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## **Bachelor of Science Programme in Development Studies (BIDS)**

*Stewarding Natural Resources in the Anthropocene: Understanding  
PES Schemes from Different Sustainable Development Approaches*

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SGED10

Spring Term 2015

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## *Abstract*

Using language as an instrument to achieve our visions has been the norm since the first guttural utterances of our ancestors. Our refined communication abilities of today have led mankind to achieve amazing progress, not the least of which is our ability to discuss about and plan for a sustained future. With the help of language, actors promote their often conflicting opinions about what the future should entail. In the past centuries, a great strain has been put on examining the relationship between the growth of society and the effects this has on the natural resources which support us. The combination of disdain about a degrading environment and the inequalities stemming from societal growth has led to the phrase, “sustainable development”, to enter the linguistics of planning for the future. This thesis expands upon three main epistemologies, (environmental, economic, and sociological) from the historical underpinning of sustainable development, and uses those three perspectives to analyze PES schemes as a tool to lead humans to a sustained and prosperous future. The aim of this literature review is to reveal how certain authors may promote their perceptions of sustainable development while discussing PES schemes and their potential to sustain the future both for humans and natural resources. This thesis also examines how promoting certain sustainable development agendas can lead to theoretical trade-offs between the differing agendas while laying the foundation for PES schemes.

*Keywords:* payment for environmental services schemes (PES), natural resource conservation, sustainable development, discourse analysis, discourse

*(16,769 words)*

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*List of Abbreviations and Tables*

CRP.....Conservation Reserve Program  
FAO.....Food and Agriculture Organization  
FSA.....Farm Service Agency  
PES.....Payment for Environmental Services  
UN.....United Nations

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# 1 | Introduction

In recent decades there has been momentous dive towards re-illustrating the relationship between human kind and the ecosystems which surround us. Thinking green, consumers' desire for fair trade, organic or other environmentally certified niche products, and the want for labelling a multitude of actions as 'sustainable' are just a few examples of how the moral for environmental and social equity has entered the vernacular of the 21<sup>st</sup> century. Humankind's past, present and future impact on the earth has initiated a few scientists to suggest that we have even dawned into a new age-, the *Anthropocene*:

*"It's a new name for a new geologic epoch- one defined by our own massive impact on the planet. That mark will endure in the geologic record long after our cities have crumbled."* -Elizabeth Kolbert, National Geographic Magazine

The Dutch scientist, Paul Crutzen, who coined the term, *Anthropocene*, said that he used the term to try to focus the world's attention on the consequences of our actions and how we still might be able to avoid complete environmental catastrophe (Kolbert 2011). The 'Anthropocene', therefore, is a linguistic warning to our generation and the following that our collective actions have dire consequences on the world around us- and that there is a need to integrate the sustainability of ecosystems with our human activities. With the United Nation's estimate of the up-and-coming 9 billion people to be inhabiting the earth by 2050, there is hardly a question that our communities need to drastically alter the way we value, consume, and manage the finite resources remaining on the planet. The issues of human development and environmental sustainability were combined, (though not necessarily for the first time) during the UN Conference on Environment and Development held in Rio de Janeiro in 1992, as it highlighted the importance of integrating the environment with the development agenda in order to protect, manage, and improve for a more prosperous future. It is this highlight, among others, which has sprung debates on how to best incorporate sustainability and improved natural resource management into the human development agenda.

Today's discourse of sustainable development grips enormous width and power. Breaking down those two words can give insight about how vague yet powerful this term can be. Sustainability is a label which everyone from governments to grocery stores can use to advise consumer responsibility and raise awareness and feelings of accountability for our future

generations. W.M. Adams (2001; 15) describes the keys behind sustainability as a descriptive ring of crisis concerning human development, the environment, and the possible degradation of consumption material provided by natural processes. One can then ask the question which makes students in development studies squirm: “what is development?” Potter, Binns, Elliot and Smith (2008; 4) suggest glimpsing into the English dictionary for a starting point to understanding the word, *development*, but eventually conclude that development is inextricably combined with the process of planning for the future. One thing these two terms have in common is their ability to adapt to fit into many different contexts. Combining these two given descriptions of sustainability and development reveals the ambiguity of the topic, yet the phrase “sustainable development” is a powerhouse in the arena of debates and research (Adams 2001; 4).

The term, sustainable development, has been used in a multitude of arguments which have evolved over the past few decades in order to pass certain varied agendas. For instance, those who attempt to give the loudest voice to nature would argue that sustainable development should attempt to radically address the way humans interact with and preserve habitats and species. On the other hand, others whose focus is more strongly implanted in social issues would argue for a radical addressing of social injustices as the pathway for the future (Adams 2001; 4). The seemingly most popularly used definition provided by the Bruntland Report (1987) suggests for a combination of ‘business as usual’ growth, with more of a focus on ecological sustainability and a higher satisfaction of basic needs for the underclass (Bruntland 1987; 8 in Adams 2001; 4). In this light, it is very important to understand the underlying agendas which one may be trying to pass when using the phrase, “sustainable development”.

Following the Rio conference and the creation of Agenda 21, the era of mainstream sustainable development emerged (Adams 2001; 103). According to Adams (2001; 104), mainstream sustainable development allows governments to pursue the future of environmental regulation without performing any radical shifts to the existing market system. One could suggest that another attempt to focus the world on the importance of the environment emerged from this train of thought-and that was the coining of the term *environmental service*. Nogaard (2009) suggests that the term, *environmental services*, was created to awaken a public which is distant from natural ecological processes but deeply embedded in a global economy. The modern history of environmental services in academia began somewhere in the late 1970s, with a

utilitarian framing of the beneficial, (to humans) functions which ecosystems provide as services in order to increase public interest in conserving those ecosystems (Gomez-Baggethun, de Groot, Lomas, Montes 2009). Nogaard (2009) suggests that the metaphor, that nature is a stock which provides a flow of services, can also be used as a paradigm for thinking about both development, and the environment while designing natural resource management programs. This metaphor also fits perfectly into what Adams (2001) terms as the market-lead mainstream sustainable development approach of the 1990's, specifically called 'market environmentalism', which argues that "the further market exchange penetrates into the environment, the greater the efficiency of environmental management" (Adams 2001; 105).

Adams' (2001) description of the mainstream sustainable development approach of 'market environmentalism' to achieve successful environmental management is just one perspective among many within the sustainable development discourse. This thesis will delve into the historical discourse of sustainable development and draw upon different perspectives in order to analyze a natural resource management scheme, (PES).

## **1.1 Payment for Environmental Services Schemes (PES)**

PES-like schemes for things such as pollination services have been used for decades in the United States and Europe, but now they are implemented worldwide (Gomez-Baggethun, de Groot, Lomas, Montes 2009). PES schemes put a monetary value on natural resources and ecosystems so they can be included in the market, which some, such as the FAO (2011), believe will consequentially protect the environment. PES schemes can be considered as a theoretical reference point, because the definition itself does not delve into specifics (Vatn 2010). There are four distinct categories of focus in PES schemes, and they are carbon sequestration, watershed purification, biodiversity promotion, and landscape beauty preservation (Wunder 2008). PES schemes can vary from macro to micro scales, from global to local, with a multitude of ways to conduct business which tend to be very case-specific. Wunder (2008) claims that the widely accepted definition of PES contains these elements: it is a voluntary transaction, there is a well-defined environmental service or land use being serviced, there is at least one buyer and at least one provider whom is effectively controlling service provision, and of course if and only if the environmental service provider services provisions. Very similarly, Kosoy and Corbera (2009) characterize PES with three factors (i) ecological functions being subjected to trade (ii) the

establishment of a standard unit of exchange, and (iii) supply, demand and interconnection flows between those who sell and buy environmental services. The bottom-line and underlying principle behind PES is that the resource users and communities who provide environmental services should be compensated for the costs of their provision, and that those who benefit from and call for these services should pay for them (The World Bank 2008; Mayrand & Pequin 2004).

With all of these vague terms, this author feels it necessary to include a few real examples of what PES schemes can be before hastening to the theoretical discussion. Two modern real-world examples of PES schemes are the United States National Conservation Reserve Program (CRP), which focuses on morphing farmland under intense agricultural practices into conservation lands, and The Plan Vivo Foundation's flagship and pilot program, Scolel'te, which focuses on community and smallholder development program in Oaxaca and Chiapas Mexico. Not only are these two examples well documented and referenced upon in the literature surrounding PES schemes, but they also give example of how diverse PES schemes can be.

A brief description based from the home website of each program gives further example of this diversity. According to the Farm Service Agency's (2015) webpage, the CRP was signed into law by Reagan in 1985 and became a private-lands conservation program where in exchange for yearly payments, farmers and landowners agree to change their land from environmentally intensive and damaging agricultural production to ecologically supportive conservation lands (FSA; 2015). The contracts between the FSA and the farmers/landowners are 10-15 years in length (FSA; 2015). The FSA claims that the purpose of their program is to "re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat" (FSA; 2015).

Where the CRP was established by the US government, Plan Vivo is an international charity foundation. The Plan Vivo Foundation is a registered Scottish charity which has projects working with rural communities around the world to improve natural capital through bettered management of natural resources (Plan Vivo; 2015). Plan Vivo works to improve and diversify livelihoods for the targeted rural communities by building financial capacity, physical capital, and social capacity (Plan Vivo; 2015). The first Plan Vivo project started in Mexico in 1997, but



now it has projects around the world (Plan Vivo; 2015). According to the Plan Vivo webpage, each producer or producer group makes an individualized land management plan, which has to adapt to their own specific circumstances depending on the case (Plan Vivo; 2015). These producers also receive staged payments for their services, and the local project coordinators check to make sure the services are being provided and assists with continued technical support (Plan Vivo; 2015).

From these two examples, many differences can be spotted. One project was introduced in a ‘developed country’, with great regulation given by the government agencies who run the program; and the other was introduced by a charity foundation and began on a more grass-roots level focusing on community-driven regulation and capacity building. The priorities and motives behind these programs can even be seen as different, as the CRP is most concerned with rebuilding national natural capital whilst Plan Vivo is more focused on rural community development through their different capacity building techniques. Even with all of their differences, both of these programs include all of the requirements introduced by Wunder, Kosoy and Cobera therefore they both can be classified as PES schemes.

## **1.2 Research Aim and Objectives**

In discussions surrounding sustainability, development, the environment, society and economics there is the utmost importance of understanding the historical context of the issues to reveal modern day realities. For the objective of this thesis it will remain important to recognize the precessions of sustainable development and social relationships to ecosystems in order to most suitably reflect upon PES schemes and their theoretical effects on reality. Attempting to position PES and the sustainable development discourse into a predicted relationship model could prove to be a tedious task indeed. Instead of creating the model per se, this literature review will aim to decipher what other authors have analyzed and interpreted about sustainable development, and how their language and roots within sustainable development may influence the way PES schemes are discussed and presented within their works. Afterall: “There were, and are, long standing debates about both goals and means within theories dealing with both environmental and socioeconomic questions which have inevitably flowed into ideas on sustainable development” (Hopwood, Mellor & O’Brien 2005).

