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A Critical Assessment of Eco-Marxism: A Ghanaian Case Study

https://www.e-ir.info/2019/02/04/a-critical-assessment-of-eco-marxism-a-ghanaian-case-study/

ANNA CARTER-ROBERTS, FEB 4 2019

This essay will explore the ways in which Eco-Marxism can be used to assess the illegal gold mining industry in Ghana and its suitability in offering a solution to the environmental crisis. Largely, Eco-Marxism offers a convincing critique of capitalism's tendency towards ecological destruction, however, falls short in identifying a convincing solution that would resolve the environmental crisis in Ghana. Although what is advocated by Eco-Marxists could alleviate the environmental damage and the growing inequality between those that own the means of production and those that do not, this essay argues that these problems are likely to persist under any system of large-scale societal organisation. This essay will firstly outline contextual information surrounding the proliferating issues associated with small-scale illegal gold mining in Ghana and why the problem is of growing importance. Secondly, the essay will introduce Eco-Marxism and the key tenets of the hybrid theory. Thirdly, Eco-Marxism will be applied to the case with a discussion on how illegal gold mining serves the existing elite in the globalised capitalist system. Following this, Eco-Marxists contend we overhaul the capitalist system in order to protect the environment and those exploited by the system. However, there are flaws in this approach and these will be detailed and debated. This essay will conclude that there is no completely environmentally-sustainable way in which gold extraction can take place, because all mining is inherently ecologically problematic.

The Cost of Ghana's Gold

Small-scale gold mining and its associated problems are not unique to Ghana with West Africa experiencing an influx of foreign investors seeking to make their fortunes from gold. However, Ghana is Africa's second largest gold producer and with gold prices rising on the international market it can act as an interesting case for an Eco-Marxist analysis (Hausermann et al, 2018, p.103). Specifically, Chinese migrants and investors are fuelling a boom in the illegal mining industry where they see an opportunity to exploit resources in order to make quick profits. Although small-scale mines require government-issued licences from the Minerals Commission, most operate without these and are unregulated and often unsafe as a result (Anas, 2011). 'Galamsey', a Ghanaian word that translates to "gather them and sell" is used to describe the phenomenon of illegal small-scale gold mining across the country (Oxford Business Group, 2013, p.154). Estimates suggests that there are as many as 1.8 million Galamseyers in Ghana (Ministry of Land and Natural Resources, 2013) and between 2008 and 2013 gold mining increased by 2773% (Hausermann et al, 2018, p.103). As a result, socio-economic growth has been experienced with an export market worth over \$5.78 billion (Kpodo, 2018). However, there is now a growing environmental crisis across large parts of the country. Firstly, the process of extraction involves miners clearing large swathes of forest, digging large pits and constructing artificial barriers to divert the course of rivers into man-made basins (Eshun & Mireku-Gyimah, 2002, p.880). Following this the water is drained so miners can dig into the alluvial basin in search of gold. Through the process of deforestation, a rich biodiversity is lost and cocoa plantations are destroyed. Secondly, although water has always been a plentiful resource in Ghana, gold mining has resulted in sources of water becoming unusable. The extraction process used by Galamseyers involves using chemicals such as mercury, lead and cyanide to wash the gold, which contaminates surrounding rivers, ground and surface water. An estimated 75% of Ghana's waterways are affected and one example of this is the River Offin which has been blocked as a result of Galamsey (Stranger, 2015). The consequence is that many downstream communities are unable to access water while upstream communities have had to adapt to the threat of frequent flooding (Kpodo, 2018).

