power plant. For, by supporting the nuclear power plant a person can act appropriately as a member of the universe as a whole and can cultivate the disposition of prudence, temperance, justice, friendliness toward other members of the community, *i.e.* our future generation and non-human species.

## 2. Stoic Virtue Ethics

Stoic philosophers offer an alternative to Aristotle's virtue ethics. According to Aristotle, the main goal of human beings is to attain happy or flourishing life. Stoics accept Aristotle's view that happiness is the ultimate goal of a human life. They also agree with Aristotle that by possessing and

exercising virtue we can attain happiness or flourishing life.<sup>1</sup> Thus, virtue is necessary for attaining happiness or flourishing. However, they disagree with Aristotle “on the question of whether possessing a virtuous character could ever be sufficient for a happy and rewarding life”.<sup>2</sup> According to Aristotle, health, etc. are also constitutive goods of happiness and some instrumental goods, like wealth, are also necessary to achieve full virtue and happiness. Thus, these are also necessary for flourishing life.<sup>3</sup> On the other hand, Seneca, one of stoics, claims that virtue alone is sufficient for happy life and hence nothing else can contribute to happiness. He writes,

True happiness, therefore, is founded upon virtue... That you should consider nothing either good or evil other than what is characterised by virtue or vice. Secondly, that you become immovable from the good and against evil so that, insofar as it is right to do so, you exemplify the divine.<sup>4</sup>

He further says,

What does virtue promise in return for this outlay? Huge advantages, equivalent even to those of gods: you will be under no compulsion, you will not be in want of anything, you will be free, secure, unassailable; you will attempt nothing in vain, be excluded from nothing; everything will come out according to your judgment; no setbacks will occur, nothing contrary to your wishes or expectation.<sup>5</sup>

Thus, virtue, in turn, benefits us and nothing but only virtue can give a happy or flourishing life. So, virtue is both necessary and sufficient for happy life. Now the question arises: what is virtue and how does a person act virtuously? According to stoics, virtue is the only good. In order to define “virtue” Seneca distinguishes between “indifferent” and “good”. He uses the term “indifferent” to refer to the “gifts of fortune such as health, wealth, beauty, or social status and so on. Some indifferents have advantages (*i.e.* these may be instrumentally valuable for happy life) and

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1. Christopher Gill (2003), “Cynicism and Stoicism”, in Roger Crisp (ed.) *The History of Ethics*, Oxford University Press, pp. 98-99
  2. Jennifer Welchman (2006), “Introduction”, in Jennifer Welchman (ed.), *The Practice of Virtue: Classic and Contemporary Readings in Virtue Ethics*, Hackett Publishing Company, Inc. Cambridge, p. xx
  3. *Ibid.*, p. xx
  4. Seneca (2006), “On the Happy Life”, in Jennifer Welchman (ed.), *The Practice of Virtue: Classic and Contemporary Readings in Virtue Ethics*, Hackett Publishing Company, Inc. Cambridge, p. 46
  5. *Ibid.* p. 46

hence these are preferred to others. For example, health, wealth etc. may be advantageous or “instrumentally valuable for pursuing a virtuous human life”.<sup>6</sup> But Seneca claims that neither of these are necessary for human flourishing though these are preferred to others.<sup>7</sup> For, according to Seneca, if a person loses wealth he will not lose anything other than that. However, if he loses virtue he will be deprived of happy life.<sup>8</sup> Moreover, the so-called indifferent is only conditionally valuable whereas the good is unconditionally or absolutely valuable.<sup>9</sup> For one may use his wealth for harmful activities. However, virtue always benefits oneself and others. A virtuous act is never be harmful for others. Thus, the so-called preferred indifferent cannot be the constitutive good of happy life. Rather, only virtue is good for human life.