**Figure 1**

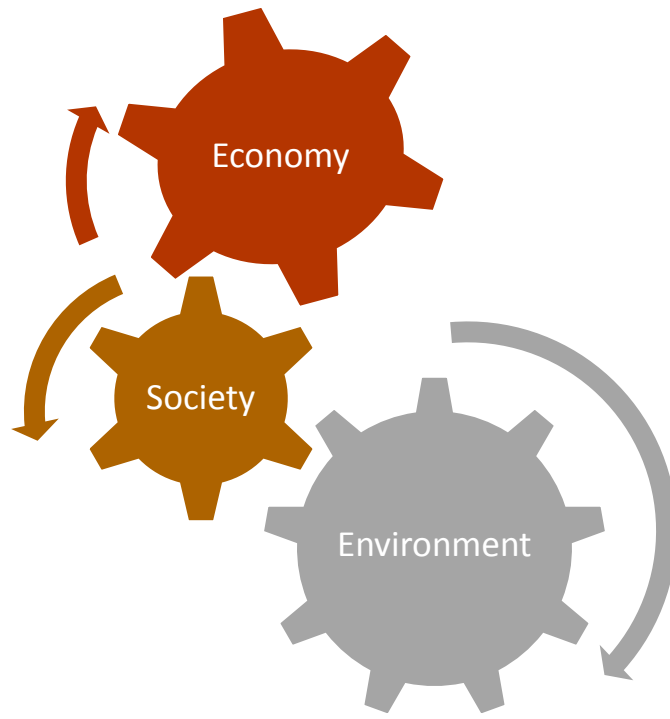


Figure 1.1 has the possibility to illustrate the extreme generalization of the complex relationships behind sustainability, development processes, the market economy, societies, and ecosystems. This is in similarity to the distinctions made by Hopwood, Mellor and O'Brien as they say: "The usual model for sustainable development is of three separate but connected rings of environment, society and economy, with the implication that each sector is, at least in part, independent of the others" (Hopwood, Mellor & O'Brien 2005). When it comes to the relationship between each "cog", this visual may speak more than a thousand words. In a world which is warned to be entering into the age of the "Anthropocene", it should made clear how each 'sustainable development' cog, (although somewhat independent of the others) might be playing a role in sustaining the motion of the others, and reflections should be made about the outcomes which each twist and turn can have on different human ideas, including PES schemes.

Through a literature review, this research will aim to explore the interrelations and discourse behind sustainable development and attempt to theoretically position PES schemes through the different epistemologies found within the discourse. It became obvious while reading through the literature that there are clashing opinions in the discussions surrounding PES schemes, and this research will focus on how those polarizations may have occurred within the sustainable development discourse. On a conceptual level, examining the historical discourse of sustainable development can reveal how different authors may have formulated their perceptions and ideas about using PES schemes as a tool to achieve sustainable development.

To clarify the aim of this research, the definition of the main objectives is needed. My research will seek to:

- 1) Explore the discourse behind sustainable development and examine the different perspectives found within
- 2) Use the gained understanding of the different perspectives within the discourse to examine PES schemes as a tool to achieve sustainable development
- 3) Examine how electing a main driving perspective while fashioning a PES scheme could induce trade-offs and compromises between the different rings of sustainable development

Through this literature review, I plan on reviewing multiple relationships and the context behind them, such as:

- a. The history behind sustainable development
- b. PES schemes in relation to sustainable development
- c. Exploring the relationships between:
  - i. Environmental perspectives and PES schemes
  - ii. Economic perspectives and PES schemes
  - iii. Social perspectives and PES schemes

Being a literature review, this study will emphasize on furthering the understanding of the discourse behind sustainable development, and the ambiguous connections which derive from such. The aim therefore is to dichotomize the discourse to illustrate the opposing ideologies which have been found within the literature. The point to understanding those dichotomies is to be able to analyze the suggested sustainable development tool, PES schemes, and eventually understand why certain actors portray the schemes in a certain light. Therefore, what this research mainly aims to reveal is a generalized review and examination of the discourses underlying PES as a suggested pathway for the future to sustain natural resources while simultaneously alleviating poverty.

## 1.2 Thesis Outline

This thesis proceeds as follows: the *Background* section begins the discussion by historically presenting what sustainable development has become. The *Methodology* section will discuss how

this thesis was construed methodologically; how the literature was interpreted and chosen, and also how I chose to write about this topic. A description of how the idea behind conducting the analysis of the discourses is also included in the *Methodology* section. The subsequent section contains the *Theoretical Framework* used for the analysis, which explores the engagement into a triple-perspective understanding of sustainable development and how those perspectives will be used during the analysis to examine PES schemes. The *Analysis* follows suit, and it will use the theoretical framework to conduct an analysis of the discourses. This will be portrayed through the chosen literature and will reflect upon how sustainable development and PES schemes are being brought to light by the different authors. The analysis will also delve into examining what types of trade-offs and compromises may be occurring between the different perspectives. The concluding section will reveal my interpretations gained from the analysis of the discourses.

## **2 | Background**

The discourses and understandings putting sustainable development into context in this thesis have been based off of works by several different authors. Literature by Adams (2001), Egelston (2013), Harlow, Golub and Allenby (2011), and Woodhouse (2000) will be drawn upon in this section to add an array of viewpoints and descriptions about the historical ideas and makings behind the concept of ‘sustainable development’. The historical review has been conducted in order to explore the make-up behind the underlying epistemologies within the discourse.

### **2.1 History of Sustainable Development**

Academia tends to place the origins of sustainable development to the Bruntland Report of 1987 or the Stockholm Conference in 1968, but the ideologies behind ‘sustainable development’ have a lineage in discourse which goes back much further in time than the past half of a century (Adams 2001; Egelston 2013; Harlow, Golub & Allenby 2011). Much of this historical discussion will have to be briefly generalized as the discursive chronicle of sustainable development could be a thesis in its own right. The earliest found dates in the reviewed literature stem from Harlow, Golub and Allenby’s work as they bring up the teachings from a 12<sup>th</sup>-13<sup>th</sup> century celebrated Saint, St. Francis Assisi who is deemed the patron saint for ecologists (White 1967; 1207 found in Harlow, Golub, Allenby 2011). The second earliest came from a discussion

by Adams, who mentions an academic named Richard Grove who describes the 15<sup>th</sup> century Europeans as expanding their minds about their relationship with nature through growing trade, travel, and conquest (Adams 2001; 23). The inclusion of sustaining natural capital aside human expansion is not the only ideology which has been born earlier than the mid-20<sup>th</sup> century. Harlow, Golub, and Allenby (2011) bring up an interesting discussion about how the very origins of economic growth and political economic theories by figures such as Karl Marx and Adam Smith contain similar tensions between economic growth and social justice, just as they remain in relation to the sustainable development discussions of today. These points, although not precisely vital to this paper, give a little bit more depth into the understanding of the discourse surrounding sustainable development. Humankind's relationship with nature is a topic that could most likely be traced back to pre-historic times, therefore the invention of the phrase 'sustainable development' should not be considered as the only origin behind understanding and improving the relationship between human activity and the environment.

According to Woodhouse (2000; 141), the changing of awareness about the environment and the re-definition of the human-nature relationship from being conquest-driven to management-driven in the second half of the 20<sup>th</sup> century began a phenomena of research and political debate which is the most popular and well documented building blocks to what we understand today as 'sustainable development'. Egelston (2013) paints the image of the year 1969 as an invigorating and historic time consisting of people sitting in their family rooms and seeing the Apollo pictures of the earth for the first time. She explains how those mind-boggling images of our planet surrounded by an abyss of darkness aided in putting into perspective the finite natural resources on our planet and the importance of managing those resources sustainably (Egelston 2013). Studies in ecology during the 1960s began to focus on the less visible dangers occurring during the mismanagement of natural resources, such as the toxic food chains consequence of industrialization (Woodhouse 2000; 142). Many scholars, such as Harlow, Golub and Allenby (2011) describe how the 1960s and 70's ideologies could be considered radical. For example, Harlow, Golub and Allenby (2011) describe how a prominent religion, Christianity, was targeted and blamed during this time for the environmental tragedies caused by their expansion and domination over the different pagan relationships as it negatively altered the 'pagan-sustainable' relationship with the earth. This peace, love, and protesting era created much awareness about many topics, including injustices being inflicted upon the earth.

The influx of environmental concern throughout the 1960's and 1970's is described as a profound cultural shift, and this is the era which conflated sustainability with environmental protection and conservation (Harlow, Golub & Allenby 2011).

According to Egelston (2013), in 1968 there was a call from the Swedish government to bring the environmental agenda into the ring of international diplomacy. She also notes how even during this timeframe, debates about the inclusion of the human development agenda with the environmental agenda was polarizing support on the international scale. The Northern European agenda to shine a light on the deteriorating physical environment needed to include the Southern desire for increased economic development (Egelston 2013). During this meeting of Nations, both environment and development issues were combined and termed as 'ecodevelopment', and this action was mostly to gain political support from all cardinal directions (Egelston 2013). The Stockholm Conference of 1968, though not particularly radical or revolutionary, is still an important piece of the historical discourse as a well-documented example of the divides within 'sustainable development'.

The radical 1972 piece, *Limits to Growth*, called for extreme changes to the world system by a supreme authoritarian government in order to avoid complete environmental catastrophe by 2072 (Egelston 2013). In response to this worrying suggestion, a widespread opposition from many different figures came about with banter levels reaching a point of calling *Limits to Growth* a 'misguided doomsday prophet' (Egelston 2013). Although *Limits to Growth* is described by Egelston as giving a moral component to the sustainability debate, she continues by saying that many governments, in both the North and the South, rejected the ideas presented for several reasons (Egelston 2013). Perhaps in order to begin a compromise between the 'doomsday prophets' and the 'business as usual guardians', 'sustainable development' was codified for the first time later in the 1970s within the *World Conservation Strategy* (Adams 2001; 54). This is where the divide between 'radical upheaval and change of the current system' and 'business as usual economic thought' becomes most apparent, and at this point in time the prize for gaining the most popularity in the political arena was eventually becoming the mainstream focus of 'sustainable development'.

Egelston (2013) admits that nearly twenty years after the Stockholm Conference of 1968, it was determined that not much progress in the realm of sustainable development had been

achieved, therefore a call for the Bruntland Commission was made. By 1987 the Bruntland Report was constructed in an attempt to further elaborate what the *World Conservation Strategy* had meant when it said ‘sustainable development’ (Egelston 2013). A general definition based on this commission has sustainable development as the pathway to end poverty while simultaneously conserving natural resources (Egelston 2013). Harlow, Golub and Allenby (2011) describe the Bruntland Report as the start of the contemporary discourse on sustainable development. Adams (2001; 72) emphasizes that at this point, economic development had taken center stage over a radical upheaval of the system via the Bruntland Report, as the report was built on the need to promote economic growth. This economic dominance and ‘business as usual’ mentality remains a key factor in the next wave of sustainable development history, the creation of Agenda 21.