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Proponents of Eco-Marxism

No other historic thinker has generated more interest as a result of their works than Karl Marx, and consequentially the literature that connects Marx's thinking and the environment is both voluminous and contentious (Foster, 1997, p.278). With numerous interpretations, it is unsurprising that there is disagreement over how Marx believed humans should relate and interact with nature. Ecological Marxism can be traced back to 1988 when O'Connor, an economist, published an article on "Capitalism, Nature, Socialism: A Theoretical Introduction" where he discussed ideas about how capitalism results in adverse ecological consequences that threaten the stability of nature and the capitalist system itself. Since then three distinct and dominant positions have arisen among environmentalists when examining Marx and ecology. Firstly, those that draw on later readings maintain that Marx was anti-environmental in his outlook, citing the destructive ecological practices of Soviet-type societies as questionable evidence of this (Clark, 1989, Ferkiss, 1993). Secondly, some contend with a more nuanced approach that Marx was ecologically sensitive at times, especially in early writings, however his subsequent glorification of technology that dominated nature meant he omitted ecological considerations from his analysis (Benton, 1996, Merchant, 1994). Employing this interpretation, it is believed that Marxism can be 'greened' and can act as a thorough ecological critique of the capitalist system (Soper, 1996). Finally, scholars such as Altvater, Foster and Parsons contend that Marx had insights into ecological issues that are systematic and are as relevant now as they were in the past (1993, 1997a, 1977). What can be said without dispute is that Marx and Engels' writings have stimulated wide-ranging debates and their insights are significant (Foster, 1997, p.279).

This essay will discuss in more detail how scholars drawing on the second interpretation of Marx's writings mentioned above formulate an eco-Marxist framework to criticise the capitalist system of organisation. Eco-Marxism is largely a hybrid of Ecology and Marxism where the two coexist in an unstable relationship. On the one hand Ecologism responsibilises the individual whereas Marx would typically look more to big businesses at the structural level to change their behaviour. Despite these differences, there are mutual goals in which a common good is sought. As Wallis describes, capitalism "abuses the soil as much as it exploits the worker" and as a result environmental breakdown is an inherent part of the capitalist system (2010, p.32) which is seen as the primary cause of inequality, social exclusion and environmental degradation. These consequences proliferate under globalisation, transnational structures, and repressive states that promote and maintain destructive patterns of resource consumption (Wallis, 2001, p.132).

Humanist Eco-Marxists, such as Clark, argue that Marx and Engels understood that the relationship between man and nature is one of interdependence as opposed to domination (1989). This interdependence relates to Marx's Metabolic Rift theory which is expanded on by Foster (1999). This idea examines the dynamics between humans and non-humans in the natural world which are distinct entities but are united within one metabolic system. The theory looks at energy transfers and how the rift, capitalism, inefficiently takes energy to turn into money (Lynch, 2014). Additionally, sharing the same origins in Marxist thought and many of the same arguments, Eco-Socialists offer a more moderate response to environmental crisis arising from capitalism. Key thinkers such as Kovel and Löwy contend that it is capitalist expansion and neoliberal globalisation that results in environmental crisis caused by "rampant industrialization" as well as "societal breakdown" (2001). Capitalism's constant drive toward expansion and economic growth act as foundations of its tendency toward ecological destruction. For this reason, Foster argues that if we are to solve our most serious environmental problems then we must abandon the prospects of human progress altogether (2002, p.7).

Eco-Marxism in Ghana

Corruption and International Relations

Returning to the case of illegal gold mining in Ghana it is evident that Galamsey is driving inequality through a process that serves the elite. Typically, Chinese migrants or investors own the means of production and employ local Ghanaians to work on the mines. As capitalism relies on the exploitation of labour, the result is that wealth is concentrated in the hands of the few, privileging the individual over the common good. One consequence of these unequal power relations is environmental degradation. Other implications of a growing Chinese presence are

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heightened tensions and an anti-Chinese sentiment in Ghana which often results in conflict (Aidoo, 2016, p.55). Largely this is due to foreign companies undervaluing agricultural land where farmers feel there is no alternative but to sell because otherwise the land is likely to be seized illegally in a 'neo-colonial' annexation of natural resources (Hausermann et al, 2018, p.104).