Now consider what is “good” for human being? According to Seneca, “Everything is endowed with its own particular good.”<sup>10</sup> The good for human being depends on the distinctive features of human life. According to stoic, there are two main features of human life: first, it is corporeal which he shares with other animals and plants as both animals and plants have their own body. The second part of human life is rational part.<sup>11</sup> For, only a human being has reason and reason makes human beings different from animals. So, all of operations of a human being involve reason. Thus, the fulfillment of human well-being depends on right and perfected reason.<sup>12</sup> Seneca says, “A person is good whose reason is well developed

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6. Jennifer Welchman (2006), “footnote of On the happy life by Seneca” in Jennifer Welchman (ed.), *The Practice of Virtue: Classic and Contemporary Readings in Virtue Ethics*, Hackett Publishing Company, Inc. Cambridge, p. 49
  7. Ibid, p. 49
  8. Seneca(2006), “On the Happy Life”, in in Jennifer Welchman (ed.), *The Practice of Virtue: Classic and Contemporary Readings in Virtue Ethics*, Hackett Publishing Company, Inc. Cambridge, p 49
  9. Julia Annas(2002), “My Station and Its Duties: Ideal and the Social Embeddedness of Virtue” *Proceedings of the Aristotelian Society*, New Series, Vol. 102, pp. 114
  10. Seneca (2006), “Moral Letters to Lucilius”, in in Jennifer Welchman (ed.), *The Practice of Virtue: Classic and Contemporary Readings in Virtue Ethics*, Hackett Publishing Company, Inc. Cambridge, p 50
  11. Katja Vogt(2016), “Seneca”, *The Stanford Encyclopedia of Philosophy* (Spring 2016 Edition), Edward N. Zalta (ed.).  
URL=<<http://plato.stanford.edu/archives/spr2016/entries/seneca/>>
  12. Seneca (2006), “Moral Letters to Lucilius”, in in Jennifer Welchman (ed.), *The Practice of Virtue: Classic and Contemporary Readings in Virtue Ethics*, Hackett Publishing Company, Inc. Cambridge, p 50

and right and fitted to what human nature wills. This is called virtue, this is what we refer to as the honorable and is the one and only human good”.<sup>13</sup> Thus, a virtuous person is a person who acts in accordance with his reason in every sphere of life by measuring what is the honorable thing to do against what is despicable. A virtuous person judges an action honorable, he does this even if it involves a lot of trouble, even if it involves financial loss, even if it involves danger. Similarly, a good person does not do something despicable even though it would be profitable, it would be pleasant, even though it would bring power.<sup>14</sup> So, choice of human actions play a vital role in stoics’ ethics. For, according to Stoics, by exercising the capability for rational choice one can lead a virtuous life. Once human being has developed reason he can perform appropriate acts or proper function.

According to Seneca, reason comply with nature. So, the highest human good “is to conduct oneself in harmony with nature’s will”.<sup>15</sup> Seneca uses the word “nature” in different senses: as a part of the animal species human beings have the desire to benefit our children; we want to protect our body from disease. We have feeling and affection to our near ones. As rational and social animals we care for other members of our society. For, human beings are social beings. Only human beings have the reasoned engagement in family and community life. Human beings have passion, emotion and desire. We have the desire to benefit others of our kind. Furthermore, “it is consistent with nature in a broader sense; i. e., nature as the universal order that determines our specific nature and the course of event in our world”.<sup>16</sup> So, according to stoics, we should not consider ourselves only as part of the human species, but also we should consider ourselves as part of a universal nature as a whole. The characteristics of nature as a whole can be explained in two ways<sup>17</sup>: in one way, nature as whole embodies order, rationality, and structure. According to Stoics, it is manifested in the regular patterns of nature (the movements of the planets, cycle of season and so on), and in the seamless web of causes and effects

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13. Ibid, p. 51

14. Ibid, p. 51

15. Ibid, p. 54

16. Jennifer Welchman (2006), footnote of “Moral Letters to Lucilius” by Seneca” in Jennifer Welchman (ed.), *The Practice of Virtue: Classic and Contemporary Readings in Virtue Ethics*, Hackett Publishing Company, Inc. Cambridge, p. 54