Five years after the Bruntland Report, a meeting in Rio De Janerio was planned in an attempt to create an ‘Earth Charter’ for sustainable development (Adams 2001; 83). During the creation of Agenda 21, the tension between those in favor of inducing market efficiencies to drive sustainable development versus the alternative growth and social justice supporters laid the field for negotiations between a multitude of actors; including 172 states, 116 heads of government, and over 3,000 representatives from NGO’s among many others who were in attendance (Adams 2001; 80). One of the main messages derived from Agenda 21 was the belief that the “integration of environmental and development concerns and greater attention to them will lead to the fulfillment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future” (Agenda 21 1992; found in paragraph 1.1). This concept of sustainable development is now widely used in many fields, including economics, policy, political debate, and research (Adams 2001; 4).

Adams (2001; 102) describes Agenda 21 as really solidifying the mainstream conceptualization of sustainable development. Adams explains this by claiming that “Agenda 21 addresses the question of retooling the wealth-producing industrial plant of the world economy and changing the priorities of its management team. It does not suggest that its fundamental business, its methods or products need to be radically re-imagined” (Adams 2001; 103). According to Adams (2001; 103), the comfortable and conventional approach of the ‘business as usual’ type of sustainable development allowed for diplomatic actors to approach environmental

issues such as climate change and biodiversity loss without having to worry about radical changes such as those listed by *Limits to Growth*. This notion progressed its way into popularity by the 1990s and branched out into many different types of sustainable development, including market environmentalism, ecological economics and ecological modernization (Adams 2001; 136). Mainstream sustainable development is also described as sharing the same industrialist and modernist ideology of the capitalist world, which basically means that it remains unchallenging to the continuous capitalist model of growth (Adams 2001; 103). Adams continues to accuse that since industrialized countries did not personally sense the issues presented during the Rio conference, sustainable development was adopted as a golden solution which would not threaten to radically shift their corporate or national wealth and power (Adams 2001; 103). Acknowledging the discourse and the reasoning behind why different actors use and adopt this concept allows researchers like myself to dissect the phenomena of this ‘sustainable’ social philosophy.

Sustainable development, as we know, is an abstruse expression and it prompts a vast array of responses and understandings. Concluding from this historical recollection, a popular use of the phrase, *sustainable development*, is as a concept to combine the growing concerns about the environment with similarly growing concerns about socio-economic issues (Hopwood, Mellor & O’Brien 2005). Sustainable development is also acknowledged to be a concept which has the power to shift humanity’s conceived place on the planet to be embedded in and responsible for finite ecosystems, and this places nature conservation as a deeply settled root in sustainable development (Hopwood, Mellor & O’Brien 2005; Adams 2001; 25). Obtaining a sense of this brief historical narrative of sustainable development, three major epistemologies outstand within the complex and multi-actor phenomena; those being represented by strong environmental, economic and sociological agendas. These different perspectives will be further described within the theoretical framework section, but first an understanding of how this thesis has been methodologically accomplished is necessary.

### **3 | Methodology**

It is acknowledged that research is not an algorithmic procedure, and method serves not as a step-by-step tutorial for writing but instead a way of thinking to lead the investigation of research (Gee 2005). As aforementioned, this thesis is based upon a literature review. Although a



basic summary of teachings in methodological approaches to research will reveal it as seemingly quite rare, it has become more widely accepted that literature serves as a very important part of the qualitative research process (Flick 2009). Literature serves an important role for this research as I will conduct an inductive study. In this particular inductive study, literature will be serving both as a proxy for theory, and the sole source of data from which I will be interpreting and analyzing. An inductive stance for the study will allow me to find concrete empirical details within the literature and infer those found details to more abstract theory (Mikkelsen 2005; 168; Bryman 2008; 9).

It is said that in development studies we use both inductive and deductive approaches to research simultaneously, as they entail aspects of each other (Mikkelsen 2005; 169; Bryman 2008; 11). What this assumes is that researchers typically begin the research process with some kind of hypothesis in mind, regardless if they are conducting qualitative or quantitative research. The main dividing factor between these types of research is the fact that with a qualitative design the hypothesis is not initially pre-determined, which allows for greater flexibility within the research process. It is quite difficult for a desk study to be honestly inductive, as theories and assumptions help guide our approaches to research whether we are conscious of this or not (Mikkelsen 2005; 156). After all, theory helps guide a researcher through large and profound ideas in order to recognize the interconnectedness and complexities of our topics (Mikkelsen 2005; 156).

Taking a side with epistemological philosophies according to Bryman (2008; 4) means that concepts such as sustainability can exist even if the social world has not constructed it yet. Qualitatively examining abstract concepts, as this research does from an epistemological perspective, leaves further choice for several analytical perspectives. This researcher chose to use a critical realist approach which means that while describing different concepts, a better understanding of reality can be achieved (Bryman 2008; 13). In this case, the epistemological orientation would be considered as interpretivist (Bryman 2008; 22)

### **3.1 Reviewing the Literature**

This research process began in a peculiar situation, where the researcher was unable to conduct the initial research plan and at the last minute, switched to a literature review. In this

instance, the interests for research had to be stretched out in order for a new topic to be chosen. Bryman (2008) reminds his readers to keep in mind their interests when choosing a research topic. With a particular curiosity in the social phenomena of sustainability, especially in regards to land management, this researcher delved into the world of research papers and policy documents in search of a new topic of focus. To begin with, the literature being reviewed came from large and internationally recognized organizations such as The World Bank and the United Nations. This is where I first read about PES schemes being used as a tool for smallholder development. This topic was of particular relatability and interest to me because this wide and broad theory related to the real-life situation of my family farm, (which has land dedicated to conservation under the National CRP) in rural Illinois. This relation to my life sparked the investigation into the discourse behind PES schemes, and kept the research interest ignited throughout the entire process.

According to Bryman (2008; 81), a few questions to ask oneself while choosing existing literature are; what is already known about this topic, are there any significant controversies, are there any inconsistencies, and are there any unanswered questions in the previous research? In this case, the majority of the literature was found online. Since my previous knowledge on PES schemes was limited, a quick search using Google Scholar led me to easily accessible articles with a wide range of positions and opinions. I began my search for literature by simply entering “payment for environmental services” into the search bar, and an innumerable amount of scholarly articles became available to me. “The internet provides an enormous and richly varied source of freely available information about social research” (Bryman 2008; 98). It is acknowledged that the internet as a provider of research can be both a blessing and a curse, as the amount of data made available is immeasurable but it is highly untrustworthy data as far as it’s high possibility of being too simplistic, too commercially orientated, or just not sufficiently academic (Bryman 2008; 98). In order to combat this factor, the literature chosen was critically analyzed to determine if the authors were writing academically and what their biases or reasoning behind the research could be. Once I felt comfortable with my basic knowledge of PES schemes, I began adding different development concepts to the search bar. These concepts were very similar to, if not exactly; poverty, smallholder development, development, community development, social equity, market, land management, natural resource management, sustainability, and sustainable development. These choices of concepts show which perspective I

was already looking at PES schemes from, and which direction I thought my research would go. Having only a basic understanding of PES schemes allowed me to read the literature with a flexible mind which allowed for a more comprehensive understanding of the different articles and reports. Being flexible with the data also allowed for a broadening of focus if an unexpected concept was introduced within the literature and called for further investigation.

The initial policy reports which I reviewed while attempting to solidify my research idea came from the World Bank (2008), the FAO (2011), and the UN (Agenda 21 1992). Each of these documents were related to sustainability and smallholder development, and this most definitely had an effect on how my research idea was constructed. I realized that I needed different perspectives from authors who were not representatives of these large institutions, and this is where I began to notice the differences of opinions about sustainable development and PES schemes. It is this initial analysis which aided in the decision to reflect a discourse analyses approach to this research's analysis of the chosen discourse. Knowing how different discourses inspired my aim to highlight clashing perspectives and explore the relationships within the discussions surrounding sustainable development and PES schemes, it is then important to understand what a discourse analysis is and how it has influenced this research. This next section will attempt to enlighten what this author understands a discourse analysis to be.

### **3.2 Discourse Analysis**

*"Discourse analysis is one way to engage in a very important human task. The task is this: to think more deeply about the meanings we give people's words so as to make ourselves better, more humane people and the world a better, more humane place."*- J. P. Gee, 2005

J. P. Gee (2005; 1) introduces the importance of the human language as a support for social activities and identities, and to support human affiliations within groups. One would hope that when a person articulates, their main goal is to convey something. Those articulations are based on context-specific situations, and this phenomena is called a 'discourse'. "Situated meanings arise because particular language forms take on specific or situated meanings in specific contexts" (Gee 2005; 57). Discourses can be described, therefore, as choices which are made in the presenting and establishing one's version of the world, and how it reflects the

disposition of said person (Bryman 2008; 500). The job of a discourse analyst, then, is to search for the lurking undertone of said articulations (Bryman 2008; 500).

In order to conduct a discourse analysis, one must be able to keep an analytic mentality towards the data being presented (Bryman 2008; 501). Perhaps to ease the understanding for human geography students such as myself, Gee (2005; 32) relates the role of discourses as data to using maps as data. In a similar way to maps, discourses can be used as a guide for understanding the placement of our understanding about a concept against others' understandings in the world we construct through discourses (Gee 2005; 32). Conducting a discourse analysis for the first time feels daunting, as it is quite a different approach from many other forms of qualitative analysis. For instance, discourse analysts do not code their data, in fact they argue that it is impossible (Bryman 2008; 501). The rhyme and reasoning for choosing certain words or phrases to analyze then becomes subject to a 'matter of opinion', which could be highly contested of course but could also allow for a further understanding of the thought process behind the analysis. As this is a first attempt at both a thesis and using a discourse analysis approach to analyzing the literature, this bachelor's student will have much practicing to do in order for the data to be considered valid. In this case, the validity of the research will be based in the understating and descriptions of the situated meanings and discourse behind the main themes of the research, (sustainable development, payment for environmental service schemes, etc). Practice makes perfect in any situation, and this is comically enthused by Potter (1997) as he describes conducting discourse analyses as:

*"A craft skill, more like bike riding or chicken sexing than following the recipe for a mild rogan josh"* -Potter (1997; 147-8, found in Bryman 2008; 501)

Gee (2005) describes how beginners like myself can begin the process of a discourse analysis. First and foremost, it is important to pick data that is of interest, and that will illuminate a specific objective (Gee 2005; 115). Out of this data, keywords and phrases should be picked out and the discourse and situated meanings behind said keywords and phrases should be examined. While pondering said keywords and themes, the researcher should ask certain questions which shall illuminate the discourses lurking within (Gee 2005; 116). After the initial questionings, it is suggested that the researcher takes whatever findings arise from the data and then relate said findings to the initial research questions (Gee 2005; 116). Once the analysis is

conducted and the findings are related to the main research questions, it is then time to organize the analysis so that it clearly illuminates the final point of the issues which were chosen to address in the research (Gee 2005; 116).

### **3.3 From Discourse Analysis to the Analysis of a Discourse**

This research has been undertaken from an inductive stance, which means that the underlying mission is to enrich the discourse of social actions with new knowledge on a chosen topic (Bryman 2008; 110). Since this is also a literature review study based on already produced material, it will not be striving to suggest solutions to problems or declare new findings, but rather to further understand the discourses surrounding the chosen topic. Knowledge of how a discourse analyst would understand and interpret data inspired me to attempt an analysis on a miniscule piece of the discourse of sustainable development and PES schemes. This allows the analysis to look above the words and sentence structure of the literature and instead focus on the way those words and sentences are being used, what they are used for and the social context in which they are used (Punch 2005; 221). Punch (2005; 222) claims that there is no such thing as a universal discourse; this is most definitely the case when it comes to the concept of sustainable development, as it depends greatly on the social context it is stemming from. This will be examined further in the analysis.