Additionally, the Ghanaian government plays a significant role in the illicit industry with little to no transparency in the process of granting mining licences (Danso, 2017, p.1587). Following pressures from environmentalists and the public, a Prime Ministerial Taskforce was established, however only a relatively small number of foreign miners have been arrested (Ward, 2017). Others also contend that the government's inadequate response uses the façade of environmental protection when in reality they have realised significant potential foreign exchange losses through illegal mining activity (Hilson, 2002, p.59). With the majority of foreign investors being Chinese, it is no coincidence that in recent years the Chinese government has transformed its relationship with Ghana, gifting billions of pounds worth of aid and investment (GIPC, 2017). The Ghanaian government's lacklustre approach and refusal to blame China may be related to this and to it being Ghana's biggest bilateral trading partner (Ward, 2017). Further to this, claims of corruption are not uncommon with government officials and local elders being recompensed by foreign investors seeking land, or requesting officials to turn a blind eye to their practices (Anas, 2011). The result is growing inequality and concentration of power, and distrust for authority figures within communities. Their individual greed comes at the expense of the common good and is arguably an inherent element of class relations in all capitalist societies.

Globalisation and Short-Termism

As a result of increasing globalisation states in the Global South are subject to free-market capitalist structures that are geared towards producing export crops. Forests are cleared and enclosed to produce what Wall describes as 'cash crops' that separate people from their local means of production while increasing levels of pollution and waste (2005, p.155). This idea is a reality in Ghana where gold is the 'cash crop' and acts to exacerbate existing poverty and further inequality between those who own the means of production, foreign investors in Ghana's case, and those who don't, the locals. Usually, the owners of capital aim to make their investment back in a short period so they can accumulate profit forever after (Foster, 2002, p.10). As a result, investors do not consider long term impacts of their actions on the biosphere. In Ghana, the human cost of illegal gold mining is high; abandoned mining pits pose risks of collapse and flooding to communities, who are frequently burdened by deaths (Aidoo, 2016, p.60). Compounding this problem is the migration of miners to the riverbeds to extract silt directly without the need to divert rivers and excavate pits. The result is the contamination with mercury and other toxic chemicals of pristine rivers, killing aquatic life and causing widespread health problems for those who consume the water (Kippenberg, 2014). It is claimed that between four and five tonnes of mercury are released into Ghana's environment every year by small-scale gold mining operations (Hilson, 2002, p.64). The threat of these poor mining practices must not be underestimated; implications for human health and a wide range of ecological entities are grave.

Capitalism's 'Second Contradiction'

The so-called 'second contradiction' of capitalism links ecological scarcity and economic crisis. Eco-Marxists perceive humans to be alienated from nature by the capitalist mode of production, which recognises nature as something separate to man. As a result, capital is reliant on the transformation of natural conditions of production, such as forests, water and so on; as these conditions are increasingly degraded an ecological crisis emerges. In the long run this exploitation will result in a contradictory effect on profit through "fouling the natural ground of production that it breaks down" or indirectly by the reinternalisation of "costs that had been expelled into the environment" (Kovel, 2002, p.39). Therefore, although not widely recognised, environmental crisis is capitalist crisis in essence, where it arises and is perpetuated by the rule of capital (Wallis, 2010, p.32). In Ghana this effect has begun and will continue until drastic change is sought. On the one hand the government is facing increasing costs to purify water that has been deemed unsafe for basic domestic use (Teschner, 2012, p.309). The Ghanaian Water Board faces rising costs associated with a more complex process to decontaminate water affected by mercury. Shockingly, 38% of all river communities exceeded the WHO guidelines for trace metals in water (Rossiter et al, 2010, p.2). On the other hand, profit for mining companies will be affected by environmental destruction they themselves have caused.

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For example, they will have to travel to more remote locations following the exhaustion of more accessible regions, and they will have to work harder to attract employees following miner deaths caused by mine collapse and mercury poisoning. Finally, large tracts of land are left damaged and exposed to agents of erosion like heavy rainfall and wind. Exacerbating this, miners failing to remove topsoil properly before digging makes it almost impossible to reclaim the land after mining operations cease (Stranger, 2015).

