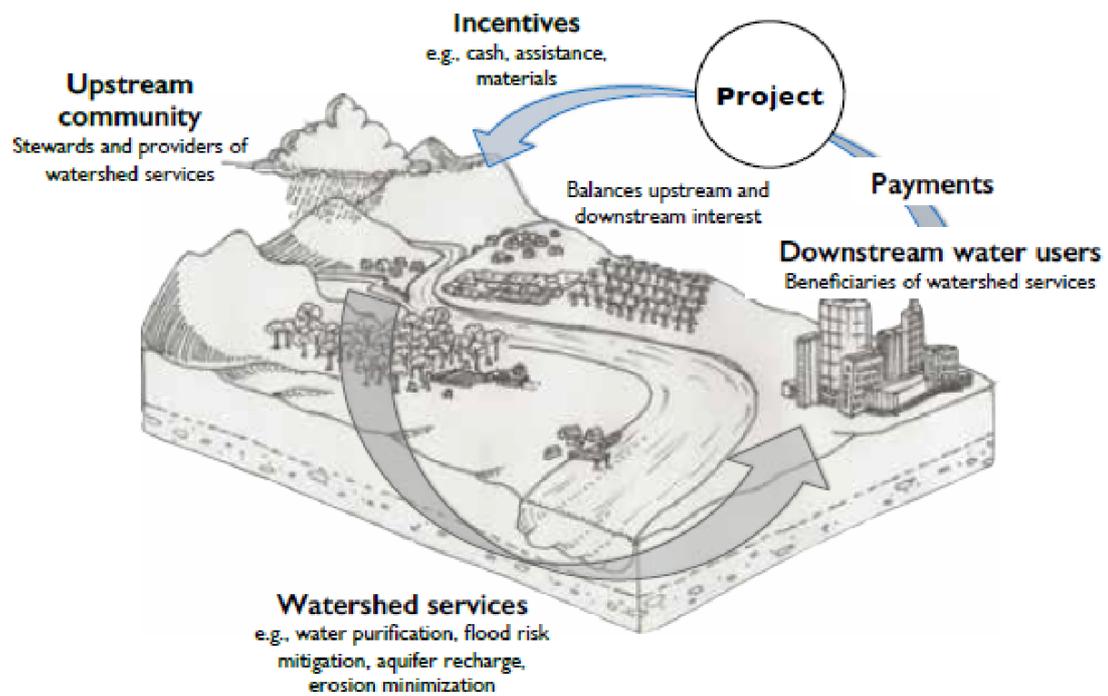


**Financing conservation:
Understanding Policy Arrangements and Financial Flows for Payments for Environmental
Services Program in the Lake Naivasha Basin, Kenya**



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MSc Thesis

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Table of Contents

Table of Contents.....	iii
List of Figures and Tables.....	vi
Acknowledgement.....	vii
Executive Summary.....	viii
Acronyms.....	x
CHAPTER ONE.....	1
1.1 Introduction.....	1
1.2 PES concept.....	2
1.3 Lake Naivasha basin and its importance.....	4
1.4 Problem statement.....	6
1.5 Research objective and questions.....	8
1.6 Thesis outline.....	9
CHAPTER TWO.....	10
2. THEORETICAL FRAMEWORK.....	10
2.1 Payment for Environmental Services.....	10
2.2 Policy Arrangement Approach (PAA).....	11
2.2.1 Policy arrangements.....	12
2.2.2 Actors and Coalitions.....	13
2.2.3 Discourses.....	14
2.2.4 Resources and Power Dimensions.....	14
2.2.5 Rules of the game.....	15
2.2.6 Concept of institutionalization.....	15
CHAPTER THREE.....	17
3. METHODOLOGY.....	17
3.1 Secondary Data.....	17
3.2 Primary Data.....	17

3.3 Data Analysis.....	18
3.2. Limitation of the Study.....	19
CHAPTER FOUR	20
4.0 Results and Analysis: PES Policy Arrangements and Financial Flows	20
4.1 Initial Phase.....	21
4.1.1 ES buyers.....	22
4.1.2 ES sellers	23
4.1.3 Intermediaries.....	24
4.1.4 Donors.....	26
4.1.5 Actors' coalitions.....	27
4.1.6 Financial resources verse power relation	28
4.1.7 Underlying discourses.....	28
4.1.8 Rules.....	29
4.2 Implementation phase.....	30
4.2.1 Enhanced actors' coalition.....	30
4.2.2 Financial resources and flow.....	32
4.2.3 Rule of the game	38
4.2.4 Financial resources verse power.....	39
4.2.5 Underlying discourses	41
4.3 Scale-up (down) phase.....	42
4.3.1 Actor (dis)engage	43
4.3.2 Resources and power.....	45
4.3.3 Underlying Discourses.....	45
CHAPTER FIVE	47
5.0 Discussion and Conclusion	47
5.1 Summary of the findings	47
5.2 Discussion.....	49

5.3 Conclusion.....	53
5.4 Recommendation and further research	53
List of websites and government documents.....	55
List of citations.....	55
Appendices.....	59
Appendix 1: List of interviewee	59
Appendix 2: Interview guide	60

List of Figures and Tables

Figure 1: Map of Lake Naivasha basin catchment and WRUAs	3
Figure 2: Map of the Lake Naivasha basin - WRUAs location	7
Figure 3: Interconnections of the four dimensions of a policy arrangement	13
Figure 4: Categories of members represented under the LANAWRUA	23
Figure 5: Overview of Lake Naivasha basin PES actors	26
Figure 6: Illustration of actors' coalition at the initial phase	28
Figure 7: Overview of actors' coalition within IWRAP programme 2013-2016	32
Figure 8: Diagrammatic representation of Lake Naivasha Basin PES scheme	34
Figure 9: Diagrammatic representation of PES benefits flows	37
Figure 10: Flowchart of Lake Naivasha Basin Umbrella for WRUAs	38
Figure 11: Overview of PES buyers-sellers negotiation process	39
Table 1: Key actors within PES program, their roles, interests and type	25
Table 2: Summary of the PES payments 2010-2014	33
Table 3: Summary of WRUAs members for PES payments 2010-2014	34
Table 4: LANAWRUA contribution categories for hoteliers and flower farms	35
Table 5: Summary of WRUAs funding Water Sector Trust Fund	36
Table 6: Summary of actors' engagement and timeframe in PES over the 3 phases	46

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Executive Summary

The Lake Naivasha basin is one critical and most important Lake Basins in the Great Rift Valley in Kenya. The lake and its basin form a unique wetland ecosystem that supports rich and diverse biodiversity and human activities. With its uniqueness, the Lake Naivasha basin is under immense pressure due to over exploitation of natural resources and unsustainable land use practises both downstream and upstream. In order to address and sustain conservation of the watershed services, WWF and CARE initiated the Equitable Payment for Watershed Services (EPWS) program in 2006. The program started with a feasibility study to examine the hydrological status at the basin. It was after this hydrological survey that saw the launch of a Payment for Environmental Services (PES) pilot project in 2009. The pilot project was a step to improve the water quality and quantity for the downstream users including the large-scale farmers where most of them are the commercial flower farms.

Since its inception in 2006, the Lake Naivasha basin PES project has expanded and transitioned through critical phases to its success. This thesis looks into conservation finances and using the Policy Arrangement Approach (PAA) to analyse and examine the policy arrangement and financial flows for the PES program at Lake Naivasha Basin in Kenya. To begin with the study provides a background review on conservation, and in particular the PES literature review. The thesis is guided by three key research questions; a) what is the policy arrangement for the PES program at the Lake Naivasha basin? b) How has the policy arrangement for PES program influenced the financial flows? c) How did the policy arrangement for PES program change over time and why? The study applied qualitative research methods in both data collection and analysis. This included document and literature review for PES and PAA, 16 interviews conducted from December 2017 to January 2018.

The finding established the Lake Naivasha basin PES program as the policy arrangement, and is structured on a voluntary basis; also meets all the PES criteria. Further to the findings, there are multiplicity of actors involved in the arrangement where the *ES sellers* are the upstream small-scale farmers under Wanjohi and Upper Turasha/Kinja WRUAs; *ES buyers* are the LNGG and LNRA; WWF Kenya and CARE as the intermediaries (also referred as facilitators or technical advisors); and finally the external donors. The policy arrangement influenced the financial flows both positively and negatively where the conditional agreements ensure payment were made through the payment vouchers, and due to unsustainable financial resources led to the withdrawal of actors such LNGG (key ES buyers) and later in the CARE (in the implementation phase) and WWF Kenya (in the scaling-up phase). There was change in policy arrangement over time mainly with actors withdrawing or engaging in the PES program at difference phase. The reason behind the change was mainly because of insufficient financial resources. The research found three key discourses between the sellers and buyers; conservation value versus economic value; individualized benefits versus communal benefits; and Public Private People Partnership. The main

conclusion is on the need to ensure sufficient and sustainable financial resources in order to avoid instability within organisation network in a policy arrangement.

Keywords: Payment for Environmental Services (PES); Policy Arrangements Approach (PAA); Policy Arrangement; Financial Flows; and Lake Naivasha Basin.

Acronyms

CBNRM	Community-Based Natural Resource Management
CFA	Community Forest Association
CSR	Corporate Social Responsibility
EKN	Embassy of the Kingdom of Netherlands-Nairobi
EMCA	Environmental Management and Coordination Act
ES	Environmental Services
EPWS	Equitable Payment Watershed Services
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GIZ	German Development Cooperation
HDSR	Hoogheemraadschap De Stichtse Rijnlanden
ICDP	Integrated Conservation and Development Projects
ICRAF	International Centre for Research in Agro-forestry
ILNB	Imarisha Lake Naivasha Board
ITC	University of Twente, Netherlands
IWRAP	Integrated Water Resource Action Plan
KFC	Kenya Flower Council
KFS	Kenya Forest Service
KWS	Kenya Wildlife Service
KWSTI	Kenya Wildlife Service Training Institute
LANAWRUA	Lake Naivasha Water Resource Users Association
LaNaBUWRA	Lake Naivasha Basin Umbrella Water Resource User Association
LNGG	Lake Naivasha Growers Group
LNRA	Lake Naivasha Riparian Association
NAWASSCO	Naivasha Water Sanitation and Service Company
NEMA	National Environment Management Authority
NGO	Non-Governmental Organisation
NZV	Waterschap Noordzijlvest
PAA	Policy Arrangement Analysis
PES	Payment for Environmental Services
PPPP	Public Private People Partnership
PSA	<i>Pago por Servicios Ambientales</i>

WB	World Bank
WRMA	Water Resource Management Authority
WRUA	Water Resources Users Association
WSTF	Water Sector Trust Fund
WWF	World Wide Fund for Nature
WWF Kenya	World Wide Fund for Nature-Kenya

CHAPTER ONE

1.1 Introduction

For over a century, biodiversity policies have been dominated by the call to action for the adoption of protected area approach as a main strategy to safeguard, preserve and protect natural ecosystems (Muradian 2013). Policy makers and conservation administrators argue that potential destruction of biodiversity would result from unprivileged local communities gaining access to modern ways of production and local economic growths which are attributed to resource extraction and extensive land use changes (Terborgh 2000). A critic by Muradian (2013) to this argument highlights that it encourages unequal engagement and unfair cost of conservation from the already sidelined and vulnerable rural communities from protected areas. To address these hurdles, integrated conservation and development projects (ICDP) were proposed as “standard approach in attempting to combine the conservation of biodiversity with community development” (Sunderland et al. 2007, p. 276); and “coincided with the rise of a new way of conceptualizing human-nature interactions” (Muradian 2013, p. 1156). According to Pattanayak et al. (2010) there is blame on the integrated approaches as it encourages an ‘indirect and often tenuous effects on conservation’, though ICDP continues to be engaged as biodiversity conservation interventions in developing countries (Muradian 2013).

Modern conservation approaches are offering incentives to the host communities for purpose of preserving ecosystems and species. These incentives may either be direct or indirect depending on their connection to the conservation objectives. Direct incentives includes land purchases, leases, easements, and financial incentives including performance payments and tax relief where such conservation initiatives are more witnessed in the developed world like in the United States, Australia, and most of Europe. Indirect incentives are implemented in developing nations in form of ICDP and Community-Based Natural Resource Management (CBNRM) (Ferraro & Kiss, 2002). Conservation efforts across the globe continue to implement both direct and indirect payment approaches. However, in developing countries payment efforts are faced with potential obstacles like inequitable land tenure, limited local opportunities for non-agricultural investment, lack of experience on the enforcement of legal contracts, and in possible interpretation as a corrupt-form of incentives from the developed nations. The perception towards the direct payment approach is likened to corruption as a result of the local communities’ feeling that they are influenced to change their land use and livelihoods in response to Western values (Ferraro & Kiss, 2002). To address these obstacles, new ideas and concepts to develop frameworks under which land users can be rewarded for generating environmental services continue to emerge, making the incentives connect with those of the entire society (Pagiola & Platais, 2002 p. 2); and PES is a good example of such a concept.

1.2 PES concept

Payments for environmental services (PES after here) have become a critical tool to support conservation initiatives where environmental practitioners and economists theoretically believe that the practise has great potential for the future of conservation (Rebelo, 2009). Wunder (2007, p. 48) affirms that PES represents “a new and more direct way to promote conservation, by recognizing the importance of addressing trade-off challenges by bridging the interest of landowners and external actors through compensations”. The emergence and conceptualisation of PES has been defined as a “voluntary transaction where a well-defined ecosystem service (ES) is being ‘bought’ by a ES buyer from a ES provider if and only if the provider secures the provision of ES conditions’ (Wunder 2005 p. 5). PES incentivizes resources users to protect and preserve ecosystem services and has been implemented around the world to reduce soil degradation, improvement of wildlife habitats, and improve water quality and other environmental goals (Lewison et al. 2017). Other services include carbon credits, bio-prospecting, tax credits, and ecotourism.

PES programs have been put on trial by conservation pioneers and adopted in many developed and developing countries as a form of mitigation action to address the critical environmental challenges (Lewison et al. 2017). For instance, PES has been implemented in United States through the Conservation Reserve Program in an effort to reduce soil erosion due to poor agricultural practises, creation of wildlife habitats and enhancing their quality. Canada has also implemented an attractive PES program – Permanent Cover Program, while in Europe, the implementation of conservation payment programs falls under the European Union (Lewison et al. 2017). In developing countries, such as Costa Rica they use forest protection payments, ; in Kenya conservation they adopt leases for wildlife migration corridors, while in Mongolia they implement the performance payments for endangered predators and their prey, the examples are too long (Ferraro & Kiss, 2002, p. 1719). In response to environmental degradation different agencies such as government, private sector and other actors (conservation NGOs or donors), , have set aside billions of dollars in various PES programs that provide payments and incentives to preserve and protect environmental services (Lewison et al. 2017).

Proper institutional arrangements that exist among the different stakeholders allow payments protecting entire ecosystems or specific species like. Engagement of different stakeholders in such PES programs calls for collaborative natural resources governance where ‘governance’ is defined as “a partnership in which government agencies, local communities and resource users, non-governmental organisations (NGOs) and other stakeholders negotiate, as appropriate to each context, the authority and responsibility for the management of a specific area or set of resources” (Ogada et al. 2017, p. 271). Watershed resources management is a good example of collaborative governance which continues to be acknowledged as a sustainable approach to address uncertainties and complex changes in resources stewardship. Adger et al. (2006) explains the advantage of

1.3 Lake Naivasha basin and its importance

Kenya's Lake Naivasha basin is a significant watershed resource supporting critical social and economic activities, including horticultural production, geothermal power generation and tourism (Odaga et al. 2017; Mulatu et al. 2015). The Lake basin consists of different land users ranging from subsistence and smallholder farmers to complex and multinational commercial flower and vegetable farming, dairy and beef farmers as well as traditional pastoralists. The complex land practises result in massive environmental threats, particularly from population pressure on natural resources, hence the need for collective and institutional arrangements. These environmental threats originate from poor land use practises within the watershed, unregulated and excessive water abstraction for domestic and agricultural use, weak policy enforcement, and rapid human population increase, water pollution and climate change. The end results of these threats are degradation of ecosystem services, economic losses, worsening poverty and reduction of biodiversity. With this myriad of challenges and threats to the basin, the need for collective and institutional arrangements was inevitable (Pegasys, 2010). Over a decade, institutional arrangements and partnerships have been witnessed, with private sector participation and contributing to significant achievements in safeguarding water resource utilization.

Lake Naivasha is a freshwater lake located in Kenya. It is a portion of the Great Rift Valley and has been recognized as a 'wetland of international importance' –Ramsar site under the Ramsar Convention on Wetlands (Chiramba et al., 2011, p. 1). It is described as a closed ecosystem with no surface outlet but from the hydrology surveys an underground outlet exists, hence it is a freshwater lake. The catchment of the lake covers an area of approximately 3,400km² and is divided into 12 Water Resource Users Associations (WRUAs) within the altitude range of 1,900 m to about 3,900 m above sea level. The lake provides an important opportunity to support social and economic development in Kenya. Some of the economic activities around include small-scale and large-scale agriculture, floriculture, ranching, tourism, fishing, pastoralism, and geothermal power production. The activities reflect diversity and complexity in the land use practises around the basin. The lake basin is a nerve to the cut flower business where an estimated 50 square kilometres of land around the lake is under intensive, commercial floriculture and fresh vegetable farming (Chiramba et al., 2011). The high-valued fresh vegetables and cut-flowers are exported to European markets contributing an estimated KSh 6.65 billion (\$95 million) to the Kenyan economy, and contributes over 10 percent of Kenya's agricultural export with an estimated turnover of 350 million annually and creating jobs to over 30,000 people that indirectly benefits more than 350,000 people (Nyongesa & Muigai, 2012); from the estimated basin's population at 750,000 people (Kissinger, 2014). Similarly, the lake's natural beauty, rich biodiversity and mild climate alone attracts up to 1.8 million visitors annually (both domestic and international), and supports a tourism industry that brought Kenyan shillings 600 million (USD 6 million) in 2010 (Pegasys, 2010). Over three decades, the lake basin has undergone

several economic transformations that have threatened the water quantity and quality. The basin is relatively small and ranges from highlands in the north east and west, to semi-arid rangelands in the south and south east. The local communities living within the basin depend on the lake and its sub-catchment basin for domestic water use and livestock as well as fish stocks for livelihoods.