## **4 | Theoretical Framework**

Refocusing on what was presented during the historical reminiscence of the phrase, *sustainable development*, this section will further diverge into the three epistemologies found within the discourse. The purpose of focusing on the environmental, economic, and social perspectives is to solidify the starting point which will be used during the analysis to examine how PES schemes are being portrayed by the different authors. The motivation behind this is because I believe that an understanding of why the chosen authors' present PES schemes in certain ways can become clearer once their roots can be placed to one of the three sustainable development strands. Understanding the differences between perspectives and how being tied to one specific viewpoint could affect one's opinion of using PES schemes as a way to achieve sustainable development, therefore, is the framework which I will use for this thesis.

## 4.1 Triple-Focus Discourse

*“Distinct views of sustainable development can certainly be identified according to different perspectives on the fundamental relationship between human society and the environment”* – Potter, Binns & Elliot (2008; 230)

The environmental supporters are seen as having the most radical perspective of the three described in this section, as according to this paper’s historical overview this strand can trace its strongest political and ideological traits back to the radical 60’s and 70’s ‘doomsday-prophet’ predecessors. To give an example of this radicalism, “David Foreman, one of the founders of Earth First!, was notorious for saying of the famine in Ethiopia that “the best thing would be to just let nature seek its own balance, to let the people there just starve”” (quoted in Bradford, 1989, p33; found in Hopwood, Mellor & O’Brien 2005). Adams (2001; 170) describes how these radical streams prominently flow through today’s discourse of sustainability, and how environmentalists’ opinions about sustainability are deeply entrenched in ecological frames of thought. Much of the ecological sciences tend to focus on more of the physical aspects of environmental sustainability, but Adams (2001; 170) explains how adding the word, “development” to this focus changes this perspective from being purely physical to a broader and more inclusive point of view in the sustainable development discourse.

Including the human development agenda or the political context behind the ecological and human actions towards sustainability creates a powerful way to view sustainable development. Adams describes the perspective from which environmentalists view sustainable development as having a fixation on those power relations and managerial processes not merely relating to economics (Adams 2001; 171). Also according to Adams (2013; 171), environmentalists have the task of devastatingly pointing out the flaws, trade-offs, and inequalities which are a product of sustainable development. Adams (2013; 172) continues by suggesting that as an environmentalist attempting to understand sustainable development, it is of utmost importance that one escapes from the “straightjacket of evolutionary thinking about ‘development’” trending towards purely bettered economic scenarios and instead ask questions and delve into the relationships and impacts between poverty and the environment. Adams (2001; 173) concludes by describing how although environmentalism is not the strongest thread of sustainable development, it has not been ‘suppressed’ by ‘business as usual’ economics, and

environmentalists continue to emphasize the different dimensions and relations between society and nature while challenging the power relations behind the relationship.

The economic growth supporters of the sustainable development discourse do not challenge the dominant and powerful capitalist industrial model, but instead focus on bettering management techniques to achieve sustainable development (Adams 2001; 103). Adams (2001; 136) describes two main management tools to obtain this form of sustainable development as market environmentalism and ecological modernization. According to Hopwood, Mellor and O'Brien (2005), an economic trait has typically dominated the development community in an attempt to 'triumph over nature' and to 'raise people out of poverty'. They also explain that from this perspective, "Increased information, changing values, improved management techniques and new technology all operating through the market are the best means to achieve sustainable development" (Hopwood, Mellor & O'Brien 2005).

The economic stream of sustainable development is the strongest and most centralized of the three examples given in this thesis. Adams (2001; 102-103) describes those who are mainly economic-sighted as seeing the strategies for change lying within the ideological web of modernity: "a common corporate industrial culture based on the values of competitive individualism, rationality, growth, efficiency, specialization, centralization and a big scale" (Friberg & Hettne 1985; 231; found in Adams 2001; 102-103). Harlow, Golub and Allenby (2001) describe how the continued focus based on the utopian relentless capitalist growth of mankind has been taken by many centralized actors in hope to create a trickle-down effect. Woodhouse (2000; 158) claims that this view sees the maintenance or renewal of the environmental assets as being of utmost importance, because without proper control, natural capital and consequently the human economy will decline. Adams further explains that this particular mainstream type of thinking focuses on a specific ideology which arose from Agenda 21, concerning the global environment (ex. market possibilities for climate change) instead of more social aspects such as poverty or geographic inequalities (Adams 2001; 103). The economic branch, therefore, is mostly skewed towards intra-generational prosperity, not inter-generational equity, and Adams (2001; 103) describes this as primarily reflecting the agenda of Northern actors, (meaning the North American and European actors). Contrasting to the wishes of the other strands, the economic path to sustainable development would see increased

government-managed environmental regulations and market-led growth, or what is referred to as ‘free-market environmentalism’ (Adams 2001; 104).

Thirdly, the social strand supporters focus much more on intergenerational equity and other social aspects such as the inequalities which caused the need for or have been caused by sustainable development. Woodhouse (2000; 154) describes that when focusing on the social thread of sustainable development, it is important to consider whose development and whose environment the taken actions are affecting. He also explains that prioritizing livelihoods of the poorest groups leads to an increased need to understand the livelihoods in context with how they establish the relationship between humankind and the environment (Woodhouse 2000; 154-160). Potter, Binns, and Elliot (2008; 230) have a similar perspective of these socially driven actors, and describe how they would focus more on cultural diversity and social justice as a way to achieve sustainable development over biomass productivity or natural capital gain.

A strong lineage of the social focus can be recorded back to the philosophies of Adam Smith and Karl Marx, who revealed their theories on the tensions between economic expansion and social justice. “While Marx theorized upending the market, Smith and others envisioned justice in the very freedom that liberated private exchange theoretically provides” (Harlow, Golub & Allenby 2011). According to Harlow, Golub and Allenby (2011), the focus of 19<sup>th</sup> century philosophers almost always placed social justice before economic growth in rank of importance. The social focus is similarly emphasized by the claim that, “socialist cornucopians prioritise the need for social transformation to overcome social and economic inequality. Some hardly address environmental issues, believing that human skills, freed from capitalism can overcome all problems” (Zazubrin in Cock & Hopwood 1996; found in Hopwood, Mellor, O’Brien 2005).

Egelston furthers this discussion by claiming that the initial tensions between social justice, the environment and economic prosperity eventually transformed into a debate between the Northern and Southern interests; and according to the literature this unraveled at the Stockholm Conference in 1968, where it is said that there insisted a lack on both sides of addressing the underlying socio-economic problems behind environmental degradation (Egelston 2013). Also according to Egelston (2013), a majority of the third world actors during this time showed a deeply rooted fear of increasing geopolitical inequalities with the distribution of wealth



and capital, and therefore focused more on promoting economic development rather than social justice.

Harlow, Golub and Allenby (2011) assert that the social justice groups are focusing on finding a utopia by marrying social justice, environmental conservation and monetary growth: “the ability to address social justice in concert with environmental conservation and regeneration while maintaining capitalist economic growth is a utopian vision built on the remnants of the past” (Harlow, Golub & Allenby 2011). There is a vast array of social alternatives to the mainstream sustainable development thought trend, such as ecoanarchism (Adams 2001; 159), and most of those can be traced back to the ‘utopian’ ideologies of Marx and others. Adams (2001; 163) describes how nature is treated in this branch more as a source of values rather than an economic asset, and is described as blurring the lines between anarchism and socialism and being the key to creating utopian strands of social activity, such as social ecology and ‘ecocommunalism’. These examples of the social branch reveal a resemblance to the environmental branch’s craving for radical changes to the current capitalist system, as the ‘business as usual’ economic mainstream sustainable development cannot deliver a satisfactory level of justice, equity, and acceptable livelihood conditions required by the social justice enthusiasts (Adams 2001; 172).

## **4.2 Trade-Offs**

*“In practice, any attempt to factor the environment into economic thinking faces significant problems of trade-offs between different people and interest in space and time, and in predicting future behavior of environmental systems”* Adams (2001; 137)

Viewing these three specific strands unveils the negotiations and trade-offs possibly made when incorporating them all into the sustainable development agenda. Woodhouse suggests that by being thoughtful while considering these different discourses one can better understand the different criteria base for who deems what as sustainable development (Woodhouse 2000; 161-162). With a focus on natural resource conservation, the negotiations then become focused on what is to be considered as ‘the environment’ or ‘nature’ (Egelston 2013).

As described earlier, if one was looking at sustainable development through an environmentalist lens, he or she would be putting the relationship between poverty and the environment at the highest level of importance. In this light, ‘the environment’, transcends from being purely physical to something much more complex- a tool for measuring and understanding different power relations and how they may connect the environment to poverty. Also concluding from the previous triple focus discussion, a changing of the perspective to a more economic stance would reveal the environment as an asset which could be used to increase human gain through the market. Following suit, a change to a social perspective could reveal nature as a social construct and something from which humans can base their interactions and diversity upon.

Choosing which strand to use as the main perceptible for focusing on how natural resource conservation strategies such as PES could achieve sustainable development will be riddled with trade-offs and compromises. When reading about different sustainable development initiatives it is important to understand the discourse behind the initiative, (meaning whose interests it may represent or promote) in order to notice any underlying meanings or desires. Analyzing a scheme or project through these three epistemologies derived from the historical discourse allows for not only a well-rounded understanding of the sustainable development discourse, but it could also result in a bettered perception of the scheme or project which will be analyzed. First and foremost, however, and in order to be able to analyze different author’s underlying messages about PES schemes and sustainable development, PES schemes must be connected to sustainable development.

### **4.3 Connecting PES schemes to Sustainable Development**

Market environmentalism, or environmental economics, is described as being the dominant trait of mainstream sustainable development (Adams 2001; 110). In this view, economic growth in hand with sustainable management of the environment could yield a broader distribution of environmental services and goods while avoiding environmental damage (Adams 2001; 108). Agenda 21 suggests that for resource management to be deemed sustainable, environmental policies with primary focuses on conservation and protection must also take account of the people who depend on the resources for their livelihoods (Agenda 21 1992; found in paragraph 3.2). A deepening relationship between economists and mainstream sustainable development has

produced a ‘mainstream’ dialect for development policies. For instance, the World Bank uses mainstream sustainable growth language by openly proposing integrating market environmentalism into social incentives; “Overcoming environmental problems... requires a good understanding of private incentives of individual resource users and ways to manage resources more successfully from society’s point of view” (The World Bank 2008). This view, as described by Adams (2001; 109), sees the world collectively and economically growing out of all environmental and developmental problems. Market environmentalism suggests for a deepening penetration of the market into the environment in order to greaten the efficiency of environmental management (Adams 2001; 105). It is this suggestion which spurred the commodification of nature in the form of ‘environmental services’, which is categorized into this paper as PES schemes.