Constructing an Eco-Marxist Society in Ghana

Looking forward, Eco-Marxists advocate a number of steps to overturn ecological destruction and to establish a harmonious society in which humans live alongside nature while maintaining biodiversity and keeping greenhouse gas emissions and toxins to a minimum. This balance is desirable as a condition for human survival as well as for its own sake. Guha & Martinez-Alier argue for the end of private property in favour of the restoration of commons land and decentralised organisation (1997, p.60). For these authors, ecological degradation is caused by short-term profit-motivated decisions inherent in market systems. Through privatisation, people are stripped of communal resources in a neoliberal process of globalisation that benefits a few and results in commodity fetishism. Managing commons successfully adheres to long-term needs in a sustainable fashion as opposed to short-term profits (lbid). Under communism the use of nature when owned publicly and used equitably will be much more efficient and will be conserved responsibly for the good of all because it is no longer being generated to create surplus and profit. However, ending private property in a bid to cease alluvial gold mining will be a difficult process. In Ghana, much of the illegal gold mining practices take place in remote regions that are difficult to access through dense forests. Therefore it is likely that monitoring, regulating and controlling resources would be a challenge especially in a classless society where the government is dissolved. However, perhaps in an Eco-Socialist society where the government controls big industries, such as gold-mining, the ability to manage the market will be more achievable.

Finally, Eco-Marxists argue for the repositioning of use-value above exchange value in order to override social antagonisms rooted in this relationship. This requires the reformation of money in order to reduce its use as a commodity in its own right and rather as a way to enhance use-values (Kovel, 2002, p.22). Instead Kovel posits that an 'ecological price' should be calculated for goods that internalises the costs of externalities such as waste and pollution (Kohler & Tausch, p.183). However, assigning a use-value to gold is difficult when its exchange value is so high; traditionally gold was the primary commodity to which all other commodities have exchange value compared. The high labour costs and the lengthy process of extraction, coupled with the artificial worth humans have assigned to gold, result in its high value on the international market. Ultimately, these processes of transformation should take place through a non-violent dismantling of the capitalist state and by constructing a radically different society that bases production on use-values and where the means of production are collectively owned (Kovel & Löwy, 2001). Alternatively, Eco-Socialism which argues for state ownership and operates within the existing democratic structures, could be as successful in limiting environmental destruction caused by the mining industry, without requiring the complete overhaul of society and its functions.

Doomed to Fail?

When assessing how effective Exo-Marxism could be in solving Ghana's social and ecological issues it is important to examine several components. Pre-revolution, Roberts argues for a 'green ban' in which he encourages the working-class to take action by refusing to participate in ecologically harmful projects (1980, p.95). However, this narrative is rooted in a western position of privilege and is unlikely to be feasible in low-income countries such as Ghana, where there is little alternative work and working-class families cannot afford to refuse wages. Additionally, the public demand for a clean environment that Carson outlines, whether for health reasons or for aesthetic ones, is likely to have high income-elasticity (1962, p.54) and not be the highest priority for Ghanaians.

In theory, legal small-scale mining that is regulated and conducts environmentally considerate practices could benefit communities, however, there is no scenario in which gold mining can be sustainable in an entirely non-harmful or destructive way; some damage to resources and the environment is unavoidable. Moreover, the restoration of commons that Eco-Marxists suggest will be a lengthy and challenging process. Much of the land where small-scale mining has taken place is permanently destroyed with soil and surface water contaminated by toxic chemicals, and

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the reclamation of other land being extremely costly. Furthermore, the Eco-Marxist approach merely focuses on the long-term transformation of society rather than suggesting short term solutions of preservation (Berg, 2003, p.137).