The review above provides an overview of the challenges and the immense importance that has been attached to the lake. The PES scheme initiative is an avenue to facilitate sustainable natural resource management while contributing to improved community livelihood in the upstream of the lake basin. PES is seen as good and promising conservation innovation (Wunder 2005), and as previously defined, the PES approaches ensures provision of payment for compensation or rewards to those willing to facilitate or to improve ecosystem services. Each PES scheme is characterised by its own unique aspect in terms of “the forms of payment, the stakeholders involved, the financing mechanisms and the institutional arrangements” (Mulatu et al. 2015, p. 463). Further, PES initiatives also varies in their type and scale of environmental services, sources of payment, type of activity paid for, the performance measure used, and amount and mode of payment. PES involves different and concerned stakeholders who have interest on certain protection and management of environmental services. The various stakeholders include government agencies, local communities and resources users, non-governmental organisations, donors/sponsors, public and private sectors all of whom in partnership participate in the water resource management through planning, decision making and implementation process (Odaga et al. 2017).

PES continues to evolve over the last two decades since it was pioneered in Costa Rica. The Costa Rica’s formal and country-wide program of payments referred as *Pago por Servicios Ambientales* (PSA) and established in 1997 (Pagiola, 2006), has been credited for helping the country to reverse the ever highest deforestation rates. As a result, many other countries across the globe have gone ahead to develop and implement similar programs and Lake Naivasha basin PES program is a good example. The success of PES program is dependent on good operational and institutional networking and partnerships which results in being a catalyst to the access to funding, proper communication strategies and networks, though the deadlock factor remains to be (in)sufficient funding and its financial arrangements and flow (Pegasys, 2010). To that extent therefore, this research will try to examine the policy arrangement for Kenya’s Lake Naivasha basin PES program through analyses of the policy arrangement and financial flows by identifying various actors within the PES program, different coalitions formed among the actors/stakeholders, their roles, interest and influence; highlighting different underlying discourses and rules applied in the water resource management in the Lake Naivasha basin.

1.4 Problem statement

In the recent past, studies have been carried out to understand and support alternative financial mechanisms and institutional arrangements of PES schemes. Water fund is a good example of a financial mechanism through which both private and public sectors can contribute financial resources that focus on protecting, preserving and conserving hydrologic services through conservation and restoration of natural ecosystem. The funds help downstream water users ('buyers' of environmental services) to contribute to upstream conservation practises by the land users ('sellers' of environmental services) to improve ecosystem services (Mulatu et al., 2015).

In Kenya, the management of water resource is established on the legislative framework under the Water Act (2002) mandating the Water Resource Management Authority (WRMA) to implement policies safeguarding and ensuring sustainable water resource management; as well as collection of water usage charges as a source of funding of WRMA and incentivising water resources users associations (WRUAs) as an approach to encourage efficiency and harmonised cooperation (Pegasys, 2010). Since 2006 several conservation institutions within Lake Naivasha basin have partnered to implement an Equitable Payment for Watershed Services (EPWS) project as a PES program, with World Wide Fund for Nature (WWF-Kenya Country office) in partnership with CARE-Kenya being the main actors at the initial stage. The EPWS project was to help address the challenges facing the lake basin due to the pressure from environmental threats considering the ecological and economical benefits associated with the lake while trying also to enhance community wellbeing upstream.

The PES program at Lake Naivasha basin started with 565 farmers and later at its scale-up phase in 2012, attracted 200 more farmers (Nyongesa and Mungai, 2012; WWF Kenya, 2012). The farmers here being the 'seller' of environmental services (ES) – who are mainly local small-scale farmers in the upper catchment areas of the lake basin represented by Wanjohi and Upper Turasha-Kinja WRUAs; and Lake Naivasha Growers Group (LNGG) as 'buyers' of environmental services (ES) downstream. WRUAs are representative of water users managing the water resources of an area approximately 10-20km stretch of river while LNGG is a commercial farming body (mainly horticultural and floriculture products) with its own rules on water usage and environmental impacts followed by its members (Pegasys, 2010). Conservation organisation such as the World Wide Fund for Nature (WWF), CARE-Kenya, Imarisha Naivasha and the Water Resources Management Authority (WRMA) acting as intermediaries in implementing the PES program (Nyongesa and Muigai, 2012; Ogada et al., 2017). WRMA, falls under the Ministry of Water and Irrigation and is mandated with implementation of water resource management policies as well as ensuring charge for water usage. The charge serves a dual purpose of funding the authority and a portion as an incentive to water users to become more efficient (Pegasys, 2010). Intermediaries are the mediators in negotiation between the ES 'sellers' and 'buyers'; and provide a platform for

discussion between two parties (Mulatu et al., 2015). Also some intermediaries are donors to the PES program while others offer a technical advisory role. The private sector involvement encouraged the formation and operationalization of associations such as Lake Naivasha Water Resources User Association (LANAWRUA) and Lake Naivasha Growers Group (LNGG) who are icon to the commencement of the Payment for Environmental Services program within the Lake Naivasha Basin. LANAWRUA represents the water resources users in the downstream area of the basin while LNGG represents the commercial flower farms where most of them have their farms located next to the riparian land of Lake Naivasha. Other buyers include the water companies, ranchers, and tourism stakeholders under the membership of LANAWRUA.

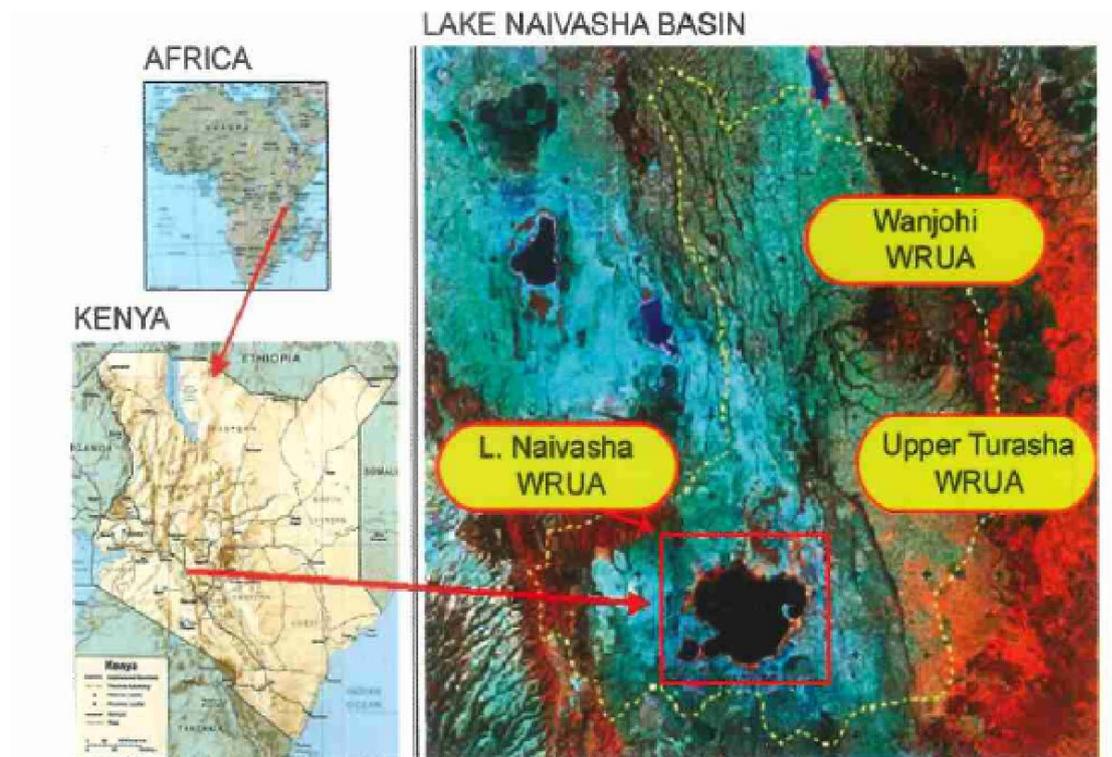


Figure 2: Map of the Lake Naivasha basin - WRUAs location (Source: WWF, 2014)

With many stakeholders operating and representing their different scopes of influence and unique interests within the Lake Naivasha basin, they played a critical role in making, implementing and changing the 'rules of the game' (codes of conduct) under which the concerned institutions engage and operate in EPWS project (Ogada et al., 2017). While conservationists and scientists are commonly studying and managing flows of biological and human resources into, out of, and around protected areas, "the global concerns of protected areas systems is lack of consistent and sustainable funding resources" (Johnson, 2009, p. 713). Wunder (2007) argues that in many places where PES is being implemented, the program remains poorly tested but continues to be recognized as an innovative approach for conservation and rural development through incentives to land users by

buyers of environmental services (Nyongesa and Muigai, 2012). Moreover, potential barriers of direct payment approach in developing nations include inequitable land tenure, limited experience in enforcement of legal contract, and limited local opportunities for non-agricultural investment (Ferraro & Kiss, 2002).

According to Goldman-Benner et al. (2012) the private sector has increasingly become an important actor in PES schemes; however their expectations in terms of financial and non-financial cost-benefit of investing in a water funds have been overlooked as key investors in PES schemes how?. They need to understand and appreciate the costs and benefits of ecosystem services in order to encourage their decision-making towards the willingness to invest. One key aim of this study is to provide better understanding of the policy arrangement for the PES program at the Lake Naivasha basin, and especially the flows of financial resources and their conservation-related spending from different sources of funding (government agencies, non-governmental organisations and other users); that helps in facilitating better management of EPWS whose long-term sustainability is critical. Here, financial flows are patterns and processes through which money flow into, out of, and around a protected area (where in this case is the lake basin) (Johnson, 2009).

To understand these patterns and processes within the PES program, the study will borrow the four-dimensional analysis provided by the policy arrangement approach (PAA). PES is a form of policy arrangement; and PAA offers a critical tool as an analytical framework. Veenman *et al.* (2009) explains the four PAA dimensions as: (a) *actors*, (b) *resources and power*, (c) *discourses* and (d) *rules of the game or code of conduct*. For this study, the finances are viewed as resources, while actor dimension helps to identify the stakeholders such as organisations and individuals, and their respective roles, positions, coalitions and influence; while resources and power dimension, looks into actors' resources and power relations (Liefferink, 2006). As the study provides insights into the actors' collaborative network, the second aim is to elaborate the coalitions among the actors while understanding possibly imbalances in the funding distribution and powers relations between public and private management, and eventually provide effective and equitable watershed services for conservation.

1.5 Research objective and questions

The main objective of this study is to examine the policy arrangement and financial flows for the payment for environmental services program at the Lake Naivasha Basin, Kenya as a financing conservation initiative under which the PES program is delivered since its inception.

To achieve the overall aim of the study, the central research questions were;

- a) What is the policy arrangement for the PES program at the Lake Naivasha basin?

- b) How has the policy arrangement for PES program influenced the financial flows?
- c) How did the policy arrangement for PES program change over time and why?

These questions provide a focus point through which the study initiated from. In Chapter 2, the theoretical framework further outlines the connection through the development of crucial sub-questions that offered critical guidance during fieldwork.

1.6 Thesis outline

This thesis is structured as follows. Chapter 2 explains the theoretical framework used in this thesis. Background information on Payments for Environmental services (PES) will be given, followed by Policy Arrangements Approach (PAA) with a detailed explanation on the four PAA analytical dimensions. Chapter 3 gives detailed account of the methodological approach used. Chapter 4 is the result and analysis chapter. Here the analysis is to provide answers to the three research questions through an extensive analysis using PAA. Chapter 5 is the discussion and conclusion but will start with a summary of the findings. The findings are then compared with PAA and existing PES literature and other conservation programs borrowing from different perspective across the global.

CHAPTER TWO

2. THEORETICAL FRAMEWORK

Conservation involves policy making that guides its operationalization; policy making entails a vibrant and dynamic process through which organisation and substance of policies constantly change (Arts & Tatenhove, 2004). To better understand these processes change and especially with study scenario of PES program, we introduce the concept PAA to examine and analyse financial flows and networks for the PES program. The PAA analytical framework applying the four dimensions will help in analysis and give in-depth insights to the PES financial flows and networks that exist and their possible changes over time.

2.1 Payment for Environmental Services

PES scheme is 'a voluntary, conditional agreements between at least one "seller" and one "buyer" over a well-defined environment service-or a land use presumed to produce that service' (Wunder 2007, p.48). Further Wunder (2005) distinguishes five principles in defining PES; a) a voluntary transaction in which (b) a well defined environmental service is (c) conditionally bought by (d) at least one environmental service buyer from (e) at least one environmental service provider who must secure its provision'. The critical thoughts behind PES emphasizes on direct contractual payments in favour of local landowners or users by the external beneficiaries of environmental services, as a way to secure ecosystem restoration and conservation. New conservation paradigms have emerged calling for more direct conservation approaches where PES has been fronted as a concept that is seen as appropriate. In Costa Rica, where PES was pioneered it establishes a formal and country-wide program of payments (*Pago por Servicios Ambientales*, PSA), acknowledged for its conservation efforts of overseeing the country gain a negative net deforestation in the early 2000s (Pagiola, 2006). However, though PES is majorly applied in the developing nations, it remains a challenge to achieve sustainable outcome due to the weakness within the interaction network affecting the mobilisation of resources. The challenge toward this success is as a result of inadequate analysis of social dimensions and relations among stakeholders in terms of their levels of participation, positions, interests and authorities. Without a better or adequate understanding of stakeholders and their level of collaborative, influence, interests and interactions may or leads to minimal results of expected outcomes (Ogada et al., 2017).

Despite positive impacts attributed by the PES program especially on the conservation and poverty alleviation in the developing countries, some elemental doubts exists with concern on realistic factor of how sensible it is to forcedly link conservation and poverty alleviation agendas when trade-offs outweigh synergies (Wunder, 2007). In Costa Rica's PSA though the PES are not designed to address the poverty reduction program, the comparison between zones that supply environmental services and poor areas provides a bridge for PES to focus on (Pagiola, 2006). The funding, grant and technical support from institutions such

as World Bank (WB) and Global Environmental Facility (GEF) mostly to the developing nation contributes to the continuity and sustainability of the PES programs in several countries (Pagiola and Platais, 2002). Whilst nature ecosystems offer a variety of environmental services, the same valuable environmental services are at risk of being lost due to the mismanagement and lack of incentives to properly preserve them. Pagiola et al (2002) argues that the survival of PES programs requires sufficient and guaranteed financial resources especially for the long term if land users are to have a continuing incentive to maintain the environmental services. The financial incentives associated with PES make it a preferred policy approach especially for financing ecosystem conservation efforts, developing communities and contributing to good relationship and input for conservation and development.

Considering PES as a policy arrangement, the study uses the policy arrangement approach (PAA) as the analytical framework to examine the financial flows and networks in the PES program in Lake Naivasha basin. As mentioned in the problem statement segment, the four-dimensional components within PAA provides an avenue to examine existing financial flows and networks as well as explore potential changes that have taken place since the inception of the PES program. Of the four, resources (in this case referring to finances) and actors dimension take the centre stage as they provide a comparative links to understand how financial resources influences the positioning of different actors and their hierarchies when addressing the coalitions formed and power relations. Further, since PES arrangements are complex, by using PAA, it allows concrete empirical analysis of multi-level and multi-actor processes without losing dimensions of important underlying discourses, rules of interaction and power relations (Anyango-Van Zwieten et al., 2015). In addition, PAA emphasises on how daily practices and long-term processes mutually enforce each other in creating certain temporal policy arrangements (Arts and Leroy, 2006). The temporary stabilization policy processes, allows analyses of possible dynamics and hence PAA will be appropriate to examine financial flows and networks potentially created for this study with reference to the organisation of actors, rules and resources, and substance to discourses.

2.2 Policy Arrangement Approach (PAA)

The backbone to successful natural resources management lies on environmental policies which are essential planning tools. Using PAA the study will build its conceptual framework to better understand the PES within the environmental policy domain, and particularly the changing trends and stability mechanism in the environmental policy (Arts et al., 2006). Arts and Goverde (2006, p. 69) offers PAA definition as an “analytical tool, that describes, understand and explain policy practises”. Arts et al. (2006, p. 93) refers ‘policy arrangements as core establishment of policy domains in terms of *discourses, coalitions, rules of the game* and *resources*’; The interlinking theoretical concepts to enable understand this are; concepts of institutionalisation, policy arrangements and political modernisation. For this study, the concepts of institutionalisation and policy arrangements will offer a better explanation

within the framework discussion. Arts et al. (2006) refers PAA as temporary stabilization of policy processes where potential changes within the dimension(s) can result to change of either dimension(s). The PAA provides a platform to understand dynamism and in this case changes in financial flows and networks. These networks are crucial in understanding the cohesiveness, 'willingness to pay' and 'willingness to accept' as a useful indicators of potential financial flows within the organisational networks. Art and Goverde (2006) provide that the analyses of the four dimensions entail; a) actors involved, b) distribution of resources between the actors, c) the formal and informal rules applied by the actors and d) the policy discourse.