Understanding that market environmentalism is very closely tied to the ‘mainstream’ vernacular of sustainable development discussions sheds light on how large-scale and influential actors such as the World Bank have presented PES schemes. The World Bank has been publishing reports taking a seemingly understanding position of both the environmental and social equity strands of sustainable development; for instance they point out that: “Many approaches to increasing environmental services are based on demonstrating to farmers what is the ‘right thing to do’ - forgetting that it’s the ‘right thing’ for others and not necessarily for the farmers” (The World Bank 2008). Also according to the World Bank (2008), having a livelihood in a geographically poor area can itself perpetuate poverty due to different externalities. Although the language by this institution attempts to include ideas from the other groups within the sustainable development discourse, The World Bank (2008) reveals it’s underlying economic perspective when it also describes how when population pressure is combined with high levels of poverty and few options for boosting rural productivity, resource degradation and poverty can spiral downwards, leading to a very unsustainable pattern for the future. In this instance, the emphasis on productivity as the buttress for a virtuous spiral is where the economic perspective shines through.

No matter which perspective one chooses to have, for this paper, it is important to consider that there is in fact a spatial linkage between poverty and rural areas, and take into consideration how PES schemes can be integrated to halt the vicious cycle (Lee & Mahanty

2009). PES schemes are expected to work where ecosystem services are under some sort of threat, and it is suggested that in order for PES to effectively alleviate both poverty and resource degradation, there is a need to integrate the social landscape with the biophysical landscape (FAO 2011). As PES researchers, it is important to consider that diversity reflects nature's value not only as a factor of production but as a source of status, cultural identity, and political power (The World Bank 2008).

Within the discussions surrounding PES schemes, there are a vast array of opinions. Lee and Mahanty (2009) discuss the notion of whether PES schemes create more benefits or risks for the rural poor. For instance, they describe that many schemes are creating additional income for rural households, but the net benefits of this income need to be considered in light of the costs of participating in the scheme and income lost from agriculture or other resource-use options (Lee & Mahanty 2009). With a very critical perspective, Kosoy and Corbera (2009) discuss the invisibilities of PES schemes, and describe them as simplifying the complex natural ecosystems, prioritizing a single exchange-value, and masking social relations embedded in the producing and selling of environmental services. In fact, a large debate surrounding PES is if it is working more towards market effectiveness or social equity. Critics of PES claim that “since markets pursue cost-efficiency, a market-based tool like PES does not allow for bias in the distribution of benefits towards landless individuals and the poorest of the poor” (Lee & Mahanty 2009). Others, such as the World Bank (2008), blame incomplete markets and institutional gaps as they create life-threatening losses for small holders, as well as their competitiveness in the global market.

## **5 | Analysis**

Connecting the differing opinions deciding what the most important aspects are to focus on when discussing PES schemes reveals a similar pattern to those differing opinions within the sustainable development discourse. Whichever perspective one takes when viewing PES schemes or sustainable development shines through the used language when he or she presents and reflects upon the topic. The analysis will take this understanding of how language can perpetuate a certain perspective, and reveal how the chosen authors are attempting to portray their perspective's agenda when it comes to PES schemes. The following authors and texts were chosen to represent the discussions I witnessed while initially reading into PES schemes. This

section also incorporates reflection of what has been learned about the triple-focus discourse and uses that knowledge to suggest possible trade-offs being made behind PES schemes.

## 5.1 PES from an Environmentalist Perspective

Understanding the starting point for the environmentalist discourse means noting that it is primarily founded upon the ecological science approach of measuring concrete physical degradation or the sustainability of the biological earth. One type of focus which is closely-knit to this foundation is human ecology. Human ecology is described by Foley (1987) as being the study of humans and their interactions with the environment. According to authors such as Adams (2005; 283), a human ecology perspective can offer researchers the chance to understand social actions and the environment by analyzing the links between the logic of capitalist growth and environmental change. According to the Environmental Justice Organizations, Liabilities and Trade (2013) group, this study approach stemmed from 1960's and 1970's ecological anthropology, and has since branched out into other disciplines such as political ecology (ejolt 2013). Then environmentalist perspective can be used as more of a radical strand of sustainable development, (compared to market environmentalism) as it is rooted in deep ecology and concrete environmental facts.

Understanding the cultural shift of the 60s and 70s as being the root of this discourse allows one to immerse into the strong feelings and opinions which arose during that time period. Using an interpreted knowledge of alarming resource degradation rates and of invisible injustices being inflicted upon the earth could fuel a fire for any academic, politician, or general citizen to rally for dramatic changes to the current corrosive system as suggested in works such as *Limits to Growth*. Including the human development agenda in the spectra of environmental issues motivates a classification of flaws, trade-offs and inequalities of different social, economic and geographic regulations and power relations (ejolt 2013). With this discourse in context, examining PES schemes as a tool for achieving sustainable development would primarily delve into the relationship between poverty and the environment and how PES schemes may be or have been influencing both. The reviewed literature being grouped and emphasized as using this thread of discourse to prove their points are the books by Ingram, DeClerk and Rumbaiti del Rio (2012a & 2012b), Agenda 21 (1992), and Farley and Costanza (2010).

Ingram, DeClerck, and Rumbaitis del Rio's (2012a) first book, *"Integrating Ecology and Poverty Reduction: Ecological Dimensions"*, delves into the more ecological dimensions of poverty, and examines how social forces can be altered to create a virtuous relationship between sustained ecosystems and poverty alleviation (Ingram, DeClerck, Rumbaitis del Rio 2012a). The second book, *"Integrating Ecology and Poverty Reduction: The Applications of Ecology in Development Solutions"*, attempts to explain how a better understanding of ecology can lead to the goal of sustainable development (Ingram, DeClerck, Rumbaitis del Rio 2012b). These books were released together but remained separated, as one is more of an explanation of ecology and the other is how the explained concept of ecology can be used to enact poverty reduction. Combining these two pieces of literature together in this analysis allows the research to obtain a clear view of the combined discourse and the underlying messages derived from these pieces of literature.

Ingram, DeClerck and Rumbaitis del Rio (2012a) represent an ecological science perspective and focus their gaze on different relationships between ecosystems and poverty. Ingram, DeClerck and Rumbaitis del Rio (2012a) also openly list how they view the human-earth relationship, as they claim to examine it by seeing the situation both spatially and temporally. This means that from this perspective, poverty in rural areas does not specifically have to be spatially isolated in a regional or global arena but can also be tied to a temporal global and regional market and ecosystem process scale (Ingram, DeClerck, Rumbaitis del Rio 2012a).

In this book, the authors highlight a single example of the 'win-win' relationship between poverty alleviation and natural resource conservation as stemming from the Mesoamerican biological corridor which extends from Southern Mexico to Northern Colombia (Ingram, DeClerck, Rumbaitis del Rio 2012a). These authors insist that the success in this region was due to the integration of local needs with resource conservation (Ingram, DeClerck, Rumbaitis del Rio 2012a). Although it is not specifically mentioned in this book, the Mesoamerican biological corridor contains some of the most frequently cited PES schemes in conservation literature; for instance, the very Northern end of this corridor contains the Plan Vivo project Scolel'te, (which was mentioned earlier in the introduction) and the Costa Rican national PES program also lies within this corridor. Both of these programs are often referenced in PES literature as quite successful as they integrate a synergy between human development and

natural resource conservation. Highlighting the success within this biological corridor reveals that it fits perfectly as an example of how scholars with an environmental/ ecological sustainable development perspective can influence and promote PES schemes to run a certain way. Ingram, DeClerck and Rumbaitis del Rio (2012a) conclude this part of their study and move into the next by highlighting three main themes of the ecosystem-human relationship, those being;

*“challenges of preventing trade-offs; importance of social and economic contexts for determining the application and utility of ecological science; and the paradigm shifts that will be required”* Ingram, DeClerck, and Rumbaitis del Rio (2012a; 408)

This text further exemplifies the environmentalist approach which these authors took while describing the integration of poverty reduction and biological conservation. Focusing on trade-offs, specific contexts and suggesting paradigm shifts are all intricately laced within the environmentalist approach towards sustainable development. Ingram, DeClerck and Rumbaitis del Rio (2012b) continue in their second book to highlight the importance of understanding the ecological baseline to achieve sustainable development by emphasizing that:

*“education based on an improved understanding of the ecosystems in which people live and enhanced communication among stakeholders can assist the poor in negotiating environmental changes and emergence of new economic opportunities while contributing to poverty reduction goals”* Ingram, DeClerck, Rumbaitis del Rio (2012b ; 18)

What this quote suggests is that there are links between human capacity building, regional development and a sustained environment; and that by understanding these links, tools like PES schemes could identify opportunities for rural livelihood improvements and regional ecological enhancement. This quote also addresses the fact that power relations between stakeholders need to be addressed to allow for better communication between actors which would eventually result in sustainable development being achieved. Ingram, DeClerck, and Rumbaitis del Rio (2012b; 29) specifically discuss PES schemes, and claim that in order for the schemes to achieve both goals of conservation and rural poverty reduction, continual education for the resource stewards and policy makers is of utmost importance. From this specific environmentalist discourse, PES schemes as a tool for poverty reduction and induced sustainable development could be fathomable, but only if a thorough understanding of the specific social

context in which it is to be implemented is understood and a continued education about the local and regional ecological practices is given to the stakeholders.

Agenda 21 was previously described as a largely collaborated document by many different actors which solidified the mainstream sustainable development agenda as something which called for no radical change to the current system (Adams 2001; 103-4). Agenda 21, although criticized by Adams (2001) as not being an effective charter for radical change, contains a surprisingly flexible discourse. Knowing the outcome of this document approximately twenty-three years later might confuse a discourse analyst to overlook this document as an example of environmentalist discourse. Even so, chapter 10, which is titled “*Integrated Approach to the Planning and Management of Land Resources*”, is where this author believes the environmentalist language shines through in this document. Examining a few specific extracts from this chapter can aid in highlighting the underlying environmentalist voice.

*“land is normally defined as a physical entity in terms of its topography and spatial nature; a broader integrative view also includes natural resources; the soils, minerals, water and biota that the land comprises”* Agenda 21 (1992; 85)

This extract sets the scene for understanding the physical nature of the earth as an important aspect to sustainable development. The concerns of the environmentalists about land degradation can be understood through specifically describing natural resources, and the human relationship with the environment is made apparent in this section as each specifically listed resource is something that has been exploited or destroyed by human activity. This excerpt also clearly sets the stage for the combination of the physical nature of the earth with human interaction by emphasizing that land is *normally* defined as... showing that the environmentalist view in this instance has been enlightened unto a new or expanded definition of land. This excerpt can also be seen as setting a starting point for discussing PES schemes in relation to land and natural resource conservation, because the natural resources described in this passage are all part of at least one of the four focuses within PES schemes. The next quotes were chosen to reveal how the environmentalists behind Agenda 21 attempted to influence their audience to integrate the relationship between poverty, human action, and the environment into the sustainable management of land resources.