17. Chris Gill, “Stoicism and the Environment”, an unpublished paper posted in *Stoicism Today*, retrieved on 29/04/2016 from <https://blogs.exeter.ac.uk/stoicismtoday/2016/02/06/stoicism-and-the-environment-by-chris-gill/>

that operates throughout the universe”.<sup>18</sup> This is beyond our control. In other way, order, rationality and structure are the properties of human nature. This characteristic is manifested in the virtuous act of life. Thus, we should act virtuously according to our own nature as well as the order of the universe as a whole by focusing on our inner lives and by giving less importance to the “out world” acts, whose success is always very much a matter of luck.<sup>19</sup> By following nature we can attain a happy or flourishing life. By choosing and acting appropriately according to our human rationality and sociability we can cultivate the disposition of prudence, justice, temperance and friendliness.<sup>20</sup> In virtuous action, we should be free from emotion. According to Stoics, the key to virtue is the consistency among prudence, justice, temperance and friendliness. That is what is just in one circumstance is consistent with what is just in other circumstances. Otherwise it would be indifferent.

### **3. Stoic Virtue Ethics and Establishing Nuclear Power Plants**

So far we have discussed that according to Stoicism virtue is the only good for human life. Virtue is both necessary and sufficient for human flourishing. The so called preferred things are indifferents and hence these do not contribute to a virtuous life. Human beings should act in accordance with their reason. To act according to reason is to consider oneself as a member of the rational and social community in his locality as well as in the nature as a whole. Now consider the importance of electricity in our happy or flourishing life. If we consider Seneca’s virtue ethics to address the problem of establishing a nuclear power plant, it can be claimed that electricity is not constitutive in human flourishing as only the virtue is the constitutive good of happy or flourishing life. Since wealth, money etc. are indifferents, electricity is also an indifferent in our life. For, electricity is one of the vital facts of socio-economic development of a country. Bangladesh is a small country with a large population. Currently, around 128 power plants are providing with electricity to 3.08 crore people across the country. The total production of electricity is 21,169 MW. And an unprecedented 93% of the total population has access to electricity, which is

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18. Ibid,

19. Jennifer Welchman (2006), “Introduction” in Jennifer Welchman (ed.), *The Practice of Virtue: Classic and Contemporary Readings in Virtue Ethics*, Hackett Publishing Company, Inc. Cambridge, xx

20. Leonidas Konstantakos, “Would A Stoic Save The Elephant?” an unpublished paper, retrieved on 23 March, 2016 from <https://blogs.exeter.ac.uk/stoicismtoday/2015/10/10/would-a-stoic-save-the-elephants-by-leonidas-konstantakos/>

low compared to other developing countries.<sup>21</sup> However, the government aims to bring 100% of its total population under the capacity of electricity consumption. The government has also planned “to boost the country’s electricity consumption four times by 2021 to facilitate increased economic activities and make the power infrastructure fit for graduation to a middle-income status.”<sup>22</sup> Taking this in consideration, the government has established the first nuclear power plant project named Nuclear Power Plant (RNPP) project in Rooppur, the western part of Bangladesh, using Russian reactors designed with post-Fukushima safety features. It is the largest ever undertaken power plant in the country, in terms of cost, technical complexity and risk profile. In this project two reactors have been based on a modified version of the NPP-2006 VVER (Pressurized water reactor), designed exclusively for the site on the eastern bank of the river Ganga, 160 km away from Dhaka. The government claims that the plant can meet the scarcity of electricity throughout the country. However, some people are trying to resist establishing the plant. They are concerned about the safety issue. Now the question arises: Should a virtuous person disposed to support the nuclear power plant RNPP?