2.2.1 Policy arrangements

Policy arrangement is an analytical framework focusing on the policy dynamics and continuity as a result of strategic and structural factors through which new concept on understanding changes in environmental policy proves helpful in improving either to new or existing policies (see Arts & Goverde, 2006, p. 69; Arts & Tatenhove, 2004, p. 341). The approach helps understand actors' interaction in their daily involvement of policy making processes. For this study, PAA is used to analyse the financial arrangements, flows, and institutional interactions within which actors' are shaped and structured in the PES program at Lake Naivasha Basin. The interconnections between the four PAA analytical dimensions are critical since any change within any dimension influence change on other dimension and vice versa hence applicable to examine the financial arrangements by understanding; *actors* i.e. who are the key actors and what role do they play? Who makes the decision or take part in policy process? What *coalitions* are formed within the actors' networks(s)? Who is included and excluded in the network(s) and why? *Discourse* i.e. what are the different perspectives of PES program by the actors in terms of economic values or nature values? *Resources and Power* i.e. what are the financial resources available and how does it influence networks? What are the power relations between the actors and who controls what? In terms of donor resources verses actors' influences; and finally *Rules of the game* i.e. what are the guidelines for the actors in facilitation of PES program? What are the challenges to the rules? The consideration of PAA under the view of PES is a result of its inspirational aspects on environmental problems as "fundamental and more encompassing issues of the late modern societies" (Art & Leroy, 2006, p. 5). The interconnection of the four dimensions of a policy arrangement (Arts et al., 2006) leads to adaptations in the structure and organisation of the arrangement in the case of any change. Arts et al. (2006) offers a visualized mutually influential relationship of the four dimensions by means of a tetrahedron (Figure 3).

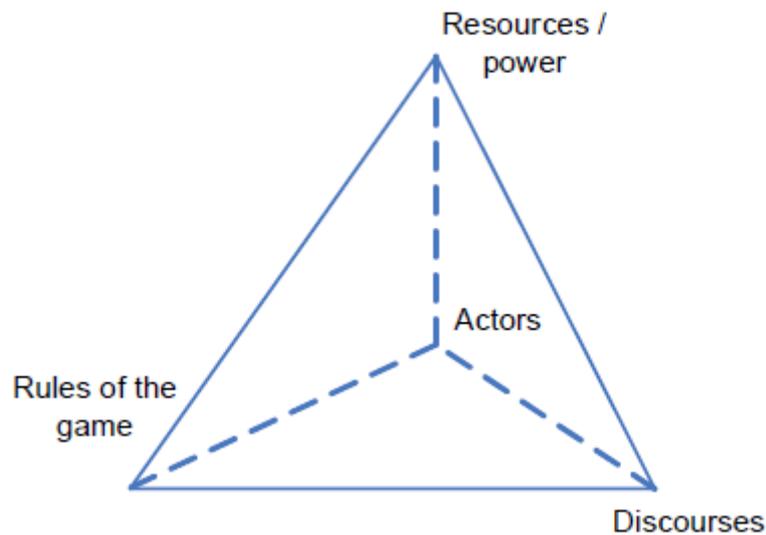


Figure 3: Interconnections of the four dimensions of a policy arrangement (Source: Arts et al. 2006, p. 99)

The figure gives a visualised summary on how any of four dimensions may lead to adaptability within the organisation and structure of the arrangement at large. The uneven links to the actors dimension gives a highlight of how different actors with a network structure or arrangement may have different consideration under the context of other three dimensions in terms of resources/power, discourses and abide rules/conditions. This is the scenario provided by the PES program to be studied on.

2.2.2 Actors and Coalitions

According to Liefferink (2006), the policy arrangement is viewed through the actor-perspective or policy coalitions. A policy coalition consists of multiple players sharing resources with an interpretation(s) of discourse, and bearing in mind the rules of the game (Arts et al., 2004). Here the focus is towards the positions and roles of the actors within a network in specific policy arrangements; where actor(s) can either be individual, institution or organisation. With focus to the potential networks within the PES program, PAA tries to establish the actor's positions and level of influence in the policy process hence the formation of coalitions is critical. These coalitions can results to strong and complex networks depending on actors' interest either in a vertical or horizontal spectrum. Whilst appreciating actors' role, often the involved actors may share interests, thoughts and intentions on the best approach however they may as well oppose. In the case scenarios where there is an agreement or share same interests, coalitions emerges in support or challenge the discourse or power relations with aim of achieving expected goals (Liefferink, 2006). Though coalitions are pacts between the actors, the same coalition(s) can discontinued as result of lack of power, inefficiency or ineffectiveness while the success of the same relies on how well they adapt to the institutional and political changes. In this PES study, by understanding different actors and their coalitions, it will provide an insight on

how complex are the actors' network and understand how decision making and allocation of financial resources within the researched policy arrangement.

2.2.3 Discourses

Arts (2012, p. 10) defines discourse as “a specific ensemble of ideas, concepts, and categorisations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities”. The discourse dimension detects and interprets discourses among actors and how different discourses affect actors' relations. The need to identifying relevant discourse means to understand the existing narratives within a certain practise in the society or from the identified actors in certain policy arrangement. From the PAA perspective, discourses are vital in two key levels. First, refers to “general ideas about the organisation of society, particularly the relationship between state, market and civil society”, and second “concerns ideas about the concrete policy problem at stake, such as character of the problem, its potential causes and possible solutions” (Liefferink, 2006, p. 58).

By properly identifying the underlying discourse(s) is vital since it creates an understanding on the socio-cultural context through which a scheme is operationalised. From the different approaches to organisational aspects of PES scheme, the research will examine discourse by understanding the actors' coalitions, their ideas and views on the PES financial arrangements. The study will focus on both levels where the first level will concentrate on the financial flows within the PES program. While examining the flows, this will help bring out a better understanding of actors' organisation and particularly in exploring the discourses under which the program was formed either towards improvement of community livelihoods and/or improving/restoration of habitats for biodiversity all with aim of sustainable economic development. The second level will be vital to study as it explore the complexity of existing networks and their possible changes overtime and how they may have/have not influenced the way in which challenges are addressed or solved. Through the study, the networks within PES program will be expound whether it is either vertical or horizontal perspectives or both.

2.2.4 Resources and Power Dimensions

The actor dimension highlights how different actors play their role as well as their positions in the involvement of specific policy arrangement. This automatically means that different levels of influence and power relations exist among the actors. The combination of resources and power is because they are intrinsically linked since actors mobilise resources in order to exercise power (Arts & Tatenhove, 2004). Veerman et al. (2009) describes power dimension as the distribution or resources among policy actors. Further, power refers to how actors influence, mobilizes and avail their resources and are catalysts to the outcomes of a policy arrangements, while resources act as regulatory power that creates authority through money and personnel (Liefferink, 2006). Moreover, power is multidimensional, and

constructs itself around multidimensional networks programmed in each domain of human activity in respect to the interests and values of empowered actors (Castells, 2011). Further, in the case scenario of resources and power dimensions, it brings about the control of the connecting points between various strategic networks. The research will look into resource power especially between actors and their potential power.

Resources are essentially linked to the concept of power, where in this case financial resources are the determinant of the power under which the financial flows from one actor to another and vice versa. Financial flows are good example through which instrument of power are manifested and it is through the network that power is a critical and exercised (Castells, 2000). For resource power, focus on the ability of actors to mobilise resources (in this case finances), and can also be viewed within the actors' interaction to achieve certain policy outcomes. While power is highly contested, a summary to its dispensation with the resources can be narrowed to three power concepts i.e. dispositional power of having financial capability, knowledge and human resources; organisational power in terms of proper structure, rules, resources, bargaining; and relational power of being able to influence one or two actors through interaction (Arts and Tatenhove, 2004). To understand the resource power, this will be through identification of the power structures within the PES program and the relationship structures among the participating actors. The research will also look at how power influences the easy or restricted access to financial resources, its transparency in the financial flow and essential information dissemination.

2.2.5 Rules of the game

The rules of the game outline "the code of conduct, or set of formal procedures or as informal rules and 'routines' of interaction" (Leroy & Arts, 2006, p. 13). Further, Leifferink (2006, p. 56) refers the rules to "mutually agreed formal procedures and informal routines of interaction" that influence the organisation of a policy arrangement. The rules actually determine the possibility for actors to access and participate in policy arrangements. Castells (2011, p. 775), highlights on standard or what he terms as "protocols of communication" that determines the rules of inclusion or exclusion to be accepted into the network. The level of openness within the network further determines the negotiation between the interested parties. Like other dimensions, the rules will involve both formal and informal rules of engagement during the project initiations, negotiations, guidelines and agreement process. The official written documents will offer an insight into the formal rules while informal rules will take advantage of the norms and practises from the actors as per the information collected during field work.

2.2.6 Concept of institutionalization

Institutionalization refers to the 'phenomenon whereby patterns arise in people's actions, fluid behaviour gradually solidifies into structures, and those structures' (Arts et al., 2006, p. 96). The concept involve creation of structures, stabilisation of potential changes through

which actors establish flexible or complex rules and patterns of actors interaction that help in problem identification within and out of the process, and eventually offer potential solutions. Van der Zouwen (2006, p. 26) emphasizes that PAA is “the interplay of policy-making process concerning a specific nature area, and structural social and political processes”. In operational aspects, institutionalization refers to the development of the guiding principles either formal or informal of a policy arrangement. In general term, the rules of the game. Therefore, the concept of institutionalization are processes through which actors gradually develop more or less stable rules and patterns of interaction, understanding of the problem, policy approaches, that leads to emergence of specific structures and institutions. In this case scenario, the research will use this concept to examine the rules in the financial arrangement and operationalization in the PES program especially in understanding the re-arrangements and changes in institutions in terms of formal through law or informal rules such as code of conduct, institutional norms and values that guide the enforcement mechanisms. Further, the study examines the possible changes that may have happened over time for the PES arrangement citing possible reasons behind the changes, and potential consequences observed influencing the arrangement.

CHAPTER THREE

3. METHODOLOGY

Reliable and credible data is a key ethical aspect for any research. A detailed overview is offered in this chapter to account how the research was carried out. The main aim of this research was to examine the policy arrangements and financial flows for the payment for environmental services program at the Lake Naivasha basin. To achieve this, the research used several ways to acquire relevant data, such as interviews and focus group meetings. The two months of fieldwork within Lake Naivasha basin, Kenya were vital in enabling an interaction opportunity with the key actors under the PES program and the research was able to filter as much needed information as possible giving an insightful content that addresses the research aim.

Qualitative research methods were applied for both data collection and analysis as it rhymed with the Policy Arrangement Approach selected for this research bearing in mind of its four analytical dimensions i.e. actors, resources and power, discourse and rules to help understand the policy arrangement and financial flows for the PES program at the Lake Naivasha basin. Lake Naivasha basin covers an area of 3400km² composed of four sub-catchments namely: - River Gilgil, River Malewa, River Karati and Lake Naivasha (Ogada et al., 2017). The fieldwork took place in Malewa River basin which is situated in the Great Rift Valley and on the western side of the Aberdares Ranges in Central Kenya. The river basin covers Turasha-Kinja and Wanjohi Rivers – major tributaries of the River Malewa, with up to 80 percent of the water that flows into lake. The Malewa River basin is the project area where PES program is being implemented hence it being the choice.

3.1 Secondary Data

O’Leary (2004) describes the use of secondary data as the process of collecting, reviewing, interrogating and analyzing various forms of texts that better connects with the subjects of investigation. The secondary data was sourced through literature review of relevant documents, research articles, scientific journals, factsheets, reports, brochures and websites. The process involved reviewing of these documents offering a broad insight on the PES as a successful approach adopted across the global, and policy arrangement approach as an applicable theoretical framework selected in consideration of its analytical tool.

3.2 Primary Data

The field research was conducted in Lake Naivasha basin for a period of seven weeks, from December 2017 to January 2018, where a total number of sixteen (16) respondents were selected for semi-structured interviews (see Appendix 1). The semi-structured interviews were conducted with the selected personnel from the key stakeholders with the aim of acquiring and gathering relevant data. Snowball and purposive sampling techniques were

used to reach out to the interviewees. The purposive sampling technique provided an avenue to select relevant interviewees, while snowball sampling technique was resourceful for successful referrals to interviewees from various actors. The identification of interviewees from purposive technique was a result of review of the existing literature. To start the researcher had a Skype meeting with WWF-Kenya personnel who formally advised on the appropriate personnel to interview within the organization. The interviewees were selected from three main groups; a) *ES sellers* - upstream small-scale farmers i.e. Wanjohi and Upper Turasha WRUAs, b) *ES buyers* – downstream water users who were mainly the commercial flower farmers and landowners represented by LNGG and LNRA, and c) *intermediaries* – mainly are the NGOs and governmental agencies personnel such as WWF Kenya, WRMA among others. Semi-structured interviews involved using pre-determined and follow-up questions to obtain in-depth information. Interviews were conducted face-to-face either in English, Kiswahili or Kikuyu (local dialects for the WRUA members) languages. The researcher was well conversant with all three languages, hence no translator was needed. The face-to-face interviews varied in terms of time with every interviewing going between 30 minutes to 1.15 hours during which a list of questions on different themes were covered. The interviews were conducted in the Lake Naivasha basin mainly in Naivasha town where most of the organizations have their offices. For WRUAs the researcher had to travel to their locality in the upstream areas i.e. Wanjohi and Engineer respectively. Only one interview was conducted out of the basin i.e. for Nature Kenya official conducted in their Nairobi office.

Several interviews were recorded using digital recorder as well as taking notes to record the data. For ethical purposes, a request was always made to the interviewee for recording permission where all interviewees requested agreed. Interview notes were taken as well during the interview session with follow-up emails sent out for clarification as well to reach out some of interviewees. To some extent, interviews were requested to clarify for example coalition by drawing possible connection from clarity and better understanding. The researcher made active observation at two different focus group meetings during two routine field meetings organized by WWF and WRMA offices on 24th and 22nd of January 2018 respectively.

3.3 Data Analysis

Critical extracts from the PES and PAA related literature were used to build the theoretical framework. The extracts include different dimensions that helped in creating essential codes under which all collected data were categorized under which the research findings were identified, and eventually facilitating interpretations, to provide conclusions. After the data was collected mainly from the interviews, the entire data was well detailed, integrated and transcribed from the both the handwritten notes as well as recorded interviews. Transcribing involved labelling the interviewees with a special label (i.e. Res1 or Res2) on a consecutive order, for easy identification while discussing the result in Chapter 4. In

addition, for transcribing process the date when interview was conducted, the place and duration of the interview, and the name of the personnel interviewed were noted. However, in the analysis Chapter 4, all the respondents remain as anonymous. Borrowing from the PAA analytical dimensions i.e. actors, coalitions, power and resources, discourses, and rules of the game formed a foundation of the transcribing codes. Other coding includes financial flow aspect.

3.2. Limitation of the Study

During the research, some challenges were experienced. One of the critical information for this research was to understand financial flow by scrutinizing the financial documents. However, it was difficult to access a variety of financial reports that would have given a clear picture on the financial flows. For instance, financial statements that outline the contributions by ES buyer(s) and how the financial contributions were paid out to ES sellers including the administrative costs. This crucial documentation was expected either from WWF-Kenya or LANAWRUA. In addition, this was also the case with WRUAs where there was no proper documentation that was available to show the financial trail.

Other crucial information expected to be accessed were PES agreements between the ES buyers and sellers for review to understand about the PES policy arrangement. The agreements were expected again to be accessed with permission of WWF-Kenya, LANAWRUA, and both upper catchment WRUAs. Again, it was not possible to access the documents. Second, there was inconvenience with last minute cancellation of scheduled interviews some of which were never compensated with a rescheduling of interviews. Also while in the field, I realized that the December and January are not relatively good research month due to overlapping seasons of Christmas and New Year festivities and the school opening in Kenya where some of targeted respondents would extend their back to office dates to almost the end of the month hence limiting the study.

CHAPTER FOUR

4.0 Results and Analysis: PES Policy Arrangements and Financial Flows

This chapter takes into account the Policy Arrangement Approach (PAA) to provide an understanding to the policy arrangements and financial flows for PES program within the Lake Naivasha basin. To comprehensively understand the arrangement and flows as well as dynamic trends within the PES program, I will provide an integrated analysis of the PAA analytical dimensions by building the explanation through the three key phases under which the PES arrangement and flows has developed since inception. The transitional phases are from initiation phase, implementation and scaling-up inclusively taking into account of actors and their coalitions, financial resources and power, underlying discourses, and the guiding rules. The transitions as it will be analysed along the phases will explain changing trends among the actors and their potential influences in the continuity process of the PES, the future and its sustainability.

A key finding from the study and that shapes the analysis was the multiplicity of stakeholders (referred as actors) engaged at the Lake Naivasha basin, their diverse interests and influences. For a genuine PES program is that which has fulfilled all five criteria as per the definition of the PES principle by Wunder (2005) i.e. (a) a voluntary transaction where (b) well-defined environmental service (in this case quality and quantity water) (c) is “bought” by a buyer (d) from a provider (e) if the provider guarantees continuous provision of the service within specified arrangement or conditions (Wunder, 2007 p. 50). While all PAA analytical dimensions are crucial, the analysis takes an early chance to introduce various types of actors identified by the research. Under Wunder (2005) PES principle environmental ‘seller’ and ‘buyers’ are automatically identified. Similarly, the research was able to identify ES seller and ES buyers. Further, intermediaries (also referred as facilitators’ or technical advisors) and external donors were also identified as crucial actors in the PES program at Lake Naivasha basin. By referring intermediaries as facilitators is because they act as mediators between ES sellers and ES buyers while external donors are the international agencies that contribute in kind in support of the PES program to ensure its financial sustainability.