In practice, although the movement has somewhat succeeded in Bolivia, with the world's first Eco-Socialist state, elsewhere Eco-Marxism has gained minimal traction (Sarkar, 2010, p.211). For example, the movement has had little influence over environmental policies in existing communist states such as China, which remains the world's largest greenhouse gas emitter (Wallis, 2001, p.128). Is it therefore reasonable to assume that if Eco-Marxism has not succeeded elsewhere in states that could more plausibly implement it, then the likelihood that it could gain support in Ghana is slight? Finally, the extinction of plant and animal species predates capitalism, with environmental destructiveness being inherent in "all large-scale societies" (Berg, 2003, p.136). Thus, it is somewhat naïve to assume that a non-hierarchical system of human organisation, such as Exo-Marxism, is able to provide for millions within Ghana without causing any damage to the biosphere.

Concluding Thoughts

The small-scale gold mining industry in Ghana is well over 2000 years old (Hilson, 2002, p.63), yet the recent influx of foreign investors driven by rising gold prices has resulted in an ecological crisis of large proportions. Galamsey in the resource-rich nation is crippling the agriculture industry, contaminating soil and water, flooding communities, and killing fish and animal species. Capitalism must continue to grow indefinitely in order to survive and this is impossible in a world where we have finite resources. Although Eco-Marxism successfully identifies the factors that facilitate Galamsey causing a significant level of environmental degradation, it struggles to provide a coherent solution that is plausible in a low-income developing nation and can generate benefits quickly. Moreover, merely altering the way commodities are produced does not necessarily translate to environmental preservation. Therefore, a somewhat more moderate approach through Eco-Socialism could be more appropriate and effective in dealing with the unique situation in Ghana, and could be implemented faster. What is evident is that deforestation causing species extinction and local Ghanaians surviving off sachet water (Armah et al, 2013) are not desirable and that action must be taken quickly to alleviate pressures on the health of both humans and the environment, which are indisputably and intrinsically linked. Ultimately, Eco-Marxism provides a persuasive critique of Galamsey under the capitalist system in Ghana, yet does not convincingly argue for an alternative solution in which gold-mining can be conducted without harm to the biosphere.

Bibliography

Aidoo, R. (2016) The Political Economy of Galamsey and Anti-Chinese Sentiment in Ghana. *African Studies Quarterly*. Vol.16, Issue 3-4, pp. 55-72. Available from: http://asq.africa.ufl.edu/files/v16a5.Aidoo_.HD_.pdf [Accessed on: 28th November 2018]

Altvater, E. (1993) The future of the market. New York: Verso.

Anas, A. (2011) Africa Investigates – Ghana Gold. *Al Jazeera*. Available from: https://www.aljazeera.com/programmes/africainvestigates/2011/11/201111307453977885.html [Accessed on: 23rdNovember 2018]

Armah, F., Luginaah, I., Taabazuing, J., & Odoi, J. (2013) Artisanal Gold Mining and Surface Water Pollution in Ghana: Have the Foreign Invaders Come to Stay? Environmental Justice. [Online] Vol. 6, No. 3. Available from: https://www.liebertpub.com/doi/pdf/10.1089/env.2013.0006 [Accessed on: 23rdNovember 2018]

Benton, T. (1996) The greening of Marxism. New York: Guilford.

Berg, J. (2003) Reviews Editor's Introduction. *New Political Science*. [Online] Vol. 25, No. 1, pp.129–143. Available from: https://www.tandfonline.com/doi/abs/10.1080/0739314032000071262 [Accessed on: 28thNovember 2018]

Carson, R. (1962) Silent Spring. Houghton Mifflin.