The answer can be given by comparing the outcome of nuclear power plants to that of other plants and analyzing the definition of virtue and moral duties of a human being as a member of the universe as a whole. Let me compare the impacts of general power plants and the nuclear power plant in Bangladesh. At present, Bangladesh is depending on coal, gas fired and hydroelectric power plants to produce and supply electricity throughout the country. However, there are some significant impacts of coal, gas fired and hydroelectric power plants on environment. First of all, the coal fired power plants emit greenhouse gases which lead to global warming and climate change. Furthermore, these produce harmful substances, such as mercury, sulfur dioxide, carbon monoxide etc. which cause environmental pollution including acid rain. Moreover, a coal fired power plant produces millions of tons of harmful byproducts which can no longer be reused and hence it pollutes the environment. Due to the reckless emission of greenhouse gases and other harmful particles produced from the coal fired power plant situated 15km away from world’s largest mangrove forest

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21. Md. Asad Rahman et. al, “The Prospects of Nuclear Power Plants in the Bangladesh”, *International Journal of Renewable Energy Technology Research*, Vol. 1, No. 1, PP: 15 - 22, December 2012, ISSN: 2325-3924 (Online), p. 19
  22. “Power consumption to quadruple by 2021”, *Daily Sun*, 26 October, 2018, <https://www.daily-sun.com/printversion/details/345650/2018/10/26/Power-consumption-to-quadruple-by-2021-->

Sundarban, the biodiversity of Sundarban is now at risk. There are only 106 Royal Bengal Tigers remain in Sundarban in Bangladesh part; spotted deer, crocodile etc. are also going to be extinct.

On the other hand, the 80% of total production of electricity depends on gas fired power plants, which is the main source of national energy. Around 55% of natural gas reserve goes to power generation sector, whereas, 27% of it goes to industry and the rest goes to household and other sectors. A report shows that if this process continues, the reserve will be empty by 2040. Moreover, gas fired power plant generates greenhouse gases including carbon monoxide and carbon dioxide which contribute to the global warming and climate change as well. Similarly, in the hydroelectric power plant, the dams developed across the rivers is harmful for aquatic life and may lead to their extinction.

On the other hand, a nuclear power plant doesn't emit CO<sub>2</sub> and hence doesn't contribute to the global warming. Nor does it emit smoke particles that can contribute to air pollution. Nor does it emit gases that can cause acid rain. So, it is evident that coal and gas fired power plants are more harmful for environment and non-human species than a nuclear power plant does. Thus, nuclear power plants should be established to ensure a safe habitat for human beings and non-human species and hence it is preferred to gas or coal fired power plants. Now the question arises: why should we care for environment and non-human species?

The answer can be given by analyzing the definition of virtue and moral duties of a human being as a member of the universe as a whole. It is shown earlier that Stoics define virtue as the only absolute and non-contingent good that benefit oneself and others. Thus, according to stoics, if human life is conducted rightly as reason directs, it will benefit others. A benefit can be any kind of help a person might offer to another person qua member of a group.<sup>23</sup> Similarly, a virtuous person should support the nuclear power plant. For, by supporting the nuclear power plant one can act virtuously to protect the environment from pollution and global warming as a member of the universe as a whole in one hand, and can act virtuously to help the nation to have sufficient amount of electricity as a member of the community on the other hand. So, by supporting the project one can offer a pure and habitable nature to other members of the universe, *i.e.* present and future generation of the world and non-human species. For, Bangladesh is one of the most vulnerable countries in South Asia by an expected 2°C rise

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23. Katja Vogt (2016), "Seneca", *The Stanford Encyclopedia of Philosophy* (Spring 2016 Edition), Edward N. Zalta (ed.).  
 URL=<<http://plato.stanford.edu/archives/spr2016/entries/seneca/>>



in the world's average temperatures in the next decades, with rising sea levels and more extreme heat and more intense cyclones threatening food production, livelihoods, and infrastructure as well as slowing the reduction on poverty. Moreover, 40% of productive land is projected to be lost in the southern region of Bangladesh for a 65cm sea level rise by the 2080s. About 20 million people in the coastal areas are already affected by salinity in drinking water. Rising sea levels and more intense cyclones and storm surges could intensify the contamination of groundwater and surface water causing more diarrhea outbreaks. Thus, it is the right time to act virtuously to protect the nature from warming by reducing the emission of greenhouse gases and other particles as a member of the nature as a whole.