However, even before the commencement of the pilot project-Equitable Payment for Watershed Services (EPWS) in 2006 that later transformed into the PES program, strong actors collaboration and coalitions existed mainly between conservation NGOs and research/academic institutions both local and international based undertaking different conservation efforts within the lake basin (Res9, 20.12.17). This is evident by the fact that by 1995, Lake Naivasha was recognised as a Ramsar Site under the Ramsar Convention, 1971 for its global importance to wildlife; and where such process is involved towards attaining a Ramsar Designation, many actors are involved for their input and especially to ensure “Wise Use” condition in the wetland management plans (Harper et al, 2002). Wise Use, is defined

as *“sustainable utilisation for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem”* (Ramsar, 1971).

The propose to start PES program at Lake Naivasha basin in Kenya was initiated as a joint initiative between WWF and CARE as early as 2005 due to ecosystem degradation in both the upper catchment and downstream zone resulting into decrease of water quality and quantity, habitat destruction due to unsustainable agricultural practise and increased pollution from the untreated water run-off from the commercial flower farms. It was at this very early stage that the PES scheme was structured under a three phased strategy which commenced in 2006 (Nyongesa, 2011). The research analysis takes into account the three phases i.e. initial (as phase 1), implementation (as phase 2) and scale-up (as phase 3) with the help of the four analytical dimensions under PAA to under the policy arrangement (PES program), how the arrangement influenced the financial flow and finally, how the arrangement has change overtime and why?

4.1 Initial Phase

The initial phase of the PES program started in 2006 as pilot project-Equitable Payment for Watershed Services (EPWS) whose central goal is to *“ensure a sustainable flow of watershed services to beneficiaries of these services into the future and to improve the livelihoods for the rural poor, and particularly targeting households upstream in the Malewa river catchment of Lake Naivasha basin and secure green investment downstream”* (WWF, 2005; Nyongesa and Muigai, 2012; Nyongesa *et al.* 2016). In this phase a feasibility study was conducted that included a hydrological assessment; institutional, legal and economic assessments; identification of potential ES buyers, ES sellers and facilitators (intermediary); and signing of agreement between the buyers and sellers. The feasibility study was to provide prove towards the implementation of the Equitable Payment for Watershed Services scheme. At this phase, there was minimal involvement among the potential sellers and buyers since the feasibility study was carried out by main actors identified under the *intermediary* category.

The identification of potential buyers, sellers and potential facilitators as well as donors was part of the feasibility study. From the research World Wide Fund for Nature (now referred as WWF Kenya) and CARE-Kenya were identified as the main facilitators (to be referred as intermediaries after here). The two intermediaries jointly initiated the program in attempt to create link between commercial horticultural water users around the lake with small scale farmers in the upstream of the lake catchment areas (Res1, 13.12.17). The commercial water users were identified as main *ES buyers* while small scale farmers in the upper catchment areas as the *ES sellers* (see figure 4). The selection of Lake Naivasha basin as suitable site for PES program was a result of its economic importance as a contributor to the country’s GDP with its beehive of commercial activities such as cut-flower farming, horticulture, fisheries and tourism. Another reason was that the small-scale land owners

were poor and practised unsustainable agricultural approaches that led to land degradation, resulting to siltation to the lake. On the side of commercial flower farms, their willingness to be part of the project was a mechanism to regain their reputation of practising sustainable farming approaches following continued accusations of water pollution from contaminated water run-off from mega greenhouse (Res1, 13.12.17).

The joint venture between the two intermediaries was a result of their reputation where WWF Kenya as a conservation organisation is well known for its excellent work and policy advocacy in the conservation arena while CARE-Kenya is appreciated for its engagement in community livelihood and development project such as water and sanitation, adaptability to climate change, and agricultural value chains as well as resource mobilisation. Owing to the above reason, the initiative was made possible from the initial phase. The initial phase last for approximately two years i.e. 2006 – 2008 after which the programme entered in implementation phase (phase 2) in 2009 (see 4.2).

4.1.1 ES buyers

From the feasibility study, willing ES buyers were distinctively identified mainly from the commercial horticultural water users particularly in the downstream of the Lake Naivasha basin. These are the main users of the environmental service (i.e. water for this case). From the initial phase, the commercial water users were the horticulture (flower) farms and land owners next to lake riparian zone. Here, the land owners include hoteliers and ranchers who operate private businesses or just residential homes. Both the horticulture farms and land owners belong to membership group or association representing their interests. The commercial flower farms are represented by the Lake Naivasha Growers Group (LNGG) whose membership tally to 21 members who observe the set code of practise with the main code being avoiding any farming activities on the riparian zone (Res3, 23.01.18) while land owners have their representation under Lake Naivasha Riparian Association (LNRA) which is one of the oldest formal stakeholder involvement within the basin with its formation as long as 1929 and has evolved to bring on-board non-riparian stakeholders (Ogada et al, 2017).

ES buyers have grown over through the phases (see 4.2 and 4.3) to include hoteliers represented under Kenya Association of Hotels and Caterers –Naivasha Chapter; KenGen Limited and Geothermal Development Corporation (GDC) (Res2, 13.12.17). The complex network of ES buyers are then represented under the membership of Lake Naivasha Water Resource Users Association (LANAWRUA) which is also a Water Resource Users Associations (WRUAs) representing the actors in the downstream of the lake basin within which their respective groups or association (i.e. LNGG, LNRA etc) are members. The formation of WRUAs is within the Water Act (2002) under which the Kenya's government promotes participatory water resource management within its complex administrative network of different agencies as mentioned below under the intermediaries (also referred as facilitator or technical advisors) (Res1; Res2, 13.12.17; Res3, 23.01.18).Others include the Nakuru

Water and Sanitation Services Company Limited (NAWASSCO) and Naivasha Water, Sewerage and Sanitation Company Limited (NAIVASS) – an agent of Rift Valley Water Services Board. The two water service providers operates under the companies Act CAP 486 of the Laws of Kenya both with mandate of providing clean water and sanitation services within Nakuru and Naivasha Municipality respectively (Res4, 11.01.18).

4.1.2 ES sellers

Equally, *ES sellers* were also distinctively identified as the small-scale farmers in the upper catchment areas and organised by and under different WRUAs within the basin. The small-scale farmers are legal landowners with possession of legal title deeds. Lake Naivasha basin is divided into 12 WRUAs within its total area of 3400km² (see Chapter 1; also see Figure 1). The WRUAs The 12 WRUAs are sub-divided into two distinct groups i.e. downstream WRUAs (i.e. LANAWRUA) and upper catchment (i.e. other 11 WRUAs) that basically represent the local water users within their formal or informal on voluntary arrangements to address different conservation issues, and particularly the shared risks of ensuring quality and quantity watershed services (Res2, 13.12.17). However, under the PES program only 2 WRUAs were selected as ES sellers from the initiation phase i.e. Wanjohi WRUA and Upper Turasha/Kinja WRUA as a result of the feasibility studies showing significant hydrological related problem (Nyongesa, 2011) (see Figure 5). Despite being listed as a WRUA within the downstream zone (i.e. LANAWRUA), due to its central location of operations and jurisdictions (i.e. at the heart of Lake Naivasha within the basin), LANAWRUA has a high-ranking role and is mandated with coordinating other 11 WRUAs as well as its complex membership under its 6 categories i.e. commercial water users, individual water users, irrigators, pastoralists, tourist operator and water service providers (see Figure 4) and eventually now acts as mediators between the ES buyers and sellers.



Figure 4: Categories of members represented under the LANAWRUA (Source: LANAWRUA)

4.1.3 Intermediaries

As mentioned above (see 4.1) WWF-Kenya and CARE-Kenya were identified as the main intermediaries or facilitators acting as mediators between the buyers and sellers. The mediation is also in form of technical advice (as advisors) which are equally important. Their contributions are in terms of their expertise to provide technical advice hence also using the term 'technical advisors' to refer to them. Apart from the WWF and CARE, other intermediaries include government agencies whose working objectives relate to water or natural resources such as capacity building, formulation of legal and policy frameworks and their enforcement; academic institutions both local and international whose main interests are on research; local and international NGOs and agencies with their interests on lobbying and advocacy through their coalitions. They involved in the PES programs results to good working coalitions hence enhanced coordination of projects (including PES program) within the basin (Res7, 19.12.17).

Some of the government agencies that participated and guided by the Water Act include; Water Resource Management Authority (WRMA) with an overall jurisdiction to conserve, manage and regulate use of water resources (Res4, 11.01.2018); Water Sector Trust Fund (WSTF) that falls under WRMA and mandate with fund allocation towards WRUAs projects; Kenya Forest Service (KFS) mandated with rehabilitation of catchment areas under their role of conservation and sustainable management of forests; Kenya Wildlife Service (KWS) a fully paid member of LANAWRUA and act as a legal government custodian of Lake Naivasha Ramsar Site; Imarisha Trust Naivasha a programme launch in June 2013 to provide a coordination and management platform of activities and engagement for all involved actors in the conservation of the lake and its catchment (Res7, 19.12.18; Ogada et al, 2017); and many other agencies such as National Environment Management Authority (NEMA), Ministry of Agriculture and Irrigation, and Ministry of Environment, Water and Natural Resources.

Kenya Wildlife Service Training Institute (KWSTI) which falls under the KWS jurisdiction, Kenya Agricultural Research Institute (KARI), Egerton University and University of Nairobi (UON) are some of the local academic institutions while Leicester University (LU) and ITC, a faculty in University of Twente represent international institutions who are actively working within the basin. These are mainly engaged in research programmes within the lake basin. Finally, Nature Kenya (NK) is a key local conservation NGOs with interest within the basin since Lake Naivasha is listed as number 48 out of Kenya's 67 Important Bird and Biodiversity Areas (IBAs) and they are the custodian of IBAs monitoring in collaboration with local agencies such as KWS, National Museums of Kenya (NMK) and NK Site Support Groups (See Table 1 below for actors roles, interest and type).

Table 1: Key actors within PES program, their roles, interests and type

Name of stakeholders (actors)	Roles and interest	Type
World Wide Fund for Nature (WWF) Kenya	Co-facilitator of PES program, Sustainable management of watershed resources, Capacity building through empowerment and improvement of water resource users Promoting and implementation of PES program both national and international levels.	NGO
CARE Kenya	Co-facilitator of the PES program, Capacity building to water resource users, Monitoring PES activities	NGO
Elsamere Centre for Education in Sustainability	Field studies and research on the ecology of the lake, Conservation education and awareness programme.	Private/NGO
Lake Naivasha Growers Group (LNGG)	Represents private commercial flower farms, Provision of ES payments, Maximise production from water resource usage, Promoting sustainability of watershed resources	Private
Lake Naivasha Riparian Association (LNRA)	Represents private and public landowners mainly bordering riparian zone. Provision of ES payments (not all). Promoting sustainable practises within riparian zone.	Private/NGO
Lake Naivasha Water Resources Users Association (LANAWRUA)	Represents downstream water resources users. Facilitate the negotiation and payments between the ES sellers and buyers. Promote PES program among its members and partners. Monitoring of the water resource users activities.	Community-based organisation (CBO)
Wanjohi WRUA and Upper Turasha/Kinja WRUA	Represents small scale farmers in the upstream. Provision of quality and quantity water resource as ES. Implement WRUA activities e.g. habitat rehabilitations and restorations Promote PES program among its members and potential partners	Community-based organisation (CBO)
Imarisha Naivasha	Provision of coordination through multi-actor engagement for sustainable water resource management. Promote compliance of law on utilization water resources.	Government agency
Kenya Forest Service	Mandated with conservation and sustainable management of forests as crucial water catchment.	Government agency
Water Resource Management Authority (sub-regional, regional level)	Provision of regulation and sustainable management of water resources. Promoting conservation and sustainable use of water resources. Provision of water quantity through effective and efficient allocation. Provision of water fund to WRUA (through Water	Government agency

	Sector Trust Fund). Providing monitoring data on water quality and quantity	
Ministry of Water, Environment and Natural Resources	Provision of resource management funds Mandated to control on utilization of resources	Government agency
Ministry of Agriculture	Provision of capacity building trainings on sustainable farming approaches.	Government agency

4.1.4 Donors

Donors were identified as key actors under the Lake Naivasha PES program, including Marks and Spencer (German based retail supermarket), CARE-Canada, Goldman US, Dutch Directorate-General for International Cooperation (DGIS), Netherlands through Embassy of the Kingdom of the Netherlands in Nairobi, Kenya (EKN) and implemented by WWF (then WWF-KCO, now WWF Kenya). DGIS are responsible for cooperation policy development, their coordination, and implementation and funding. DGIS interest within Lake Naivasha basin and particularly PES is in line with Dutch government and European Union (EU) policy on developing countries which among DGIS themes includes sustainable economic development and environment. Other critical donor is). The length of donor support varies among the donor depending on their interest. For instance WWF for feasibility study in the initial phase (Res1, 13.12.17).

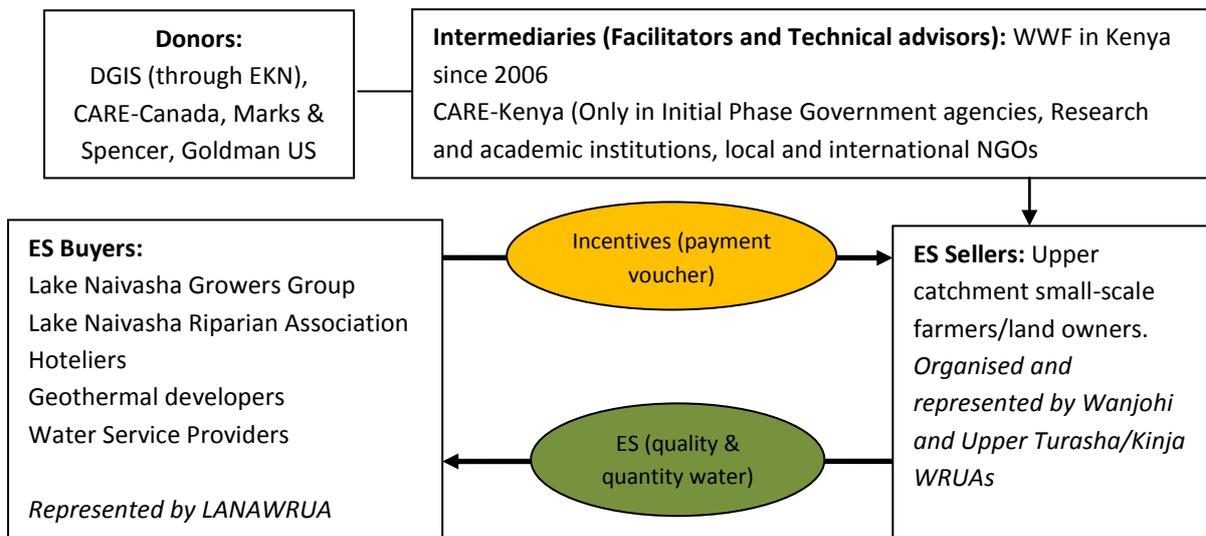


Figure 5: Overview of Lake Naivasha basin PES actors (Source: modified from WWF 2015)

Apart from the overview in Figure 5 above, the analysis identified excluded actors and the reasons to their exclusion. The existing agreement is between the direct ES buyers represented by LANAWRUA as the downstream WRUA and ES sellers i.e. Wanjohi and Upper Turasha/Kinja WRUAs consisting of small scale farmers/land owners, the PES program excludes the small scale farmers whose lands are not affected by soil erosions and/or have no land degradation. However, they are included or allowed to participate in the capacity

building on education and training programmes. For the ES buyers, the commercial floriculture/horticultural farms who do not practise sustainable approach or not compliant e.g. farming activities in the riparian land are not included. WWF and other concerned actor (LANAWRUA) advocate and encourage sustainable practises. A good example is Van Den Berg (K) Limited whose financial contribution to the PES program was never accepted until they had to relocate their greenhouses out of the riparian zone (Res1; Res2, 13.12.17). Such actors are not only excluded from PES program but also for the LNGG membership (mainly commercial flower farms). This instruction is observed and can be attested with current membership at 21 farms under the LNGG membership categories who have adhered to their code of practice. The number of farms is out of over 71 commercial flower farms operating within the downstream of Lake Naivasha basin (Res3, 23.01.18).

4.1.5 Actors' coalitions

As Figure 4 offers a glimpse of PES actors under their different categories, it brings about the need to understand actors' coalitions and their formation while trying to achieve almost similar objective to sustainably conserve and manage watershed areas. From the onset of the PES program, coalition formation started between the intermediaries i.e. WWF Kenya (then WWF-Kenya Country Office) and CARE-Kenya, later with commercial flower farms and two WRUAs i.e. Turasha/Kinja and Wanjohi established under the Water Act, 2002 (see Figure 5). In preparation for a better and transparency flow of the payment through into implementation phase, the study involved mapping and marking which identified 565 farmers which were target as hotspot. In an effort to build the trust and avoid coalition conflicts, WRUA members and administration leaders (chiefs and including village elders) were engaged especially to help in determining the farm ownership and willingness by the farmers/land owners to take part in the PES initiative (Res1, 13.12.17; Nyongesa, 2011). The two WRUAs groups showed high willingness to participate in the PES scheme with a view to it as an avenue to improve their livelihood.

The coalition between the two key intermediaries was to link the commercial water users around the lake with small-scale farmers via the WRUAs in the upper catchment. The interest, influence, and decision making under this initial phase was aligned much with WWF as project intermediary both on technical and financial facilitation and support (Res1, 13.12.17; Nyongesa, 2011). As outlined in Chapter 2, the focus on actor's coalitions tries to understand and appreciate the actor's position, their roles and influence. Addition, policy arrangement is seen as policy coalitions under which multiple stakeholders share resources and how influential they can be to or endure. Figure 6 highlights WWF/CARE coalition that helped commence the initiative at its initial phase. From Table 1, it provides different actors' roles; interest and their positions within the arrangement highlight the centralized role and strong position for WWF in creating controllable coalition.