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Clark, J. (1989) Marx's Inorganic body. *Environmental Ethics*.[Online]Vol. 11, No. 3, pp. 243-258. Available from: https://philpapers.org/rec/CLAMIB-2 [Accessed on: 2ndDecember 2018]

Danso, F. (2017) Transparency and accountability in Ghana's mining sector: Is it real or fiction? *International Journal of Development and Sustainability*. [Online] Vol. 6, No. 11. Pp.1587-1609. Available from: https://www.researchgate.net/publication/321777257_Transparency_and_Accountability_in_Ghana's_Mining_Sector_Is_it_Real_or_Fiction

Eshun, P., & Mirekuu-Gyimah, D. (2002) Small-Scale Mining in the Tarkwa District: A Review of its Impacts. *SWEMP*, pp.877-884. Available from: https://www.researchgate.net/profile/Daniel_Mireku-Gyimah/publication/31265 3821_SMALL-SCALE_MINING_IN_THE_TARKWA_DISTRICT_A_REVIEW_OF_ITS_IMPACTS/links/58877a98a 6fdcc6b791eacca/SMALL-SCALE-MINING-IN-THE-TARKWA-DISTRICT-A-REVIEW-OF-ITS-IMPACTS.pdf [Accessed on: 3rdDecember 2018]

Ferkiss, V. (1993) Nature, technology and society. New York: New York University.

Foster, J. (1997a) Marx and the environment. In E. Wood & J. Foster (Eds.) *In defense of history; Marxism and the Postmodern Agenda* (pp.149-162). New York: Monthly Review.

Foster, J. (1997b) The Crisis of the Earth: Marx's Theory of Ecological Sustainability as a Nature-Imposed Necessity for Human Production. *Organization & Environment*. [Online] Vol. 10, No.3. pp.278-295. Sage Publications. Available from: https://journals.sagepub.com/doi/pdf/10.1177/0921810697103003 [Accessed on: 8thDecember 2018]

Foster, J. (1999) Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology. *American Journal of Sociology*. [Online] Vol. 105, No.2, pp.366-405. The University of Chicago Press. Available from: https://www.jstor.org/stable/10.1086/210315?seq=1#metadata_info_tab_contents [Accessed on: 6thDecember 2018]

Foster, J. (2002) Ecology Against Capitalism New York: Monthly Review Press

GIPC (2017) Ghana Secures \$15 Billion Chinese Funding For Transformation Agenda. *Ghana Investment Promotion Centre*. Available from: http://www.gipcghana.com/press-and-media/538-ghana-secures-15-billion-chinese-funding-for-transformation-agenda.html [Accessed on: 22ndNovember 2018]

Guha, R., & Martinez-Alier, J. (1997) Varieties of Environmentalism: Essays north and South. London: Earthscan

Hausermann, H., Ferring, D., Atosona, B., Mentz, G., Amankwah, R., Chang, A., Hartfield, K., Effah, E., Asuamah, G., Mansell, C., & Sastri, N. (2018) Land-grabbing, land-use transformation and social differentiation: Deconstructing "small-scale" in Ghana's recent gold rush. *World Development*. [Online] Vol. 108, pp. 103-114. Elsevier. Available from: https://www.sciencedirect.com/science/article/pii/S0305750X18300962 [Accessed on: 4thDecember 2018]

Hilson, G. (2002) The environmental impact of small-scale gold mining in Ghana: identifying problems and possible solutions. *The Geographical Journal*. [Online] Vol.168, No.1, pp.57-72. Available from: https://www.jstor.org/stable/3451222?seq=1#metadata_info_tab_contents [Accessed on: 6thDecember 2018]

Kippenberg, J. (2014) Mercury, Ghana's Poisonous Problem. *The Daily Graphic*. Human Rights Watch. Available from: https://www.hrw.org/news/2014/10/10/mercury-ghanas-poisonous-problem [Accessed on: 28thNovember 2018]

Kohler, G., & Tausch, A. (2002) Global Keynesianism: Unequal Exchange and Global Exploitation. Nova Publishers.

Kovel, J & Löwy, M. (2001) An Eco-Socialist Manifesto. The Green Left. Available from:

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http://www.thegreenleft.co.uk/the-first-ecosocialist-manifesto.html [Accessed on: 25thNovember 2018]

Kovel, J. (2002) The Enemy of Nature: The End of Capitalism or the End of the World? London: Zed Books.