*“Integrated physical and land-use planning and management is an eminently practical way to achieve this {sustainable development}” ... “By examining all uses of land in an integrated manner, it makes it possible to minimize conflicts, to make the most efficient trade-offs, and to link social and economic development with environmental protection and enhancement, thus helping to achieve the objectives of sustainable development” Agenda 21 (1992; 85)*

Understanding the discourse behind this plea for sustainable development and integration of human activity and the environment makes for an interesting standpoint for analyzing the idea of PES schemes. From this environmentalist perspective, PES schemes could be suggested to be used as a tool to achieve sustainable development as long as the human relationship to the earth is fully understood; this including the social and economic context of the specific situations as well as understanding the physical land-use management actions of the past, present and future. It is also important to notice how the word ‘efficient’ is used to describe different trade-offs, as this brings the readers back into understanding the powerful economic undertone of this specific document. One must then ponder what the ‘objectives of sustainable development’ are in regards to Agenda 21 in order to understand what this message could mean.

The next authors’, Farley and Costanzas’, article, *“PES: From Global to Local”*, discusses the different perspectives of environmentalists while trying to focus PES within the sustainable development discourse. The distinction between opposing environmentalist views within the discourse was not made apparent in the first two pieces of environmentalist literature, but these authors list environmental economics and ecological economics as paralleling conflicts of interest within the sustainable development agenda (Farley & Costanza 2010). Environmental economics is described by these authors as focusing on efficiency and growth while simultaneously forcing environmental services into the capitalist market model (Farley & Costanza 2010). They continue by describing ecological economics as focusing on multiple goals of ecological sustainability: “just distribution and economic efficiency... a variety of payment mechanisms to achieve goals” (Farley & Costanza 2010). With this description of the two environmentalist perspectives, it is easy to see somewhat of a bias favoring the ecological economics side of things. Using the word ‘force’ in compared to ‘just’ makes this quite clear. Farley and Costanza also reveal their discursive positioning behind their arguments when they begin to describe the importance of scale matching ecosystem services:

*“the spatial and temporal scale of the institutions to manage ecosystem services must be matched with the scales of the services themselves”* Farley and Costanza 2010

This emphasis on scaling ecosystem services on different levels is concurrent with the environmentalist belief of including the contexts of the specific political, social, economic, and geographic implications of the relationship between human actions and environmental sustainability. Viewing PES schemes as being sustainable in this light would prove that each scheme has been individually scaled to best serve the specific situation of its’ location, social submersion and environmental service. PES academics such as Wunder (2008) would criticize that this can prove to be a very difficult prerequisite to accomplish, as who can decide the scale of the services that the environment really provides?

Relating the discourse of environmentalist literature to PES schemes reveals a pattern. Each of these authors emphasized studying the intricate links and possible trade-offs between power relations, social, economic, and geographical contexts for each case. The two texts that explicitly mentioned PES schemes explained that integrating context-specific and holistically understanding approaches to PES would result in the most successful of schemes. The integration of human activities with the physical environment proves to be a strong way to analyze tools in the arena of sustainable development.

## **5.2 PES from an Economic Perspective**

Understanding the discourse of the largest subsection behind sustainable development requires a researcher to reminisce through the timeline of economic development thought. Why were Southern actors so relentless about including economic growth during the Stockholm Conference of 1968 (Egelston 2013)? Recalling the trends of economic ideologies prior to the 1968 conference gives a fairly good explanation to that. Considering that most of the development movements from the 1800s until about 1950 were primarily focused on the ‘South’ catching up economically, industrializing, and modernizing to reflect what had already been done by the ‘North’ is a strong indicator about how economic thought was implanted in the early stages of sustainable development. The inclusion of the word, *development*, with sustainability in this way set the stage for economists to use their great influence and power to shape the future discourse of sustainable development.

The 1980s are generally known as a time where economic growth, structural adjustment programs, and an increasing of individual economic choice riddled the economic platform and sat on the throne of development politics. Neoliberalism was king both during the creation of the Bruntland Report, and during the Rio Conference, which have been described in this paper as prominent points in the history of sustainable development. Sustainable environmental management, as described by Agenda 21, is environmental management policies which take into account those who depend on the environment for their livelihoods (Agenda 21 1992; found in paragraph 1.1). This view clearly reflects the economic discourse of the time, as it includes a large focus on a changing of priorities for those in management positions and also raises the importance for individual economic growth and prosperity. Looking at sustainable development through the economist lens, therefore, takes into account the most efficient way to manage natural resources without destroying the environmental assets which drive human growth.

The literature being analyzed in this section is three chapters excerpted from the World Bank Development Report from 2008. The reasoning behind solely using this document to represent such a large strain of sustainable development is understanding the history and transformation of the World Bank's discourse. According to The World Bank's official website, the institution which was incepted in 1944 has drastically evolved over the years (The World Bank Group 2015). The website also mentions how in previous times, The World Bank had "a homogeneous staff of engineers and financial analysts, based solely in Washington, D.C." (The World Bank 2015). They go on to describe how today it is a much different picture, as a diverse staff of different sector experts is on payroll and how one third of the staff is located in several geographically-differing offices (The World Bank 2015). The end of the very brief historical explanation coming straight from the source claims that; "Reconstruction remains an important part of our work. However, at today's World Bank, poverty reduction through an inclusive and sustainable globalization remains the overarching goal of our work" (The World Bank 2015). The World Bank's language throughout the decades has evolved to include more than just monetary capitalistic expansion, and has become very prominent in today's mainstream sustainable development discourse. Even still, much of the economic background of the group shines through the presented discourse of their 2008 development report.

Chapter two of the World Bank's 2008 world development report on agriculture highlights agriculture's performance diversity, and uncertainties. This thesis is not specifically relating PES schemes to agriculture but it is acknowledged that the two are very closely linked as providers of the environmental services have to own a piece of that environment in order to provide the service. Most of these environmental service providers, being in rural areas, are or have previously been engaged in some form of agriculture so this report is quite relevant to the purpose of this thesis. Much of this chapter has suggestions about how to continue or enhance growth and land productivity. A heavy emphasis on bettering technologies, management and policies to induce growth is also made apparent (The World Bank 2008).

*“Productivity growth for available land is often undermined by pollution, salinization and soil degradation from poorly managed intensification, all reducing potential yields”*- The World Bank 2008

Analyzing the underlying message of this lone quote brilliantly reveals the economic lens through which natural resource conservation is being seen by the World Bank. The beginning and ending of this statement shows the importance of market productivity in relation to increased yields. Land sustainability in this case, is encased in economic growth. This statement also underlies the main talking points behind market environmentalism approaches when it explains what is undermining land productivity. PES schemes as a tool for this type of sustainable development can be focused on combating pollution, salinization, and soil degradation through improved management techniques. The most important outcome in this situation is increased yields of environmental services which humans can benefit from and possibly in the form of PES schemes, pay for.

The suggestion for improved management techniques to achieve sustainability continues in chapter 6, which is titled *“Supporting smallholder competitiveness through institutional innovations”* (The World Bank 2008). This title alone can be seen as economically motivated, as ‘smallholder competitiveness’ reveals the capitalist and market-led undertone to solving smallholder poverty. This chapter runs through the history of the failed structural adjustment programs of the 1980s, and claims that the biggest failings of those programs was the lack of adoption and emergence of the private sector and a lack of state deregulation (The World Bank 2008). From this perspective, the gaps in the market due to incomplete institutional deregulation

was what lead smallholders to lose their welfare, competitiveness, and survival capabilities during that time period (The World Bank 2008). This chapter supports the economic idea for the trickle-down effect, which means that changes toward sustainable growth made by the ‘hierarchical actors’ should trickle down to benefit smallholders. This belief has been described in this thesis as promoting the ‘mainstream’ sustainable development agenda which means in this view, increased sustainable development derives from changing the aspirations of the managerial team and not the smallholder actors.

*“Unless state-owned agricultural banks undergo a radical transformation in governance arrangement that can insulate them from political capture, they are unlikely to function in a commercially sustainable manner”* The World Bank 2008

This quote was chosen to reveal the suggested approach to managing finances for natural resource conservation. This quote blames government induced subsidies as being politically charged and not empathetic to the mutual interest of smallholders. This small glimpse of importance to empathize with the interest of the smallholders reveals the increasingly inclusive agenda of the World Bank. This quote also reveals ‘business as usual’ mentalities, as once again, growth and commerciality is used to describe sustainability. The choice of using the words ‘radical transformation’ to describe a necessary change in bank and government arrangements can be seen as a way that the World Bank is trying to use language to intrigue actors with differing perspectives to agree with their point of view. Radical changes to the current system are not apparent, though, as the power in this situation is still being controlled by the same banks and government heads who created the situation in the first place.

The final piece being used from the World Development Report of 2008 is chapter 8, which is where this author first stumbled upon the idea of PES schemes being used to achieve sustainable development. Chapter 8 is titled, *“Making agricultural systems more environmentally sustainable”*. Having an understanding of what the World Bank means when it says, *environmentally sustainable*, allows for a better analysis of how they introduced PES schemes as a tool to achieve this. Drawing early conclusions from the two previous chapters shows that environmental sustainability, in the light of the World Bank, sees the environment as an asset. Environmental sustainability, therefore, is asset-based and continual economic prosperity which

does not lead to continued environmental degradation. Integrating PES schemes into this view of sustainable development is described by the World Bank when they wrote:

*“The PES approach is attractive in that it (1) generates new financing, which would not otherwise be available for conservation; (2) can be sustainable, as it depends on the mutual self-interest of service users and providers and not on the whim of government or donor funding; and (3) is efficient if it generates services whose benefits exceed the cost of providing them”* The World Bank 2008

This epitomizes the view of PES schemes through an economists’ lens. Each of these facts makes a valid economic point which leads to the promotion of PES schemes for being used as a tool to achieve sustainable development. As stressed earlier in this thesis, market environmentalism is based on the preface that in order for sustainable development to occur and benefit ecosystems, a further penetration of the market into said ecosystems is necessary. PES schemes allow the market to penetrate into the world of natural resource conservation where it hadn’t had access before. PES schemes also have the power to dismantle smallholder dependency from mismanaged governments and donors, and this is done by increasing the power of individual interests and individual competitiveness through this ‘market’. The final point made in this passage reveals the hunger for market efficiency. If the PES schemes and markets promoted by the World Bank run ‘efficiently’ and according to plan, there is a way for the growth to positively affect not only the environment but also smallholder development.

Viewing PES schemes from an economic perspective shows a true connection between these schemes and what is understood to be sustainable development in this strand. Understanding that the discourse within sustainable development has a strong core in economics, using PES schemes as a tool could make achieving economically-biased sustainable development a very obtainable and realistic goal. It has been made obvious through this analysis that the reason large institutions such as the World Bank are supporting PES schemes in such a strong and transparent way is because of how well PES schemes fit into their econo-centric agendas. Allowing nature to be further quantified through PES schemes allows for a deepening of efficiency in the services it provides to humans. This action and train of thought can be considered as the economic dream for the Anthropocene.

### 5.3 PES schemes from a Social Perspective

Focusing on PES schemes' roots in the social equity discourse reveals a different understanding of the human-earth relationship. Karl Marx once mused that "labor is not the source of all wealth. Nature is just as much a source of use values... as labor, which itself is only the manifestation of a force of nature" (Marx 1881, 1970 pg. 7; found in Gomez-Baggethun, de Groot, Lomas, Montes 2010). In this social case nature becomes a source of cultural diversity, and incorporating indigenous natural resource management techniques into natural resource conservation strategies is just one example of how PES schemes can incorporate an appropriate social relationship with the environment.