Figure 6: Illustration of actors' coalition at the initial phase

4.1.6 Financial resources verse power relation

For financial resources and power relations, these are inseparable and critical aspects in policy arrangement as actors' coalitions either take competitive or less competitive position due to concerned parties wanting to embrace power influence within an arrangement. The analysis here looks into availability of financial resources and its influence within the actors' coalition with reference to power relations along the transitional of the PES initiative. Referring to the analysis 4.2 and 4.3 on how the actors have engaged in and (dis)engage from the PES scheme, the analysis takes into account of the voluntary principle (Wunder, 2005) to clearly analysis the control of financial flow within the scheme.

The financial resources demand at the initial phase was at low scale considering the pilot PES had not commenced but rather the feasibility survey was happening. The available financial resources for the survey were contributed by World Wide Fund for Nature (WWF) which was the first international NGO to respond to the alert of the threat facing the Lake Naivasha basin. Lake Naivasha Growers Group (LNKG) the pioneer supporter of the PES scheme also contributed toward the same. The financial resources from both WWF and LNKG were offered to LANAWRUA to undertake a survey on water abstraction across the basin (Res1, 13.12.17; Res3, 23.01.18; also Harper et al, 2013). Apart from the survey, there were training initiated by WWF through meetings and workshops as a way to consolidate institutional capability toward improved water conservation and management. The target institutions were WRUAs and WRMA which eventually strengthened partnerships. While the research could not access the financial figures or statements to be able to quantify the amount of financial resources in the initial phase, the financial resources for the initial basin-wide survey covered the administration and operational cost. However, from the interviews, the costs toward execution and implementation of PES program were approximated at US dollars 450,000 which unfortunately was not successfully since the initial funds from private sectors (ES buyers i.e. LNKG and LNRA) offer 10,000 dollars (see 4.2 implementation phase)(Res1, Res2, 13.12.17; Res3, 23.01.18).

4.1.7 Underlying discourses

In order to understand the PES arrangement and financial flow, the research looked into the underlying discourses under which the arrangement operates to guarantee a proper mechanism for financial flows within the PES program. While PES arrangement is a

voluntary concept (Wunder, 2005), there is a mobilisation efforts to be part of the program depending on actor's interest. From the initial phase, the main underlying discourse for PES program that links the actors focus is call to improve community livelihood through a community-based conservation with support from key intermediaries (i.e. WWF/CARE). ES buyers represented under LNGG and LNRA interests to engage in the PES scheme were to advocate for environmental friendly practises in the upstream by the small scale farmers (ES sellers). In return, this would enhance the supply of quality and quantity water much needed by the flower farms for potential increase in high yield production hence favourable incomes. From the interviews, for ES sellers before the PES program, they were carrying out usual or normal farming activities without the concern of (un)sustainable agricultural practises that bring harm to their farmers or negatively impacts for downstream users. Though ES sellers are keen on better and high yield production, it was not until the conservation agencies engage and enlightened them through capacity building on conservation issues and sustainable agricultural practises. While many of the upstream farmers are underprivileged, their participation into the PES was quickly welcomed with a show of willingness since they saw it as an opportunity to improve their livelihood with potential increase of land productivity which coincided well with the ES buyers and intermediaries perspective to conserve and support the well being of the communities upstream.

Reference to the PAA perspective on discourses on the general organisation of society, its relationship between state, market and civil society verses the concerns ideas about the concrete policy (Liefferink, 2006), WWF and CARE engaged in a less complex network creating good relation to actualize the PES scheme from its initial stage. For the ES sellers who are the small-scale farmers and land owners in the upstream, they appreciated and became more aware of the PES program, its objectives and embraced into more sustainable, effective and efficient farming methods. This was made possible through the periodic capacity building training forums on land use approaches. This way the transition into implementation phase and arrangements were easy and achieved.

4.1.8 Rules

As mentioned in Chapter 2, rules provides a platform that allows willing partners (in this case ES seller and ES buyer) to mutually set of formal agreements as well as informal procedures to ensure harmonise interaction between the engaging parties. The rules of the game are critical to check and ensure balance within a policy arrangement. To sustain actors' engagement and coalition, potential rules of the game may be applied as an approach to strength the strong bond among the parties. Since the PES program as policy arrangement requires legal contractual agreement, the engaging parties have to be properly and legally in operation. For Water Resource Users Associations (WRUAs) they are formed through the Water Act 2002 and operate under Water Resource Management Authority (WRMA). There was less engagement of parties in the initial phase, however both formal

and informal rules were applied where LANAWRUA entered into an agreement to under the feasibility study that include not only hydrological survey but also legal and institutional framework, community livelihoods and cost benefit analyses through which a business case was build to its successful implementation to PES program. While the survey included identification of the ES sellers' upstream and potential ES buyer downstream, there were informal rules for the willing sellers that they must be official owners of the land with proper and clear documentation as a proof i.e. valid and legal title deeds, and the land must be located in the area identified as hotspot, without conservation structures, and on a steep slope. Similarly, the potential buyers had to abide with the code of practise. The code of practise advocate and guarantee that crops are production adhering to sustainable and environment friendly conditions towards ensuring a safer and better environment (i.e. land, air, water, flora and fauna) and including consideration of human labour force (Res3, 23.01.18). With such formal and informal procedures, help to guide the policy arrangement and willing partners on how to engage in open manner with a coalition and embracing the cohesiveness on 'willingness to pay and to accept'.

4.2 Implementation phase

After 2006 and 2007 feasibility study was carried out, came the implementation phase (also referred as second phase) of the EPWS project into an active pilot PES program. The PES scheme was designed to incorporate and benefit as many stakeholders as possible, through into the implementation phase that commenced in late 2008. The PES program at Lake Naivasha basin was a tailor-made combining rewards and compensation approach as incentivized way for upstream ES sellers for their stewardship to ensure quality and quality water supply (as environmental service) to the downstream users (ES buyers) eventually increasing collaborative and sustainable management of the environment especially watershed conservation (Nyongesa, 2011).

4.2.1 Enhanced actors' coalition

From the initial phase nothing much had changed within the coalition and the pilot scheme started at a slow pace with 565 pilot farmers (ES sellers), and LANAWRUA as the primary ES buyers representing the 21 member commercial flower farms (floriculture/horticulture) around the lake. LANAWRUA constitutes of Lake Naivasha Growers Group (LNGG) and Lake Naivasha Riparian Association (LNRA). There were also interested actors, particularly the external donors who were in the process to engage and fully commit to be part of the PES program (Res1, 13.12.18; Res3, 23.01.18). At this phase actors' interests and high levels of concern were witnessed from the stakeholders due to the experienced drought in 2009 that saw the water level dwindling at very low, posing unforeseen or ignored threat pertain the future of Lake Naivasha. As result, in 2010, Kenya government came in action in effort to rescue the Lake Naivasha and its catchment by implementing an eviction plan of illegal settlements in Mau Escarpments which is the western side of the lake. The eviction lead to a

tug-of-war between the involved parties i.e. affected local people and government leading to formation of the Mau Taskforce to ensure sustainability in Mau Escarpment Forest.

The Mau Taskforce eventually led to the formation of Imarisha Naivasha by the government, with support from His Royal Highness (HRH), the Prince of Wales International Sustainability Unit (ISU) that was launched in April 2011 under the then Office of Prime minister. Imarisha Naivasha is mandated with the coordination of all stakeholders and conservation effort at the Lake Naivasha basin. Further, it is a government's platform to address the emerging and previous weakness in watershed management while regulating and moderating balance among multi-actors governance structure within the lake basin as well as mobilising financial resources which has a success (Res7, 19.12.17; KFC, 2012; see also 4.2.2). With observed and witnessed interest by stakeholders (actors) to engage, this meant that the decision making on integrated conservation issues within the lake basin had to embrace participatory and consultative approach (Res7, 19.12.17). WWF remained a key link to strengthen the coalition due to its financial capacity through its donor support.

The fruit of the participatory and consultative approach attracted more stakeholders and it was witnessed during the PES payment event held in June 2012. They included; United Nations Environment Programme (UNEP), World Agroforestry Centre (ICRAF), Water Resources Authority (WRMA), government ministries (Water, Agriculture and Livestock), Provincial administration, public schools, designated ES buyers and ES sellers (as two business partners) and the WWF as the main project intermediary (Res2, 13.12.18). Unfortunately, at the same time when more actors were willing to engage, in 2011 saw CARE pulled out from the partnered with WWF. CARE as key intermediaries played a critical role especially with capacity building training and facilitation. The reason behind their withdrawal from the program was simply due to the change of their scope and area of operation. However, their involvement (i.e. CARE-Kenya) in the program lasted until half way of the implementation phase and had to pull out in 2011 due to change of their scope within the basin.

In 2013, the actors' coalition was again strengthen with the launch of an Integrated Water Resource Action Plan Programme (IWRAP) which was a unique Public Private Partnership People Programme (PPPP) that was developed and implemented by key actors in the Lake Naivasha Basin (see Figure 7). The programme was successful funded by the Netherlands Embassy-Nairobi (EKN) following a submitted proposal by WWF Kenya (responsible of programme management) with the supporting partners being Imarisha Lake Naivasha Board, Water Resource Management Authority (WRMA), Kenya Flower Council (KFC), University of Twente (ITC); and Dutch Regional Water Authorities i.e. Waterschap Noordzijlvest (NZV) and Hoogheemraadschap De Stichtse Rijnlanden (HDSR) while the implementing partners and beneficiaries included the 12 Lake Naivasha Basin WRUAs and 4 Community Forest Associations (CFAs) (Res1, 13.12.17; KFC, 2013.4). The IWRAP

programme was designed as a 4-year project (January 2013-December 2016) lead by WWF with the project key object to enhance effective water governance, land and natural resource utilisation and sustainable development in the Lake Naivasha Basin. For this IWRAP project, KFC which provide a platform for all commercial flower farms was to implement a call to improve sustainable production with good stewardship by developing and adopting of national watershed standards and certification protocols in the Lake Naivasha basin (KFC, 2015.2).

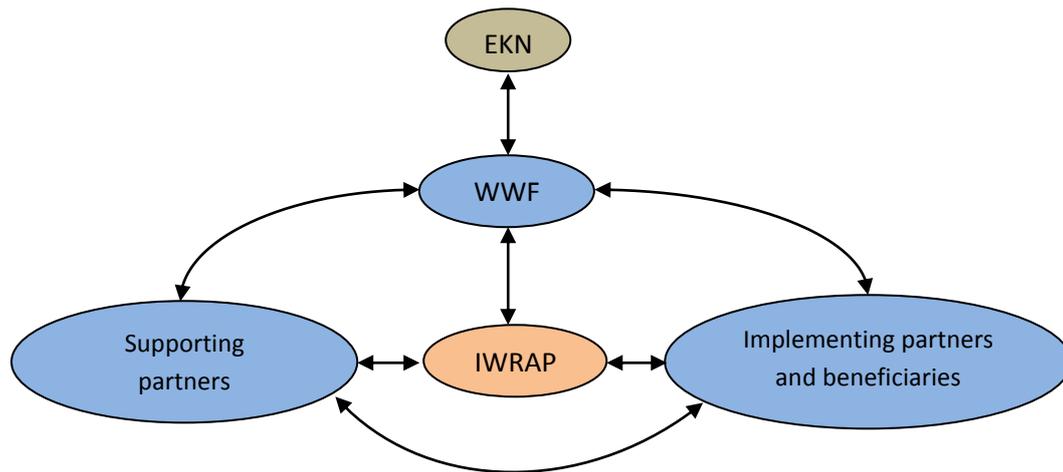


Figure 1: Overview of actors' coalition within IWRAP programme 2013-2016

4.2.2 Financial resources and flow

In this phase the analysis provides complex arrangement for the financial resources and its flow due to varying donor(s) actors at different length of time along the phase. The PES scheme is established under a mechanism based on a business model and so is the PES principle of willing ES buyer and ES seller (Wunder, 2005) that encourages a legal contractual agreement. The legal agreement was reached between 2 WRUAs i.e. Wanjohi and Upper Turasha-Kinja (565 ES sellers); and LANAWRUA representing the commercial flower farms (LNGG and LNRA) as the ES buyers. WWF and CARE played their role as key intermediary for both parties to reach an amicable and contractual provisions with key agreement being an equal annual payment to each willing and participating member of US \$17 (equivalent to Kshs.1,300 as per exchange rate then) (see Figure 8 negotiation process).

LNGG was the main contributor to the PES funding with the payment made to LANAWRUA and thereafter payments channel to the WRUAs members. The payment was made in form of voucher tagged with US \$17 then the arrangement was to have members deposit the voucher to a agricultural retail based outlet within each WRUAs locality in exchange of agricultural inputs amounting to same figure mentioned. This way of payment was regarded as safe and more equitable. Furthermore, the aspect of equitable benefit-sharing attained with trust and transparency guaranteed within the PES scheme. The selected agricultural

retailer would then be paid with a direct bank transfer for the cumulative vouchers (Res2, 13.12.18). An interview with one of the retailer responded by quoting:

The farmers would come with a voucher amounting to Kshs.1,300 and provide them with an equivalent of agricultural input such as fertilizers, assorted seeds (cabbages, carrots and trees). Then WRUA paid the cumulative vouchers direct through a bank transfer into my account. It was a good programme since I received an estimate of Kshs.60,000 of the payment. (Res, Agricultural retailer –Mama Kilimo, 20.01.18).

Table 2: Summary of the PES payments 2010-2014

	2010 (20th May)	2011 (29th June)	2012 (21st June)*	2013	2014 (9th October)
	Kshs.	Kshs.	Kshs.	Kshs.	Kshs.
Wanjohi WRUA	385,440.00	438,815.16	586,131.00	**	**
Upper Turasha/Kinja WRUA	274,560.00	360,909.57	565,565.00	608,345.00	275,000.00
Total in Kshs.	660,000.00	799,724.73	1,151,696.00*	608,345.00	275,000.00

*Including Kshs.132,496 administrative costs for the 2 WRUAs representing 13% of Kshs 1,151,696

** There was payment but the actual amounts were never available

The financial resources from LNGG contribution and commitment helped in facilitating the payment in the first year where 470 farmers were paid by LANAWRUA with US\$10,000 (i.e. Wanjohi WRUA at US \$5,840 and Upper Turasha-Kinja US \$4,160) in May 2010. The second payment also from LANAWRUA as offered by LNGG was paid in June 2011 to 504 farmers receiving Kshs. 799,724.73 (US \$8,936) where Ksh.438,815.00 (US \$4,903) for 276 Wanjohi WRUA farmers and Ksh.360,909.00 (US \$4,033) for 228 Upper Turasha/Kinja WRUA farmers. Similarly, for the third year contract, 784 farmers received the valued vouchers worthy Kshs. 1,151,696.00 which was inclusive of the administrative costs valued at Kshs.132,496.00 (13% of the total amount). Upper Turasha-Kinja received Kshs.565,565.00 (for 385 farmers) while Wanjohi WRUA received Kshs. 586,131.00 (for 399 members with actual amount excluding administrative cost at Ksh.559,215.00) (Res3, 23.01.18; Nyongesa and Muigai, 2012; Nyongesa, 2011) (also see table 2). The fourth payment attracted 618 farmers who received Ksh. 608,345.00 for Upper Turasha-Kinja (KFC, 2012). The equity, transparency, and consistency in the PES scheme guaranteed a secured trust among the participating members (Res5, 19.01.18; Res6, 20.01.18).

Table 3: Summary of WRUAs members for PES payments 2010-2014

	2009	2010	2011	2012	2014
Total WRUAs members (Wanjohi and Upper Turasha-Kinja)	565	470	504	784	618

Though LANAWRUA facilitated the payment, initially the payout was done by LNGG by offering a pay cheque since by the LANAWRUA did not have fundraising capacity then but now LANAWRUA has control of it mandate (see figure 8). The LNGG contribution was a collective budgetary allocation rather than having each commercial flower farms individually with main financial source for LNGG is mainly from its membership subscription under different categories. The various categories are mainly defined based on the number of workers to quantify the amount i.e. a) up to 500 workers, b) up to 900 workers, and c) more than 1,000 workers (Res3, 23.01.18). The ‘workers’ here are the staff working in various commercial flower farms. However, the membership subscriptions were not made available for the research. Additionally, LNGG have no donor support but rather encourages more of partnership with potential and willing partners to address certain issues such as tree planting and clean-up that attracted partnership from Imarisha Naivasha Trust, Salisbury, Tesco, Swiss Co-op as well as German Development Cooperation (GIZ) through Imarisha.