Moreover, non-human species are also the members of the nature as a whole. So, we have some duties to protect their habitat as well. They are also valuable for protecting the ecological balance. At the same time, by providing a safe environment and habitat for non-human species one can offer aesthetic, cultural and recreational resources to other members, *i.e.* present and future generation, of the world.

One may argue that nuclear power plant is not out of drawbacks either. Though nuclear power plant is considered as sustainable energy source that reduces greenhouse gas emission and produces less wastes than the conventional power plants do, green house energy is not green either. For, nuclear power production “involves mining and refining of radioactive raw materials and disposal of radioactive wastes, which damage the environment and bring health risks” to present and future generation.<sup>24</sup> Thus, the future generation will suffer from the consequence of nuclear power plant waste products. However, the safety issue can be resolved by informing and taking consent from the local people about the facts of the plant and taking effective steps, enhancing the management of the risk.<sup>25</sup> As the government claim that they will use Russian reactors designed with post-Fukushima safety features, the local people shouldn't be misguided by a panic. Moreover, since nuclear power plant is indifferent, it is not unconditionally valuable. However, a pure environment with a risk which can be removed by taking a pre-causation is preferred to a polluted environment. So, nuclear power plant is preferred indifferent whereas coal or gas fired power plants are dis-preferred indifferents.

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24. Hui Xiang & Y. Zhu (2011), “The Ethics Issues of Nuclear Energy” Hard Lesson Learned from Chernobyl and Fukushima”, *Online Journal of the Health Ethics*, 7(2), p. 3 retrieved on 15/04/2016 from <http://dx.doi.org/10.18785/ohje.0702.06>

25. *Ibid*, p. 1

Geographical position can be another issue to be considered in establishing a nuclear power plant. The plant is being set in Rooppur, Pabna, which is 200km. away from Dhaka city. However the electricity produced from this plant will be distributed to the country as a whole by adding 20% of electricity of whole production to the national grid. Now the question arises: why should a particular group of people carries the burden of the production of the electricity while a larger number of people will enjoy the benefit? It is discussed earlier that according to Stoics, human beings as rational and social beings are the part of his community as well as the part of the world as whole. Thus, as a member of a family a person has some duties toward his own family and society. At the same time, as a member of the country he has some obligations toward a nation as a whole. Furthermore, the electricity produced from plant can be used in different industries and sectors and hence directly or indirectly he can enjoy the benefit of the plant. So, as social beings we have the responsibility to protect the welfare of our neighbours. Similarly, we have the responsibility to help other citizens of the country. A virtuous person acts with temperance, is just toward other member of the society, feels painful and difficult situation with courage. Similarly, we, as human beings, must consider our external environment and other species carefully and choose the correct things for ourselves and our loved ones. As a member of the universe as a whole we should care for non-human species in order to protect the ecological order of the nature as a whole; we should know which one is best for us. Moreover, wealth etc. are indifferents in Stoic ethics. Thus, a virtuous person will not hesitate to spend his wealth in order to make the universe more beautiful, safe and habitable. So, though nuclear power plant is expensive, a virtuous person should not hesitate to support the plant for the betterment of the nation. That means that we should be prudent, just, courageous and friendly about our externals. We should understand our role as human beings and our moral concerns for our externals including non-human species.

#### **4. Conclusion**

According to stoic ethics, virtue is the only good for human life. Human being should follow nature in order to be virtuous. So, a human being has a dual membership in the world such as a member of a particular society and as a member of the universe as a whole. Currently, Bangladesh is using coal and gas fired power plants to produce electricity which are harmful for the environment by contributing to the global warming. So, it is high time that Bangladesh should use alternative sources of energy. In this respect, Nuclear Power is the best way. The initial cost of the plant is high but it will

sustain for a long time. Moreover, Nuclear Power has an exclusively important advantage of not creating carbon dioxide and, therefore, not consuming oxygen. Therefore, it does not disturb the ecological balance of our planet. So, analyzing all perspectives Nuclear Power should be introduced in Bangladesh. By supporting nuclear power plant a person can act virtuously by doing justice, prudence and friendliness toward other members of the earth.

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