Pascual, Muradin, Rodriguez and Duraiappah (2009) distinguish social equity as being synonymous with fairness. They describe how depending on which society and social group is being put into focus, the concept of fairness is constructed based on what is perceived as fair, equitable and just to that specific group. In this sociological view, achieving sustainable development means that a change for achieving intergenerational equity and poverty alleviation must be made. Intergenerational equity can be measured through a sustainable livelihoods framework, which has been described by authors Lee and Mahanty (2009) as looking at the economic, social, and environmental assets of households. Pascual, Muradin, Rodriguez and Duraiappah (2009) continue this discussion by explaining how a multidimensional view would focus on the basic needs which concern the welfare of the least advantaged groups in society. After all, achieving intergenerational equity means prioritizing the livelihoods of the poorest groups of people over the more powerful growth of the environmental market in order to support those households in need. Pascual, Muradin, Rodriguez and Duraiappah (2009) exemplify a common-goods program in Mexico where the rewards derived from PES schemes come in the form of community investments, (infrastructure, healthcare etc). This is where the equity vs. efficiency debate can be most clearly seen, as prioritizing rural smallholder growth regardless of the effect on economic growth is not the most economically efficient way to run a market scheme.

Relating to the historical discourse of sustainable development predating this section, the sociological perspective has its deepest roots in the theories of Karl Marx and other 19<sup>th</sup> century philosophers, as it obviously places social justice before capitalist economic growth

(Harlow, Golub, Allenby 2011). PES schemes could be deemed as a successful tool to achieve this form of sustainable development if they really focus on building up human capital, meaning incorporating community and smallholder capacities which would consequently result in a strengthening of the relationship between humans and nature. PES schemes in this instance could foster a natural base for human and nature interactions and therefore result in increased cultural and local diversity. The documents being analyzed as representing this group are the articles by Lee and Mahanty (2009), Kosoy and Cobera (2009), and Mayrand and Pequin (2004).

Lee and Mahanty's (2009) article, *"Payments for Environmental Services and Poverty Reduction: Risks and Opportunities"*, is represented by The Center for People and Forests (RECOFTC) which is based out of Bangkok, Thailand. RECOFTC claims to be a unique non-for-profit which specializes in community forestry-based capacity building (Lee & Mahanty 2009). This article was chosen to represent the social strand of sustainable development because it clearly brings into light the market efficiency vs. social equity debate surrounding PES schemes.

*"Critics contend that, since markets pursue cost-efficiency, a market-based tool like PES does not allow for bias in the distribution of benefits towards landless individuals and the poorest of the poor. Others fear that PES will actually harm the poor. We argue that the potential for PES to support poverty reduction depends largely upon the design of particular payment and reward schemes and surrounding governance and social conditions"* - Lee and Mahanty 2009

Throughout this paper these authors remain fairly neutral as they point out both the flaws and the opportunities for PES schemes in regards to poverty reduction, and this text is a prime example of that. The social discourse shines through as the critics which are mentioned in this text are obviously social justice critics. Calling for a bias of distribution favoring the poorest of the poor reveals the social desire for increased intergenerational equity. Perhaps revealing the social-critical side of the PES debate allowed these authors to reveal their arguments about PES without losing sight of their social-critical background.

Lee and Mahanty (2009) also ignite a discussion which points out how people and their livelihoods could be affected on both sides of the PES schemes. They remind their readers that although most of the issues risen in the discourses surrounding PES revolve around the poor environmental service provider, special attention must also be given to the poor environmental



service buyers or those who are also poor but unable to participate in the scheme (Lee & Mahanty 2009).

*“Improving the status of natural assets is a central objective of PES; however this may bring restrictions in access to common lands for grazing, resource collection, and shifting agriculture” ... “poverty reduction potential of any scheme largely depends on how it interacts within the asset bases available to the poor, their livelihood flows, and drivers contributing to their impoverishments, including processes of political and social marginalization and vulnerability to social and environmental risks”* Lee and Mahanty 2009

This dialog reveals the concerns faced by social justice enthusiasts. The inclusion of those who could become further marginalized by PES as a tool for sustainable development is an important aspect in this view. Gaining a comprehensive understanding of the reality of the flow of life in the area to be influenced by a PES scheme is, in this view, the only way to understand the possible threats or benefits for those to be affected. A justifiably sustainable and equitable PES scheme, in this perspective, would have to take into consideration all actors who could be affected and determine what is the most beneficial for all, (including the environment). Social justice, now understood as being achieved through understanding the relationship between livelihoods and environment, is seen as being an important cog in the social-sustainable-development-influenced PES instrument.

Kosoy and Cobera’s 2009 article, *“PES as Commodity Fetishism”*, maintains a far less neutral position when examining PES schemes. Commodity fetishism is a Marxist ideology, which is described by these authors as the process of concealing the social relationships underlying the process of commodity production (Kosoy & Cobera 2009). These authors use this ideology to illuminate these same possible underlying relationships in the realm of environmental services as they transcend into the market as commodities (Kosoy & Cobera 2009).

*“The analysis of emerging markets for nature’s services is considered one of the most important themes in critical geography and environmental research. There is therefore a need to identify and address their pitfalls, and challenge their logic by looking at whose interests pricing and markets serve, and why money and monetary valuations are considered so useful and persuasive as a sign of ultimate worth”* Kosoy and Cobera 2009

This discourse reveals the social branch's dissatisfaction with the environmental/ecological relational economic approach to environmental services. The way this sentence is formulated, it seems that Kosoy and Cobera are criticizing critical geographers and environmentalist researchers for joining forces with the centralized economic or 'mainstream' sustainable development agenda. The Marxist undertone of this criticism is made apparent when the authors question the role of monetary valuations as a sign of ultimate growth, as it is made apparent that the environmental markets, (being markets) serve those who defined the markets to begin with. The drive to call for the necessary analysis of the reality about who is benefiting from, or prioritizing monetary growth definitely stems from a Marxist perspective. This view could be used to criticize all types of PES schemes, especially larger-scale PES schemes such as international carbon sequestration programs. This is because logically, the larger the PES scheme gets, the larger the market it creates and the more actors take out stakes in the scheme. Kosoy and Cobera suggest that when using commodity fetishism for analyzing PES schemes, one must think critically about what is being traded, realize who or what is being neglected, and highlight the relations among exchanging actors in the market across different scales (Kosoy & Cobera 2009).

*“When environmental services are commodified, they become the basis for new socio-economic hierarchies, characterized by the re-positioning of existing social actors, the emergence of others, and, very likely, the reproduction of unequal power relations in access to wealth and environmental resources”* Kosoy and Cobera 2009

Nature, through the lens of the social justice enthusiasts, is understood to be a basis for social interactions and diversity. Kosoy and Cobera reveal their concerns about the commodification of this social basis through the above sentence, and therefore predict that a poorly handled PES scheme could lead to a reproduction of social injustice and distress. Concluding this Marxist take on PES schemes, it is of the utmost importance that while developing a PES scheme, the surrounding social realities and power relations are taken into consideration, and a true analysis of who would be benefiting from this type of scheme the most and for what reasons is understood and analyzed during the process.

Mayrand and Pequin's 2004 article, *“Payments for Environmental Services: A survey and assessment of current schemes”*, provides a less abstract view of PES schemes as a tool in the

sustainable development agenda than most of the reviewed literature. Their article highlights the identified pros and cons, the trade-offs made, different actors and their roles, new strategies to maximize benefits to the poor, and marketing strategies of different PES schemes from 2004. Although this article seems neutral, it is still grouped into the social discourse as it greatly emphasizes the need to understand the social context behind the schemes and the need for including the poorest actors in PES so they can also benefit from the different distributions.

*“the positive effects on sustainable development will be maximized if their {PES} distribution impacts are considered and if concrete efforts are made to build capacities in poor and indigenous communities”* Mayrand and Pequin 2004

The holistic look into the effects that the PES market could have on poor households and their livelihood strategies is an exquisite example of how one would view PES schemes from a social justice perspective. PES schemes which would be used to achieve sustainable development, in this context, would need to focus on building up social capacities in poor or marginalized communities. This description of sustainable development is very different from the sustainable development described in the alternate perspective sections of this analysis. Sustainable development, in this social context, is described as being maximized when the poorest in the communities have the chance to build their human capacity and receive a fair amount of the service distribution. This is further emphasized when these authors state:

*“an approach focusing only on conservation may be detrimental to poor communities that need to maintain certain land uses to support their livelihoods. It may therefore be preferable to support sustainable agroforestry or silvopastoral practices that can maximize environmental benefits as well as economic benefits for poor communities”* Mayrand and Pequin 2004

Although Mayrand and Pequin are not obviously Marxist in their philosophical underpinning, they too question the environmentalist/ ecological branch of sustainable development in this passage. The human-nature relationship in this case is *detrimental* for inducing successful sustainable development, especially for the poor or marginalized communities which might depend on possibly ‘environmentally unsustainable’ practices. PES schemes, in this view, must include a deeper understanding of local livelihood strategies and incorporate those practices in order to maximize the sustainable development outcome.

Examining PES schemes through a social equity lens reveals the importance of understanding human-environmental activity. Understanding that the environment, which humans inhabit, has the utmost relevance to the chosen livelihood strategies of households induces a train of thought which attempts to comprehend how environmental services can be used to best serve those in need.

Mayrand and Pequin (2004) created a chart which revealed how they conceptualize the possible trade-offs within PES:

**Figure 2: Trade-offs in PES schemes**

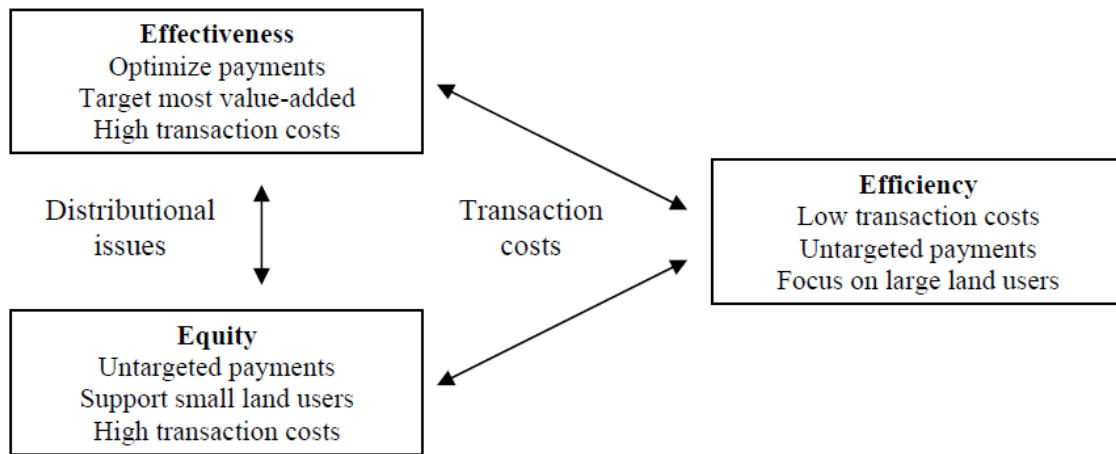


Figure 2 allows researchers to understand the trade-offs between the effectiveness, efficiency, and equity of PES schemes. This graph also gives readers a bit of insight as to how authors grouped into the more sociological strand of sustainable development, such as Mayrand and Pequin, might view such possible trade-offs. According to this table, an efficient PES scheme will have to compromise quite a bit when put through the transaction process. With both effective and equitable PES schemes, a low transaction cost is forsaken for a high one when the actual transaction occurs. It should also be noted how the difference between an effective and an equitable PES scheme differs in the distributional aspects of said scheme. Mayrand and Pequin (2009) put a large emphasis on the payments, and who those payments are targeted at to profit from. According to these authors, the most efficient way to target a payment is to go the ‘equitable’ way and not target them at all. This allows for a more equitable allowance to those who may be marginalized or less capable to begin the scheme initially.