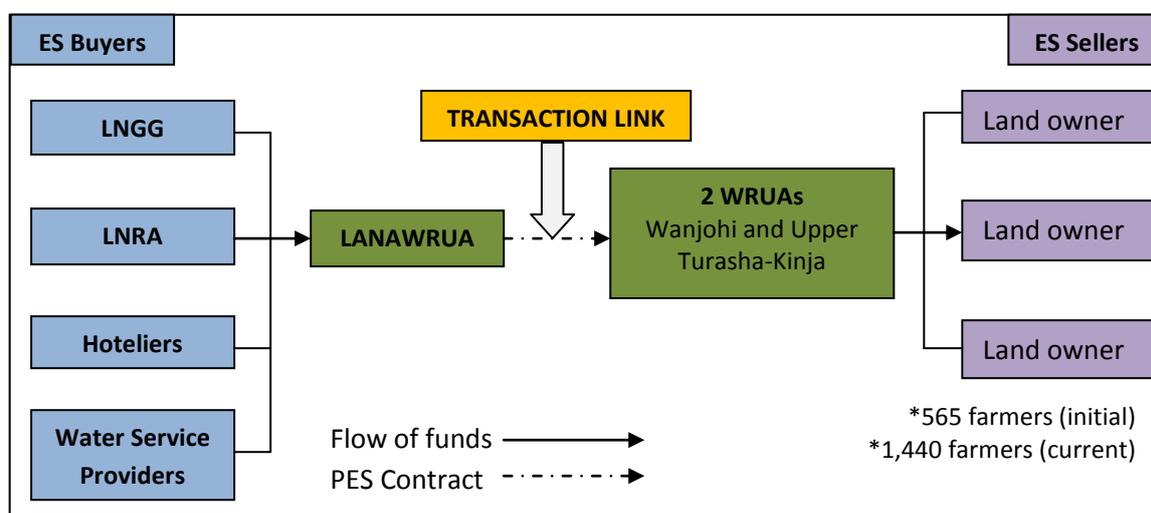


Figure 2: Diagrammatic representation of Lake Naivasha Basin PES scheme (Source: Modified from Nyongesa, 2011)

The analysis identified an indirect financial resource though not for PES program but contribute towards the community livelihood and wellbeing especially on hygienic water consumption in local schools in the upper catchment. The finance is offered through Imarisha Naivasha from the donor funding from GIZ under the Imarisha Naivasha Water Stewardship Project. The indirect term is because the financial resource never went to the

WRUAs members but catered for rain water harvesting system and two storage tanks and facilitation of 2000 tree seedlings (Res7, 19.12.18). In effort to help the sustainability of the PES scheme and fund kitty, LANAWRUA coordinate and negotiates for contribution by the ES buyers with a contribution threshold for hoteliers based on commercial size (star rating) as well as for commercial users, irrigators, and ranchers with reference to the daily water usage and abstraction either from the lake or boreholes (see Table 4). However, there is an underlying challenge to separate PES contribution from Corporate Social Responsibility (CSR) effort by different stakeholders.

Table 4: LANAWRUA contribution categories for hoteliers and flower farms (Source: Res2, 13.12.18)

Type	Categories	Amount per year in Kshs.
Flower Farms	Class c and d	250,000.00
Hotels	Star rated 4 and 5	250,000.00
	Star rated 3, 2 & 1	100,000.00
	Camps	80,000.00

Despite the effort to provide a contribution guide, the hoteliers are neither effective nor consistency for any contribution. Only 3 hotel facilities have commit i.e. Enashipai Resort and Spa, Lake Naivasha Simba lodge (Simba Lodges Ltd) and Lake Naivasha Country Club (SunAfrica hotels) while the rest of hotels are in support the PES initiative but are only keen to be allowed entering into contractual agreements with small-scale farmers (ES sellers) in the upstream on the possibility of buying their agricultural products mainly groceries such as potatoes, cabbages, cowpeas, fruits to cater for their restaurants demand and in this way they contribution to the PES program (Res2, 13..12.18).

Nature Kenya which is local conservation NGO based in Nairobi, Kenya provides another indirect financial resource. However, their perspective on financial resources allocation within Lake Naivasha basin is not a critical agenda as they feel that as far as the key conservation agencies both in public or private sector/NGOs are implementing conservation program that are compatible with the overall conservation and safeguarding of the sites, then re-allocation of resources should be emphasized to the less resourced areas. Nature Kenya financial resources and allocation is only to the Site Support Groups (SSGs) which are impactful with a good example of Friends of Kinangop Plateau under the Upper Turasha-Kinja WRUA. NK has initiated conservation and ecotourism based projects such as tree planting, grassland rehabilitation, Kinangop Eco-resource centre (for conservation education), wool-spinning factory and marketing efforts, capacity building, and technical efforts whose financial resource contribution is estimated at Kshs. 6million annually. The amount is not part of the PES scheme but help in to improve the community livelihood (Res8, 14.12.18)

Additionally, through WRMA (a government agencies under the Ministry of Water and Environment), WRUAs are also offered with financial support. The financial support is not linked to PES scheme but this acts as an incentive and in support of specified projects through the Water Sector Trust Fund (WSTF). This is a government approach to appreciate the crucial role by the local community as the main custodians in watershed conservation. This way the community write proposal with varied and realistic projects within their WRUA's jurisdiction. Upon approval the finances are released to ensure project implementation and completion. As a motivation approach the financial funding is arranged in different level i.e. level 1, level 2, and Level 3. The first offer is give to newly formed WRUAs amounting up to Kshs.1million mainly for capacity building through training while second and third offers designated to WRUAs projects or activities (Res4, 11.01.18). The funds application process is standardised from WSTF to make it easier. The financial resources to WRUAs are not PES pay-out rather a simple token or incentive. However, not all of 12 WRUAs operating with Lake Naivasha basin have been able to apply for funds since there have been high reliance on donor funding, and also currently there is alignment process between the county and national governments on funding process and allocation (see table 5) (Res4, 11.01.18).

Table 5: Summary of WRUAs funding Water Sector Trust Fund (*Source: WRMA, 11.01.2018*)

LAKE NAIVASHA BASIN WRUAS				
S/NO	WRUA	LEVEL 3 (in KES)	LEVEL 2 (in KES)	LEVEL 1 (in KES)
1	LANAWRUA	5,000,000.00	-	-
2	MKUNGI KITIRI	-	1,864,000.00	361,150.00
3	UPPER TURASHA/KINJA	-	-	778,000.00
4	KARATE LONGONOT	-	-	773,000.00
5	LOWER MALEWA	-	-	725,100.00
6	MIDDLE MALEWA	N/A	-	-
7	UPPER MALEWA	N/A	-	-
8	UPPER GILGIL	N/A	-	1,500,000.00
9	LOWER GILGIL	-	-	999,200.00
10	WANJOHI	-	-	749,500.00
11	KIANJOGU	N/A	-	-
12	MARIBA	-	-	670,400.00
Sum total in KES		5,000,000.00	1,864,000.00	6,556,350.00

Other donor through which financial resources are available via WWF Kenya was CIDA (Canada), Mark and Spencer-a Germany chain supermarket where they contribution in 2012 – 2013 since Naivasha was its market source of roses flowers). With complex financial resources involving a multiplicity of actors, proper channels were established to enhance accountability; transparency and trust between the participating parties (see Figure 9).

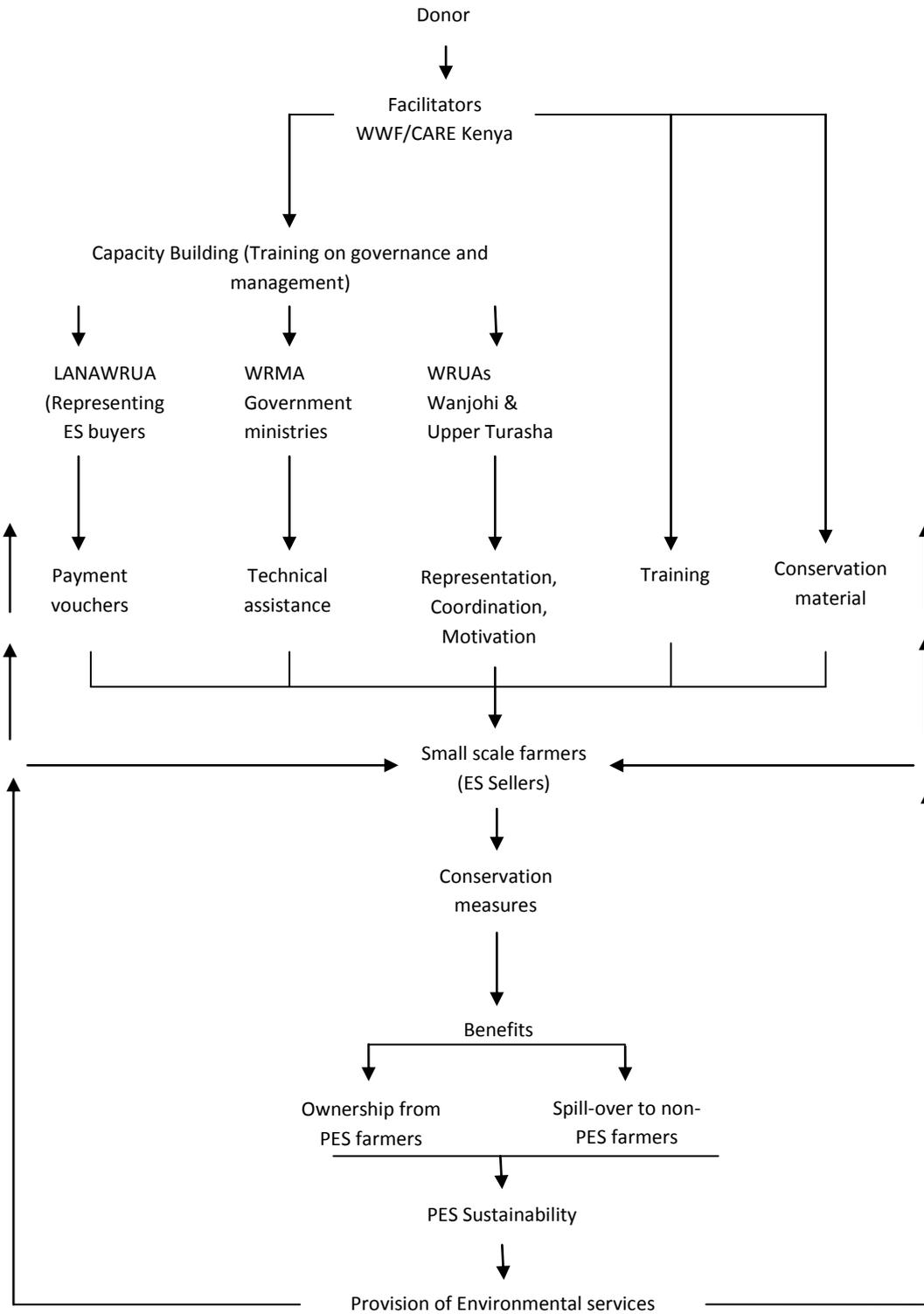


Figure 3: Diagrammatic representation of PES benefits flows (Source: WWF, 2014)

4.2.3 Rule of the game

A complex financial flow in a PES program requires a proper and strict rules or guiding procedures to be adhered to. Through the rules the power relations among the actors are put on check to avoid power imbalances. Though LANAWRUA has a mandate to represent the downstream users as WRUAs under which it has its own constitutions and by-laws, it is also involved in the proper operations of the PES program. This is made possible under the Lake Naivasha Basin Umbrella WRUA (LaNBURWA) (see Figure 10), and LANAWRUA provides a secretariat platform for all other 11 WRUAs (Res2, 13.12.17)

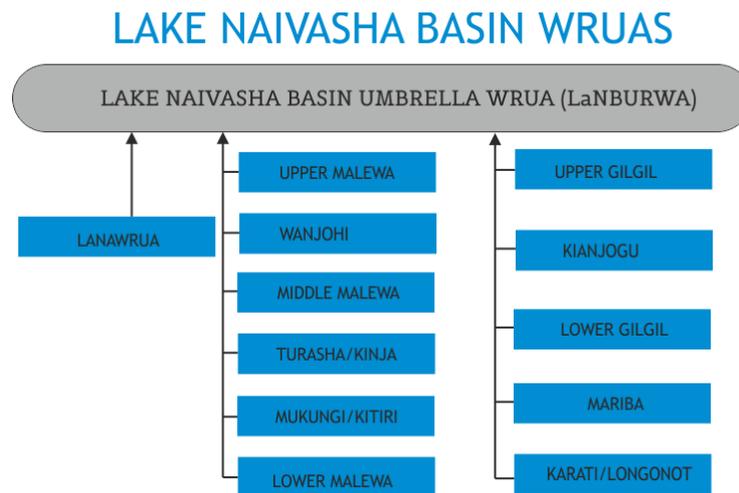


Figure 10: Flowchart of Lake Naivasha Basin Umbrella for WRUAs

The convenient financial flow through the PES payment vouchers is attributed through periodical PES contractual agreements in form of Memorandum of Understanding (MOU) which were drafted with the help of WWF. Additionally, LANAWRUA has now a role as mediator between the ES buyers and ES sellers, and responsible of doing the negotiation with buyers and encourage more buyers to join; carrying out the monitoring and evaluation, as well as verification of right processes are being followed and done, and disseminate that critical information to the buyers to understand the impact of their financial contributions (Res2, 13.12.17). There was confirmation about the extensive negotiation process with the ES seller and I quoted;

There was a discussion between WWF and WRUAs (farmers) on the payment modalities either in cash, health services or education funds. However, there was disagreement among the farmers before reaching an amicable decision. First the farmers felt that if the money was deposited in the health centre, the chance of any family member getting sick was possibly zero, and if a child was admitted in a school away from the PES. For cash payment, land ownership is mostly under the husband (man) names, so they was a doubt on whether the money would reach to the right persons (mainly housewife) who work in in the farm fields and so it would have been unfair. A decision was reached to facilitate the payment through in form of vouchers for agricultural inputs from a local retail agricultural outlet within the WRUAs localities. (Res1, 13.12.18)

The contract were put in writing in Swahili and English as well as interpreted in Kikuyu (local dialect) and signed by both parties (Res1; Res2, 13.12.18).

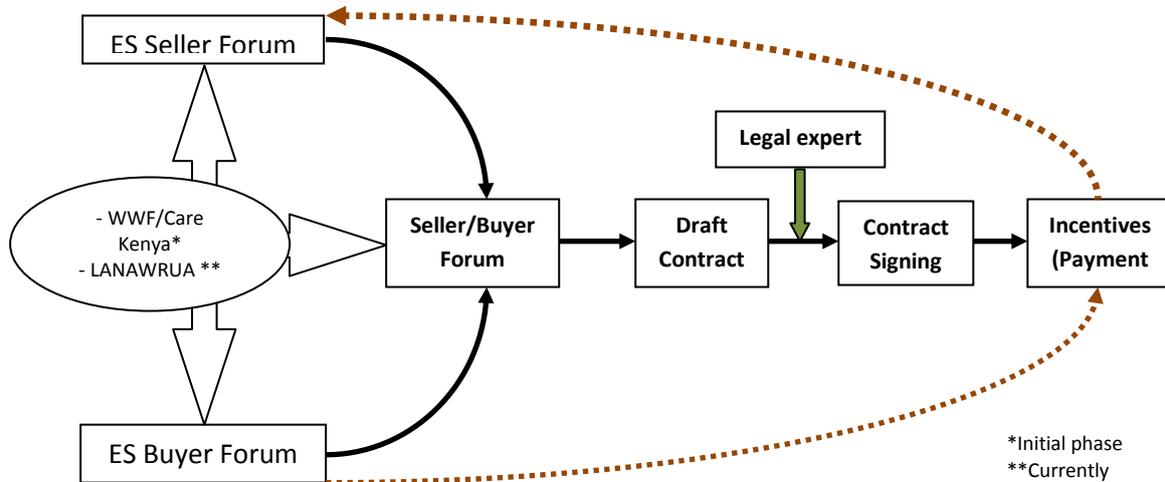


Figure 4: Overview of PES buyers-sellers negotiation process (Source: Modified from Nyongesa, 2011)

While Kenya lacks proper PES policies (see chapter 1), the government through its agencies and ministries has put proper guidelines and enactments that guides and ensures responsible operations and integrity are maintained among the WRUAs. Such enactment includes, Water Act 2002 (revised 2016) under which WRUAs are established, Forest Conservation and Management Act, 2016 provides guidelines and operation mandates of Community Forest Associations (CFAs), Environmental Management and Coordination Act (EMCA), 1999 that give provision of overarching regulations and enforcements for the overall protection and conservation of the environment in Kenya including water pollution.

It is under EMCA, 1999 that the Lake Naivasha Management Plan is founded as dynamic tool under sustainable management issues of the Lake Naivasha environment and the natural resources such as water use, the catchment and rivers among others (EMCA, 1999). In addition the Water Rules provides a provision to suspend WRUAs that don't bid with its obligations as stipulated in the Water Act, 2002 (revised 2016). The collaborative approach among the government agencies such as dealing with environmental issues and in this case sustainable water utilization and PES program continue to contribute to the effective financial flows a critical aspect within PES program by ensuring no conflict of interests among the actors. Despite having favourable guidelines and rules, often the same are faced with challenges as a result of bureaucratic approaches such delays with renewals of water usage licence which may take long hence hindering any legal operation of WRUAs (Enock Kiminta, 13.12.17).

4.2.4 Financial resources verse power

According to Liefferink (2006), power takes a critical position on how actors influence, mobilizes and provide their resources as a great determinant for a successful policy

arrangement, while resources acts as power control agent through finances and personnel. Here, the analysis looks into resource power between actors and their potential power to influence the policy arrangement. The analysis above provides a real situation of multiplicity of stakeholders operating in competitive arena for recognition in term of conservation effort and who influence more sources towards their direction.

A biased overview by one of interviewee (Res2, 13.12.17) concludes that *“the financial contribution does not determine the influence within the arrangement”*. However, these is not the case and while the arrangement maybe seen as not having power struggle, it is evident through the hierarchy of decision making and how the financial resources flow as analysed in 4.2.2. Apart from the external donor who have a strong resources power to the ability to provide the much need financial resources and determine on how it should be utilisation through facilitation, WWF Kenya continue to be on the top of chain of command both in resources control, facilitation and decision making in its operations within the Lake Naivasha basin. WWF Kenya enjoys mainly all the dispositional, organisational and relational powers over the other actors. While government agencies have all it takes to exhibit all the power concepts but lacks proper structures especially with financial mobilisation due to expansive government priorities that hinders that financial capability as well as influential aspect but with great organisational power as a regulatory agencies when it comes to rules under the legal eye.