Lynch, M. (2014) *Ecological Marxism. Green Criminology: International Green Criminology Working Group*. Available from: http://greencriminology.org/glossary/ecological-marxism/# [Accessed on: 5thDecember 2018]

Ministry of Lands and Natural Resources (2013) *Galamsey: The real price we pay documentary*. Available from: https://www.youtube.com/watch?v=ICDkj8WrRXE [Accessed on: 3rdSeptember 2018]

O'Connor, J. (1988) Capitalism, Nature, Socialism a Theoretical Introduction. *Capitalism Nature Socialism*.[Online] Vol. 1 Issue 1, pp.11-38 Available from: https://www.tandfonline.com/doi/abs/10.1080/10455758809358356 [Accessed on: 28thNovember 2018]

Oxford Business Group. (2013) *The Report: Ghana 2013*. Available from: https://oxfordbusinessgroup.com/ghana-2013 [Accessed on: 7th December 2018]

Kpodo, K. (2018) Ghana to tighten controls on gold exports to protect revenues. *Reuters*. Available from: https://www.reuters.com/article/ghana-gold/ghana-to-tighten-controls-on-gold-exports-to-protect-revenues-idUSL8N1QH6EX [Accessed on: 4th December 2018]

Parsons, H. (1977) Marx and Engels on ecology. Connecticut: Greenwood.

Roberts, A. (1980) The Self-Managing Environment. New Jersey: Rowman and Littlefield

Rossiter, H., Owusu, P., Awuah, E., Macdonald, A., & Schafer, A. (2010) Chemical drinking water quality in Ghana: Water costs and scope for advanced treatment. *The Science of the Total Environment*. [Online] Vol. 408, Issue 11. Available from: https://www.researchgate.net/publication/41807016_Chemical_Drinking_Water_Quality_in_Ghana_Water_Costs_and_Scope_for_Advanced_Treatment [Accessed on: 28th November 2018]

Sarkar, S. (2010) Prospects for Eco-Socialism. *Eco-Socialism as Politics*. [Online] pp.207-222. Available from: https://link.springer.com/chapter/10.1007/978-90-481-3745-9_14 [Accessed on: 7thDecember 2018]

Soper, K. (1996) Greening Prometheus. In Benton, T. (Eds) The *Greening of Marxism*(pp.81-99) New York: Guildford.

Stranger, D. (2015) Galamsey: Environmental Impact of Illegal Gold Mining in Ghana. *Georgetown Environmental Law Review*. Available from: https://gelr.org/2015/02/13/galamsey-environmental-impact-of-illegal-gold-mining-inghana/ [Accessed on: 4thDecember 2018]

Teschner, B. (2012) Small-scale mining in Ghana: The government and the galamsey. *Resources Policy*.[Online] Vol. 37, issue 3, pp.308-314. Available from: https://www.sciencedirect.com/science/article/pii/S0301420712000074 [Accessed on: 3rd December 2018]

Wall, D. (2005) Babylon and Beyond: The Economics of Anti-Capitalist, Anti-Globalist and Radical Green Movements. London: Pluto Press.

Wallis, V. (2001) Toward Ecological Socialism. *Capitalism Nature Socialism*. [Online] Vol.12, Issue.1, pp.127-145. Available from: https://www.tandfonline.com/doi/pdf/10.1080/104557501101244767 [Accessed on: 6thDecember 2018]

Wallis, V. (2010) Beyond "Green Capitalism". *Monthly Review*. Social Science Premium Collection. [Online] Vol. 61, no. 9, pp.32-48. Available from:

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https://search.proquest.com/docview/213153498/fulltextPDF/BA78E56302554761PQ/2?accountid=8630[Accessed on: 26thNovember 2018]

Ward, A. (2017) Gold rush tests Ghanaian government's approach to business. *Financial Times*. Available from: https://www.ft.com/content/11a24a62-9184-11e7-83ab-f4624cccbabe [Accessed on: 4thDecember 2018]

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Date written: December 2018