## 5.4 Discussion: Anthropocentric Natural Resource Management (PES)

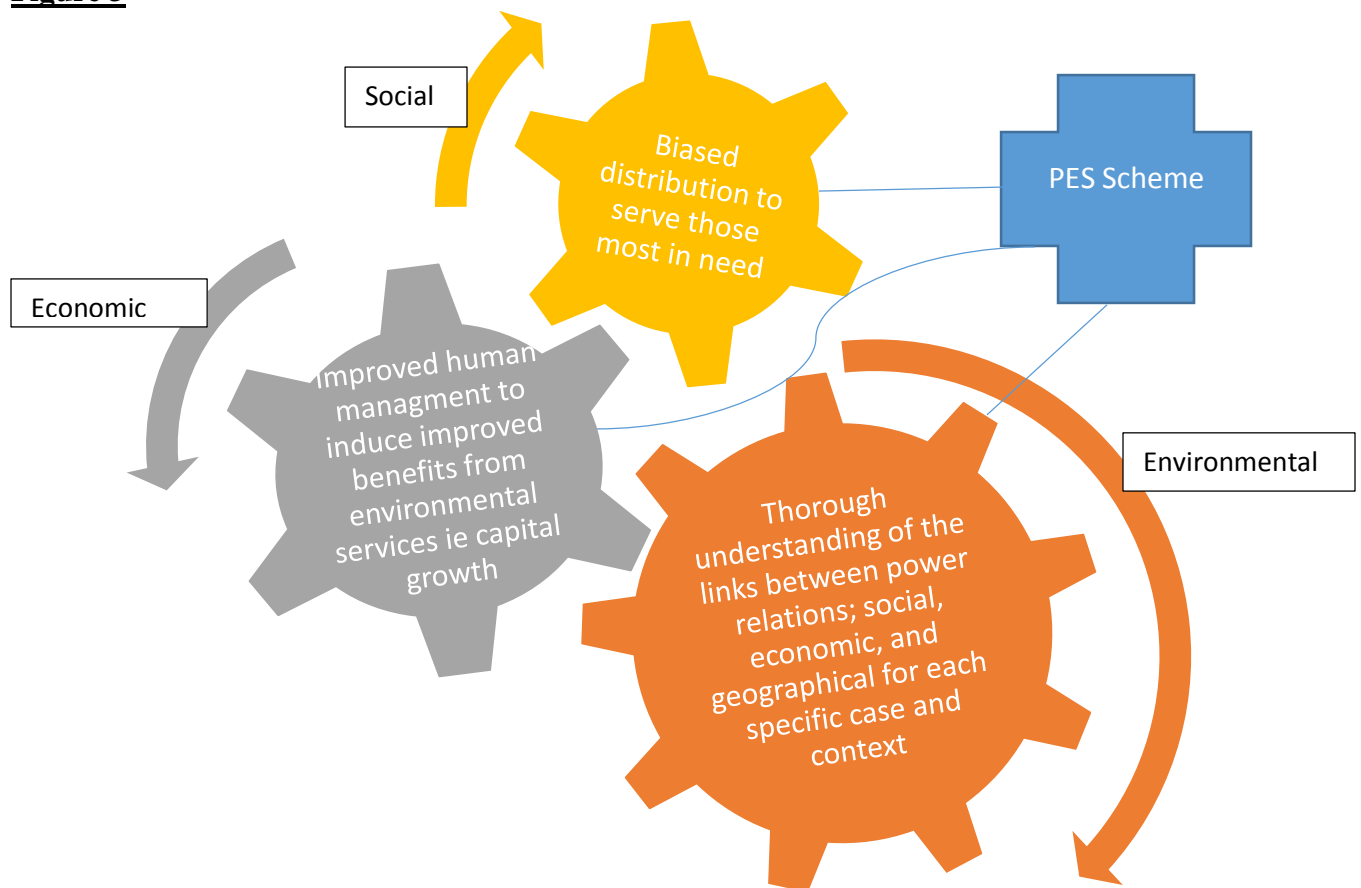
This brief analysis of a few standpoints within the discourse of sustainable development reveals the complexities of opinions and ideas stemming from the different perspectives. One message rings clear from these chosen focal passages; the discussions about the relationship between humans and the natural resources which surround us is wholly tilted for anthropocentric benefit. Gomez-Baggethun, de Groot, Lomas and Montes (2009) would explain this as representing the mainstreaming of sustainable development during the 1990s, which greatly put emphasis on the anthropocentric approach. Whichever thread of sustainable development the chosen authors' took to base their perspective from in this analysis, the human focus is in exuberantly clear. The environmental group of sustainable development, being the most closely involved with the interests of the physical earth, highly emphasizes the links of human activities within the environment. The economic group focuses on nature's role in achieving human growth and relies on human management to achieve a sustained environment to drive that growth. Thirdly, the social group is entirely anthropocentric as it emphasizes human opportunities to achieve capability and well-being. The only inclusion of nature in this specific human-earth relationship is the fact that it is the basis for livelihoods of households which inhabit that space.

Attempts to balance all of these views within the maintenance of this human-earth relationship have proven to induce trade-offs when combined to define what sustainable development is. The analysis of the chosen perspectives has revealed a similar anthropocentric focus with different motives to achieve differently perceived ideas for how PES schemes can attain sustainable development. According to Gomez-Baggethun, de Groot, Lomas and Montes (2010), the use of PES schemes is to attract political support for conservation while continuing the market logic of an economic paradigm. They also describe how introducing this economic paradigm to conservation initiatives would induce individualism and competition to societies which may have previously been encapsulated by community and reciprocity values (Gomez-Baggethun, de Groot, Lomas, Montes 2010). Recalling Harlow, Gollub and Allenby's (2011) description of the radical accusations against Christianity in the 60s and 70s, one could conclude that similar accusations from the environmentalists could be made against PES as an economic paradigm shifting the want for conservation from an ethical obligation to an economic self-

interest (Gomez-Baggethun, de Groot, Lomas, Montes 2010). PES schemes, put through this focus, would have to motivate the machine of anthropocentric sustainable development.

Figure 3 is an attempt to position PES schemes through a utopian and all-stem-inclusive framework of sustainable development. This three-strand inclusive mechanism draws upon one idea from each of the aforementioned analyzed perspectives. With a working machine in this utopian case, sustainable development and a successful PES scheme could be induced.

**Figure 3**



In a utopian vision, a PES scheme could induce success from all viewpoints of the sustainable development discourse. The reality is that the specific PES case ‘cog’ can really only be immediately connected to one of these three ideological components in order to power the machine of sustainable development. Theoretically, the underlying ideologies and theories behind the individual gears of Figure 3 clash, therefore a decision must be made as to which of the cogs will trade off a bit of ‘focus’ in order to achieve a sustainable PES scheme. In this case,

the efficiency of PES as a market scheme to induce capital growth clashes with the desire to distribute capital equitably to aid the poorest actors or stakeholders of the scheme. For instance, if a scheme chose to focus on one of those two conflicting ideologies (social equity or economic efficiency), then the other would have to trade off either efficiency or equity. Attaching the PES scheme ‘cog’ directly to the red ‘environmentalist’ gear would also result in the other two cogs having to possibly alter their make-up of ideologies. With this theoretically environmentalist dominated- PES perspective, a gained thorough understanding of the links between and behind the human-nature relationship for each specific context could reveal that capitalist growth could deepen social inequalities, and that even with biased distributions of benefits, social inequalities could persist with the apparent existing power relations. These are the type of trade-offs which have become apparent after conducting this type of analysis of the discourse.

Having the historical awareness of the sustainable development discourse for analyzing why certain actors perceive PES schemes in certain ways has led to a greatedened understanding of what types of trade-offs could theoretically be made while choosing which ideology is used for driving a scheme. Although this has been a very abstract and theoretical discussion, I believe that this type of analysis could be used as an example of how researchers can interpret all different types of literature on PES schemes, in order to determine which agendas are being pushed and which bits might have to be sacrificed in the making.

## 6 | Conclusions

Concluding this study, a famous quote by Aristotle comes to mind: “*If you would understand anything, observe its beginning and its development*”. Examining the sustainable development discourse on a conceptual level has revealed the roots for the ideologies behind three different perspectives. This thesis dissected sustainable development into three major groups, and explored where those ideologies stemmed from according to the chosen literature. The underlying agendas of the environmental, economic, and social perspectives were brought to light through the historical underpinning and theoretical conception within this study. It was found that through the use of language, authors reveal which stream of sustainable development they predominantly represent and which agenda they might be trying to pass when writing about PES schemes.

This thesis became a learning process regarding the discovery and reflection of any underlying motives behind the creation of PES schemes and how they can represent a specific strand within the discourse of sustainable development. Being thoughtful about the usage of certain words and what they can imply may bring a new understanding when examining tools to enhance present and future situations. Determining which sustainable development strand reins over a certain PES scheme depends on which aspects of the scheme are described as having the most importance for inducing success. Once the major objectives and aims for the PES scheme are determined, then a researcher can decide which ideological agenda the scheme was implanted for and henceforth determine what kind of trade-offs may have been made in the process.

I believe that having a fuller understanding of the historical discourse behind a popular phrase or word is of utmost importance, especially in the attempt to relate that discourse to a real-life phenomenon such as PES schemes. When conducting this literature review, my inductive stance allowed for the natural flow of collected data to lead to a different understanding of how PES schemes have been positioned within the sustainable development discourse. Having an open mind to what was found in the literature allowed this research to take me in unexpected directions. What I hadn't expected was how important understanding the discourse behind what I knew to be sustainable development became in order to truly understand how PES schemes are being presented in the chosen literature. This research also demonstrated a way to theorize what types of trade-offs could be made while choosing a standpoint in the name of sustainable development, and how this could affect the outcomes of an implemented PES scheme. In this case, Aristotle's quote rings true as much knowledge about how and why PES schemes are being presented in the literature was gained after a thorough understanding of the history of sustainable development was undertaken.

Theoretically speaking, examining a way to best or most sustainably steward natural resources in the Anthropocene would perhaps resemble a study much like this. This author would argue that by historically examining which methods have been applied when stewarding natural resources, by who, for whom, and for what reasons would be a very beneficial way to determine how to proceed into a sustainable future.



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