Similarly, this is the case with LANAWRUA with it little dispositional, organisational and relational powers to exercise hence restrictive to dominate in power hierarchy despite having a mandate to bargain on behalf of the ES sellers. However, LANAWRUA feels that within the PES policy arrangement at the basin, there is no struggle for influence or strategic positions for power as the interviewee mentioned (Res2, 13.12.17). I quote;

The fact that water is key resource and any possible situation of insufficient water affects every stakeholders hence no defined power hierarchical or struggle even from the mere reason of classifying every stakeholders.

Further, despite the priority by the key intermediary (WWF Kenya) mainly in the overseeing the financial resources management and its flows; while the government agencies possess authority power to regulate, coordinate or enforce; LANAWRUA fails to realise that their inability to exercise relational power that would enable them to create influence bind them not to realise any struggle of being strategically positioned within the policy arrangement. The negative effect of such scenario may lead to centralized decision making emerging from the influencing actor(s) and biased due to lack of consultative approach in a multi-sectoral actors' set up. Eventually this may trigger lack of transparency and accountability with financial resources and its flow. In addition, it may further lead to being excluded. This concern was raised during an interview (Res10, 11.12.17), that, I quote;

The presence of financial resources brings about exclusivity of who is to be involved depending on financial contribution; hence Elsamere never influenced the PES policy process. The quantification of PES program should not look only for stakeholders contributing financial but also those stakeholders contributing indirectly or in-kind.

The analysis identifies a balanced power relation between the concerned actors which seems to be as a result of actors complimenting each other in terms of their operations toward achieving their objectives some of which are well interlinked. Kenya Wildlife Service (KWS) as key government agencies take leads in country's conservation effort; while National Museums of Kenya (NMK) who they work closely with to coordinate the biannual waterfowl census and monitoring of other biodiversity in Lake Naivasha as well as other Africa's Great Rift Valley lakes in Kenya i.e. Bogoria, Nakuru, Elementaita, and Magadi (Res4-Nature Kenya, 14.12.18). To support and compliment the analysis finding on balanced power relation an interview with Mworira, Sub-regional Manager, WRMA (Res7, 11.01.2018) explained, I quote;

Power comes from the people who are mandated roles within different offices. There has been no complain, or conflicts between the actors i.e. WRUAs. However, some conflict among the users especially due to the excessive water abstraction especially with Upper Malewa. In addition the operation guidelines outlines the power check where WRUAs are delegated power from WRA through MOU (obligations) while funding is done by WSTF but supervision on proper utilisation of funding is done by WRMA.

Though no competition for positional power among the actors bearing in mind of their limited capability to mobilize for financial resources, the policy arrangement within the PES scheme has tried to ensure secure and transparency PES benefits flow is achieved through financial administration within the phase by both the facilitators (WWF and CARE) who strictly administered and monitored the cash flow going through LANAWRUA from the ES buyers (LNGG and LNRA) to participating WRUAs. While there is no negative influence or disruption with PES arrangement, the scenario shows the positional power and dominance by the intermediaries.

4.2.5 Underlying discourses

During the implementation phase beehive of engagement between actors were witnessed as analysed in 4.2.1. These engagements brought about crucial underlying discourses with the PES policy arrangement as the program go through the transitional phases.

PES payment versus indirect financial resources

The launch of Imarisha Naivasha in 2011 brought a new twist especially with financial resources mobilization towards similar aim for watershed conservation and effort to

improve the community livelihood. Imarisha Naivasha primary role was to create a collaborative and cooperation platform towards harmonizing stakeholders/actors operating within the Lake Naivasha basin on common and shared risks. While PES payments are within a policy arrangement with pre-determined source of financial resources i.e. ES buyers (in this case LNGG and LNRA), Imarisha Naivasha was also mandated to mobilize financial resources to help promote watershed conservation as well as improve livelihood. The indirect financial resources from external donors wanting to promote sustainable development while achieving the conservation goals. Although this never created competitiveness or conflict but saw the emerging donor willing to engage on communal based projects rather than contribute towards PES payments (see 4.2.2).

Nature Kenya another local conservation NGO contributed their effort with the Lake Naivasha basin through the indirect financial resources with a feeling that it was not critical to allocate financial resources towards PES payment but support impactful community livelihood projects rather than individualized pay (Res8, 14.12.17). Here, Nature Kenya views their effort toward a long-term and a sustainable way with a multipliers effect to local communities as their have 'ownership' to conservation projects.

Additional, the indirect financial resources arises under WRMA through its Water Sector Trust Fund where WRUAs are offered incentive payments towards their water-based projects within their locality and as a way of appreciating local communities on their watershed conservation efforts. This brings about the contestation in the sense that WRUAs are under the obligation check of WRMA and allow them to participate in sustainable engagement toward watershed protection, perseverance and its conservation such as PES program. The payment to the WRUAs by WRMA is more of incentive rather than PES payment (Res4, 11.01.18). Under this discourses it brings about understand how actors' organisations and their focus in addressing problems and how to provide potential solutions.

4.3 Scale-up (down) phase

The scale-up phase (also referred as third phase) is the final phase under the three-phased strategy PES policy arrangement for Lake Naivasha basin. By the time the PES was getting into this phase, the arrangement has attracted up to 765 small-scale farmers compared to the initial 565 farmers. The call to have the PES program scaled-up came after a successful third PES payment in June 2012 when the program was seen to have been accepted by both the ES buyers and ES sellers. The PES program had gathered attention to other potential ES buyers especially hoteliers. In this phase, PES project was intended to accomplish entire project outcomes delivering environmental benefits which ES buyers would need. Apart from the PES pay-outs, there were benefits already observed such as upstream small-scale farmers recording an increase in their farm productivity which was a reassurance of the improved soil fertility, immerse water clarity with a monitoring confirming a reduction in the

silt load hence reduced soil erosion and small-scale farmers adaptive to sustainable land management and agricultural practices.

The overall goal of initiating a scale-up in a PES policy arrangement is to encourage the 'ownership' by the local stakeholders' (where in this case the local stakeholders are the upper catchment WRUAs) to appreciate their general role to participate in the watershed conservation without primarily having to get PES payment. Further, it was a chance to have the local capacity to be able to take over and manage the PES program as a successful, stable and as a long term initiative. This obviously meant to have actors' withdrawal such as external donors after a guarantee that both the ES sellers and ES buyers were amicably in similar context as the PES program progress (Res1, 13.12.17). However, the aim to achieve the scaling-up phase was not successful since compared with the implementation phase (second phase) where there were a lot of new actors joining watershed conservation programme or PES program, in the scale-up phase saw the outward movement or withdrawal by the actors (see 4.3.1). Therefore, the PES program faced a scale-down.

4.3.1 Actor (dis)engage

A scale-up call was initiated owing to the successful progress of the PES program with already three successful PES payments being witness (see 4.2). By the time, the scaling-up efforts were initiated; the program had already witnessed a withdrawal of key intermediary (i.e. CARE) whose scope and operations within the Lake Naivasha basin had changed. Though the PES program was stable and had made progressive achievement with its three consecutive payments, LNGG a key actor among the constituted ES buyers felt frustrated due to lack of financial commitment by potential ES buyers. This was mainly with many commercial flower farms operating within the Lake Naivasha basin (Res3, 23.01.18). While engaging in PES is on voluntary basis (Wunder, 2005; 2007), it was a challenging situation for the LNGG secretariat to 'force' commercial flower farms to be part of the future ES buyers by enrolling in the LNGG membership categories since one of the requirement for subscription is to ensure sustainable practise by the flower farms, and particularly avoiding any activities within the riparian zone.

Only 21 commercial flower farms subscribed in the LNGG membership out of over 70 commercial flower farms operating within the Lake Naivasha basin. In effort to address the situation, LNGG engaged LANAWRUA (as a WRUA that represents the downstream users) to persuade various commercial flower farms and other water resource users to participate in the PES program. LNGG felt that LANAWRUA was the appropriate association to approach all water users mainly around the lake with a lobbying conservation message that protection and conservation watershed zone requires a collective responsibilities from all involved stakeholders. The lobbying would eventually recommend them to willing be part of the PES program either by joining LNGG or LANAWRUA who have a wider network of members as described in Figure 4 (Res3, 23.01.18). The initiative was not success and hence LNGG

expressed their position to discontinue their financial support to PES program. Additionally, LNGG felt that it was a chance to 'maybe' have all commercial flower farms to contribute directly to the PES program rather than only a few within the LNGG membership. Further, LNGG perspective on that need for comprehensive approach advocating for communal benefit for the local communities in upper catchment areas rather than individualized approach which are not sustainable in terms of financial sustainability (Res, 23.01.18).

The LNGG withdrawal from their financial commitment for the PES program was a drawback towards achieving the scale-up goal. However, in the following year i.e. 2013 saw the launch of the IWRAP initiative led by WWF (see 4.2) which gave hope to the continuation of the PES program. Under the IWRAP initiative, the PES program was under thematic result areas 3 and 4 (WWF, 2015) that focused on increasing headwater protection and improved farmland management through PES and environmentally sustainable livelihoods. The IWRAP initiative was a unique and ambitious public-private-people partnership (PPPP) arrangement that brought various actors operating and living in the Lake Naivasha basin with a common mission for seeking a long-term sustainable development advocating for proper management of water resources and improving land use practises. The partnership initiative was designed on a time frame of four years with a PES program taken into consideration (WWF, 2015). The IWRAP initiative was also focused on developing a Sustainable Development Fund for the Lake Naivasha basin with a vision to provide a continuous funding stream to support conservation and sustainable water resources use at the basin. Sustainable Development Fund (SDF) was not achieved by the end of the initiative in 2016. At the end of IWRAP, WWF Kenya who were the main implementing partner, withdrawal from the PES program. However, WWF-Kenya continues to engage the three WRUAs i.e. Wanjohi, Upper Turasha/Kinja and Kianjogu (established in 2015 and geographical located between the two other WRUAs) for another four year project aimed to implement reforestation activities in the Lake Naivasha basin. Kianjogu WRUA was started as an expansion strategy to offload the operation burden of the two WRUAs.

This means LANAWRUA is the only actor mandate to recruit members, mobilize financial resources from the willing ES buyers (commercial flower farms, landowners both ranchers and hoteliers) and negotiate on behalf of ES sellers. In effort to provide support and avoid operational gap, a PES Steering Committee composed of LNGG (flower growers), Kenya Hotels Association-Naivasha Chapter, Water Resource Management Authority (WRA), Imarisha Naivasha, and WWF Kenya has been formed to offer technical support as well as assist in the decision making on financial support each WRUA receives every year, conservation materials to be provided, and conducting of monitoring and evaluation, and verification (Res1, Res2, 13.12.17; Res3, 23.01.18).

4.3.2 Resources and power

For financial resources in this phase were mainly from the IWRAP initiative under PES program was incorporated in the result areas on increased headwater protection and improved farmland management (Res1, 13.12.18; WWF, 2015). The resources funding was particularly from DGIS facilitated through the Embassy of the Kingdom of the Netherlands in Nairobi, Kenya (EKN) under the unique model of public-private-people partnership (PPPP). Basically, the development of the initiative was done by Lake Naivasha basin stakeholders (see 4.2.1) and submitted as a proposal to EKN by WWF-Kenya seeking for Kshs. 420 million (Ksh. 420,000,000 equivalent to US \$4,200,000) and was successfully funded. The financial resources benefited and supported local communities under the Community Forest Associations from Geta, Kiburu and North Kinangop that falls under the two key WRUAs (Wanjohi and Upper Turasha/Kinja) with rehabilitation of degraded forest with a cumulative 701 hectares plus 3000 small holder farmers under PES to embrace conservation agriculture (WWF, 2012). They is lack of consistency in securing finances despite the factor that most of the financial resources are largely from donor funded project.

In this phase, WWF Kenya continued to enjoy power as the overall leading partner while other partners under the IWRAP initiative assist in the implementation efforts. Despite the integrated partnership, it was evident that a respective government agencies have strong influence since their mandate and functions ties along in formulation, regulation, coordination and implementation of conservation strategies and policies most of which other stakeholders/actors have to abide to (Ogada et al., 2017).

4.3.3 Underlying Discourses

Public Private People Partnership

The IWRAP launch introduced the Public Private Partnership People programme (PPPP) discourse that focuses on an integrated partnership among the stakeholders. This is a unique discourse that helps to address the very critical levels under PAA to appreciate the organisation of society and its relationship between state, market and civil society and the concerns thoughts about policy problems and their potential solutions (see 2.2.3). The PPPP discourse automatically give a simplified relationship among actors just by its title a reassurance to a potential success of such policy arrangement that lobbies and advocate for a holistic and participatory approach. This not only promote success and trust but enhances transparency and through consultative dialogues among the actors producing amicable and constructive decisions for a policy arrangement. It is best discourse to help understand on community and government perspectives to unleash underlying problems.

For the ES sellers who represent the local community perspective view PES program as a catalyst to improve their livelihood considering most of them live in unprivileged condition. On the other hand, they view conservation push as a commercial approach by the downstream users of the lake basin. For the government perspectives, while the mandate of

different government agencies rhymes on conservation agenda, there is a concern on the view that, the management of the lake and its basin must not compromise the future of the natural resources hence there is need for balance to avoid the risks verse value associated with it, and must be on long term. To achieve the same, PES program need to be understood to avoid ambiguity and misunderstanding; and more in particular ensure consistency in incentive payments a catalyst to encourage sustainable utilization and management of natural resources (Res9, 20.12.17; Res10, 11.12.17; Res4, 11.01.18).

Individualized benefits verses Communal benefits

The PES policy arrangement for Lake Naivasha basin focus on the payment vouchers paid out to specific individual as landowners practising some small-scale farming activities. The call that advocate for sustainable management and conservation of watershed and encouraging sustainable land use practises is to every community member. The benefit discourse focuses on whether to have benefits going to specific person (herein small scale farmers) or embrace benefits targeting the large community within the PES program zone. The LNGG raised a concern with individual benefit during the interview arguing that there is need to transcend from individual to communal incentives e.g. building of schools or health centres (dispensary) which would be more rewarding and impactful in changing community perception eventually attracting more willing members i.e. commercial flower farms as ES buyers who would support and contribute toward PES program (Res3, 23.01.18).

Table 6: Summary of actors' engagement and timeframe in PES over the 3 phases

Phase	Year	Description	Actors
Initial (I)	2006/07	<ul style="list-style-type: none"> - Feasibility study on hydrology in the basin - Mapping and identifying the partners i.e. ES buyers and sellers 	WWF Kenya, CARE Kenya, LANAWRUA, KWS(TI), KFS
Implementation (II)	2008 onward	<ul style="list-style-type: none"> - Commencement of implementation - First payment to 470 farmers in 2010 - Second payment to 504 farmers, 2011 - CARE Kenya exit in 2011 - Launching of Imarisha Naivasha - Third payment to 784 farmers in 2012. More stakeholders were attracted by the PES program - LNGG disengage - Scale-up was initiated 	WWF Kenya, CARE Kenya, LNGG, LNRA, LANAWRUA, WRMA, Wanjohi and Upper Turasha/Kinja WRUAs, UNEP, ICRAF, Government ministries (Water and Irrigation, Agriculture and livestock), Provincial administration, public schools
Scale-up (III)	2013 onward	<ul style="list-style-type: none"> - ES sellers at 765 farmers (from 565) - Monitoring of the project progress - Launch of IWRAP an integrated PPPP programme (over 3,000 farmers) - Exit of WWF from PES program 2016 	WWF Kenya, LNRA, LNGG, LANAWRUA, WRMA Imarisha Naivasha, , KFC, ITC, NZV, HDSR, 12 WRUAs and 4 CFAs

CHAPTER FIVE

5.0 Discussion and Conclusion

Collaborative management and governance for natural resources has become popular as a sustainable approach. This has led to an increase in partnership among various stakeholders who are keen of being part of the natural resources management. Water resources are such critical natural resources that have attracted stakeholders' engagement through collaborative approaches to promote sustainable management and stewardship on long term perspective. A good example of such is in the Lake Naivasha basin in Kenya, where an Equitable Payment for Watershed Services project has been implemented since 2006, initiated as a joint initiative by WWF and CARE that could provide solutions to the conservation threats identified within the basin. The project has since transitioned into a comprehensive form of a PES program that was inspired by borrowing lessons from other regions, especially from Latin America.

Water resources are a common commodity for nature and community, hence the call for its conservation, preservation and protection which requires an active engagement of stakeholders' mindful of the need for efficient, equitable and sustainable cooperation. For such cooperation to take place a well thought policy framework or arrangement is required. This thesis adopted the Policy Arrangement Approach (PAA) to examine the policy arrangement and financial flows of the PES program at the Lake Naivasha basin. With the help of PAA analytical dimensions (i.e. actors, resources, power and rules) this thesis aimed to answer the three central research questions: (1) *what is the policy arrangement for the PES program at the Lake Naivasha basin?* (2) *How has the policy arrangement for the PES program influenced the financial flows?* (3) *How did the policy arrangement for PES program change over time and why?* To answer these questions qualitative research methods were applied in both data collection and analysis.

5.1 Summary of the findings

The success to manage the water resources requires proper guidelines, frameworks, and arrangements as well as defined financial flows. With reference to the research questions and analysis, the main findings showed that for research question one; the Equitable Payment for Watershed Services project at the Lake Naivasha basin as the policy arrangement that transformed from a pilot project into a PES program. The policy arrangement meets the PES fundamental criteria (Wunder 2005) which are; a) is on voluntary basis, b) with well stipulated environmental service (ES) (in this case ES equals quality and quantity of water supply), c) the arrangement has at least one ES buyer (LNGG and LNRA) and ES seller (upper catchment WRUAs), and d) the policy arrangements is based on a proper contractual agreements between actors involved in the PES program. Further, the PES program is designed in a three-phased strategy and is a complex policy arrangement that attracted a multiplicity of actors'. For the multiple of actors, the analysis categorized

the actors into four critical groups which are ES sellers (WRUAs), ES buyers (commercial flower farms, hoteliers and ranchers represented by LNGG and LNRA under the LANAWRUA membership), intermediaries (also referred as facilitators or technical advisors – WWF Kenya and CARE Kenya including government agencies for technical advices) and finally the donors which are crucial actors for the financial resources contribution and flows.

For the second research question on how the policy arrangement for PES program influenced the financial flows, the policy arrangement influenced the financial flows both positively and negatively. Under the negotiated agreement between the ES buyer and ES seller, it guaranteed equitable and effective payments to the ES sellers. The conditionality of payments was clear and evident as there was no liquid cash for payment. On a positive influence, the payments were done in form of payment vouchers making it secure and transparent among the upstreams WRUAs. On a negative perspective, the voluntary nature of the policy arrangement for PES program gives a loophole for involved actor(s) to potentially pull out of the arrangement particularly on a case where financial resources stream dry-out. Due to unsustainable financial resources from the ES buyer side, the finding shows the withdrawal of ES buyer from the arrangement. As a result, it led to overdependence of funds from external donors, making the PES program not sustainable to withstand a long term plan. Financial resources bring about power relation among the actors involved. The findings showed power imbalance among the actors due to their different levels of expertise. The intermediaries, particularly WWF Kenya was found to have more power due to their technical level of expertise in financial resources mobilisation, allocation, implementation, monitoring and evaluating the success rate of the PES program. Government agencies such as WRMA, under their constitutional mandate on regulatory issues did enjoy the organisational power with ability to authorise, regulate the operations and mandate the users' right such as that of WRUAs and other water services providers. The ES sellers enjoyed the least power considering that they are seen as unprivileged in terms of their livelihood.

Under the third and last research question, over time there was changes in the policy arrangement along the three phased strategy of PES program. Some of the changes included, actors' withdrawal and new entrants in and from the program. The changes were mainly due to the lack of sufficient financial resources from the ES buyers. This eventually saw LNGG - a critical actor as an ES buyer withdrawal from the arrangement. Additionally, the government also lacks sustainable financial resources to support the noble cause of PES program. Though the government has some incentives to the WRUAs through the incentivized fund from Water Trust Sector Fund (WSTF) there is no potential financial resource pool to contribute towards attaining such as water fund.

There were three distinct underlying discourses that emerged amongst the actors; a) the first one is '*conservation value versus economic value*' where there is balance on the need

for improved community livelihood and maximized economic returns for the commercial flower farms (as economic value) by ES buyers while ES sellers ensures sustainable and environmental friendly approaches that safeguard conservation and protection of watershed resources and vice versa, and well support by the intermediaries. This is further appreciated through the capacity building forums on the essence of adopting sustainable agricultural practises for maximised yield; b) the second is '*individualized benefits versus communal benefits*' where ES buyer provided a view that, there is need to think of restructuring the policy arrangement to focus more on the communal benefits where entire community benefits rather than individualized benefits to a few while the mandate to conserve is meant to be for everyone. This discourse relates well with '*PES payment versus indirect financial resources*' since have rhyming aspects; c) the third discourse '*Public Private People Partnership*' actors appreciating the inclusivity through collaborative approach to manage watershed resources in mobilizing resources, shared implementation roles and achieving integrated and sustainable results.

For the rules that guide the PES program, the contractual agreement provides a balance in the operationalization of the policy arrangement. Adherence to Wunder (2005) on the PES criteria provides a balanced check on the rules under which the involved actors have to abide on agreeable condition under a voluntary and willingness basis. The government engagement through its agencies (i.e. WRMA and ministries) it provides an assurance of its commitment to ensure the vital governance role and mainly with provision of regulation under the different government legal acts, policies and frameworks that assists almost all actors to abide within their jurisdiction and particularly for this case to the involved WRUAs.

5.2 Discussion

PAA has guided this thesis to examine the policy arrangement in the PES program for Lake Naivasha basin. The entire process of research analysis and detailing of the results has helped answer critical and central research questions. Under this section, I further explain critical findings and in relation to the prior PES discussions or literature.

The policy arrangement for the Lake Naivasha basin PES program is on voluntary basis with proper contractual agreements between actors. This is a crucial finding with reference to the core PES criteria and conceptualization of genuine PES-like scheme that states it must attain a non compulsory and a negotiated framework that proper highlights. In addition, it controls and commands structures that are agreeable by the parties involved (Wunder, 2007). From the result and analysis, the policy arrangement depicts a well-thought arrangement for the PES program that is characterized by a three-phased strategy guiding its proper implementation and actualization. The policy arrangement is not only unique, but complex, as it integrates a multiplicity of actors who operate within the expansive Lake Naivasha basin either by sharing common interest on the need for quality and quantity water supply and its conservation or wanting to influence the policy arrangement to make it

more adaptive or inclusive. By having multiple actors within the arrangement, it helps to acknowledge the collaborative approach for the management of water resources. Further, help in avoiding any potential gap for mismanagement that may lead to the loss of valuable environmental services (Pagiola and Platais, 2002). This can be achieved by decentralization and collaborative management as it means encouraging participation and connection with other not for government users and players (Ogada et al., 2017). Though the actors' engagement is complex, there is harmony among them with strong interlinking coalitions that compliments their common conservation objective and also every actor has its roles and responsibilities well defined under government laws.

The multiplicity of actors in this policy arrangement and along the three-phased strategy is well pronounced and shows remarkable contributions into the PES program (refer Chapter 4). The identified PES willing ES buyers (LNGG, LNRA), ES sellers (upstream Wanjohi and Upper Turasha/Kinja WRUAs), the intermediaries (facilitators) and donors shows that the collaborative management of the watershed resources involved a more inclusive process with multiple actors from different sectors. The study finding shows proper and procedural negotiations between the commercial flower farms (ES buyers) and WRUAs (ES sellers) with the facilitation of intermediaries (WWF and CARE Kenya). The negotiations among the involved actors brought about the concept of trust and enhanced equality by the fact that the contractual agreements offered an equal and consistency annual payment to the upstream farmers of US \$17 (equivalent to approximately Ksh.1,300). This showed the foundation to the successful progress of the PES program since any system of payments requires an integral establishment of trustworthy contracts that are able to monitor and provide check within the system (Pagiola, 2006). Though the agreement negotiation provides a platform to engage between the parties, the WRUAs has limited powers in decision making. A comparative check to the negotiated equal payment of US \$17 per year for Lake Naivasha basin PES program, it shows a strongly negotiated deal that was a favourable and moderate level deal. This is in comparison to other such PES arrangements such as a US \$4 per a quarter (0.4) hectares by the Wildlife Foundation as a conservation lease to protect and secure migration corridors on the private land along the Kitengela-Athi Kapiti plains in Kenya; a US \$1.25 per hectare by Conservation International as conservation concession in an effort to protect 81,000 hectares of Guyana rain forest; while in Costa Rica a high benchmark of US \$35 per hectare of protected forest (Ferraro and Kiss, 2002).

However, this scenario is not exhaustive with only a third of commercial flower farms taking part in the arrangement (i.e. 21 out of 71 flower farms). The commercial flower farms are key ES buyers represented under LNGG and the expectations to have all other participating actors to have the remaining 50 flower farms. For this thesis, it is a good assurance that the PES program is not compulsory and hence prescriptive on the critical definition of the PES principle (Wunder 2005; 2007) as a voluntary transaction that advocates for voluntary willingness to pay. However, with reference to recent study by Mulatu et al. (2017) on firm's

willingness to invest in a water fund, the results indicate that the large-scale farms (who are the commercial flower farms) were ranked 3rd for their willingness to contribute after energy companies, followed by ranches in that order. The findings reveal that some commercial flower farms (who are potential and future ES buyers) feel that it is not their an obligation to support PES program owing to the fact that they contribute through the monthly water levies which is an obligation set by government agencies (e.g. WRMA) under the Water Act 2002 and it would be a double contribution and so the government is entitled to facilitate the watershed conservation efforts within and out of the basin.

The sustainability of the PES program is a crucial factor and in order to achieve that sustainability goal of sufficient financial resources, income streams must have a guarantee to ensure a long-term sustainability plan to facilitate timely payments to land users (Pagiola, 2006). External donor(s) were identified among the crucial actors within the PES policy arrangement for Lake Naivasha basin program for their financial resources contribution; however the findings further revealed over-dependence to the external donor(s) for the much needed financial resources. The consequence of such arrangements is an abrupt disruption to the arrangement in a situation where actors' disagrees. This is made more challenging since in Kenya, there is no proper PES policy framework or a comprehensive water fund through which a rescue strategy can be adopted. This is evident also with government agencies like Imarisha Naivasha getting its support for community-based livelihood projects from GIZ. However, there is little effort through WRMA where WRUAs are supported through an incentive fund that requires an application process. The overall implication is the financial imbalances hence affecting the sustainable financial flow to sustain such PES program to its expected timeframe. Such financial imbalance not only brings instability to the project but causes "an atmosphere of instability within an organisations, as well as in the relationship between organisations and local community targets"; and further concludes with a common phrase that "when the project money runs out, the project ends" (Johnson, 2009 p. 725).

In relation to power, there was a generalized response from several interviewees that there was no power imbalance within the policy arrangement. However, accessing the issue on a critically the findings show the presence of power imbalance among actors. Reference to dispositional power or having resource (Arts, 2004) and in this case financial resources, is witnessed through a mere discontinuation of the ES buyer from the PES program and not having adequate financial resources to sustainably support the program. A power concentration is witnessed among the external donor and the intermediaries' (i.e. WWF) exhibiting positional, relational (ability to influence). There is also an organisational and relational power with government showing its authority and dominance through its agencies in its key roles of providing strategic planning, coordination, regulation and supervision as the main custodian of natural resources and governance (Ogada et al., 2017). Further the findings shows that the government rules acts as regulatory agent for the PES

programs especially with engagement of the actors from the government agencies. Further, Ogada et al. (2017) highlights that some actors in the PES program are in a strategic position with potential opportunities and ways of achieving their interests due to diverse choices; further the likelihood of becoming powerful are higher with consideration of their positions that would directly affect majority of other actors due to the potential abilities to access resources. These actors are LANAWRUA, Imarisha Naivasha, Upper-catchment WRUAs and WWF

Reference to the underlying discourses in the three phases, the findings shows that there is critical concern on whether to benefit communally rather than PES individualized payments. The focus to the broader community benefits is seen embraced by Imarisha Naivasha and Nature Kenya through the indirect financial resources targeting a large community with economic, livelihood and conservation based projects that are not on one-off basis financial allocation but aims at creating an economic flagship foundation where community accrue benefits even after the project ends. In support of communal benefits perspective, Johnson (2009) provides an insight that with projects that pay attention into development of community-based initiatives or commoditization of local products, such projects have less shortcomings.

The discussion above about the findings and their analysis provides a simple answer to the last central research question on how the policy arrangement has changed over time and reasons associated with changes. First, the transitions along the three-phased strategy of the PES program that have seen actors' (dis)engagement in the difference phases; in every transition level that the PES program, it was expected to withstand the opportunities and challenges experienced. The opportunities include the ability of PES program to transit through the three phases. However, through the phases, the program was faced with diminishing financial resources particularly on the side of ES buyers. As explained in Chapter 4, the insufficient financial resources led to the pulling out of the policy arrangement. Though the agreements may have not changed but in terms of actors there was a crucial change that led to new entrants into the program as external donors. Reference to the general progress and achievement within the program, PES program is expected to undergo through the initial, implementation and scale-up phase. PES program aims at being completely self-reliant, with less or no external interventions after the implementation phases. Unfortunately, the scaling-up phase didn't happen and eventually WWF Kenya stepping out of the PES program in 2016. Again, a change of actors as the IWRAP initiative ended. In addition, the different underlying discourses that emerged with time; the power relations situations among the actors in search of influence; and of course the diminishing and unsustainable financial resources and their complex flow. In general, the critical reason for change in policy arrangement was due to withdrawal of key actors as a result of unstable and unsustainable financial resources as this remain a fundamental aspect for the successful PES program.

5.3 Conclusion

As conservation threats continue to challenge environmental sustainability, there is urgency need to develop effective and practical conservation programs and policies that address these rising threats. Lake Naivasha basin PES program can be termed as a successful conservation story that has led to restoration and rehabilitation of a deteriorating and degraded natural habitat. The success has been attributed by the collaborative engagement among the willing stakeholders holding common goals and objectives for the betterment of mother's nature and community livelihood. Proper policy framework outlining the governance approach that advocate for harmonised natural resources conservation and management policies has to continue being embraced.

The insufficient and unsustainable financial resources due to short-term funding are catalyst that create turbulent and instability within organisations. The instability may lead to poor relationship between the collaborating actors. To address such situations, there is need to encourage a strong collaboration among the actors within the PES program, this is particularly with encouraging more ES buyers as a way of creating a wide scope for potential financial resources mobilisation to achieve sustainable funding mechanism. The collaborative engagement would create a dialogue platform to potential discussion on national water fund or environmental funds to guarantee or increase long-term funding mechanisms.

5.4 Recommendation and further research

Lake Naivasha basin PES program is one on the working watershed conservation and protection project in Kenya. The program provides a successful story that can and already replicated in the Mount Kenya zone since it offer critical lesson about the its drawbacks and successes. The success of PES program is pegged on financial sustainability in terms of the sufficient amounts and proper channels of flow. To possible achieve the financial sustainability below are my study recommendations;

1. Engage the government to initiate a water conservation fund

Government is a critical actor in any policy arrangement that touches of natural resources. Through its different agencies, the government is mandated on very wide scope of issues that stretch beyond the regulatory, coordination, implementation and monitoring and evaluation. The idea is to persuade the government to set a water conservation fund from which the local resident users can be able to access and utilise the fund in their local projects and eventually get a chance to participate in the watershed conservations.

2. Sustainable financial resources

Sustainable financial resources is a key element in any PES program hence therefore, there is need for the ES buyers to ensure financial sustainability which comes along with trust building which often may take time gain. The financial imbalance from the donor to either

public or private management may have long-term consequence in a situation where a donor cut-off the financial stream. To ensure sustainability in financial resources, the ES buyers should engage in proper consultation with PES recipients about the program and engage with creative minds on the different ways of sourcing infinite resources in form of cash contribution or in-kind.

3. Encourage the public-private collaboration

Collaborative conservation approaches continue to gain popularity in the conservation strategies. Encouraging a public-private collaboration helps in pulling a pool of expertise together on a platform to lobby and ability to prioritise the channels of getting long-term, sustainable and sufficient funding. By having public-private collaboration, it also promote efficiency, accountability and transparency through proper and updated reportings of financial flows among the participating actors.

4. Further research

Reference to the research limitations where there was limited access to the financial documentations for the PES program, a further research to account and determine various financial flows and transparency for PES related projects.

PES program aimed at improving the community livelihood of the upstream small-scale farmers through provision of the payment voucher, while the impact of the PES program has not been quantified, a further research on the financial valuation could be conducted to examine the importance of the PES incentives in terms of the level of financial outputs for the community versus financial inputs as provided by external funding donors and the downstream buyers.

In the recent past there has been a research carried out examining the firm's willingness to invest or contribute towards the water fund to improve the watershed conservation for the Lake Naivasha basin. Part of the results ranked the large -scale farms third after energy companies and ranchers (Ogada et al., 2017). Reference to over 70 commercial flower farms operating within the basin, only about 20 farms have participated in the PES program. A further research would offer an insight on the underlying issues/conflicts and reasons to why the farms have continued not to participate in the PES program.

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Appendices

Appendix 1: List of interviewee

Date	Organization	Name and position	Type
13.12.17	World Wide Fund for Nature (WWF Kenya)	Res1 – Manager, CBNRM	Personal interview
		Res1 – Naivasha field office	Personal interview
13.12.17	Lake Naivasha Water Resource Users Association (LANAWRUA)	Res2 – Manager, Naivasha	Personal interview
23.01.18	Lake Naivasha Growers Group	Res3 – Manager, Naivasha	Personal interview
11.01.18	Water Resources Management Association (WRMA)	Res4 – Sub regional manager	Personal interview
19.01.18	Water Resource Users Association (WRUA)	Res5 – Upper Turasha/Kinja	Personal interview
20.01.18		Res6 – Wanjohi WRUA	Personal interview
24.01.18		Res12 - Kianjogu WRUA	Personal interview
24.01.18		Kianjogu WRUA	Focus group meeting organized by WWF
22.01.18		Upper Malewa WRUA	Focus group meeting organized by WRMA
19.12.17	Imarisha Naivasha	Res7 - Manager	Personal interview
14.12.17	Nature Kenya	Res8 - Manager, Species and Sites	Personal interview
20.12.17	Kenya Wildlife Service	Res9 – Principal, KWSTI	Personal interview
11.12.17	Elsamere Centre for Education in Sustainability	Res10 – Manager, Education programme	Personal interview
20.01.18	Local retailer	Res11 – Owner, Agrovets shop, Wanjohi	Personal interview
List of persons not interview even after sending interview requests			
	World Wide Fund for Nature (WWF Kenya)	Africa Rift Lakes Programme Manager	No feedback
	Lake Naivasha Riparian Association (LNRA)	Manager	No feedback
	Hoteliers and Rancher owners	Enashipai, Country Club, Naivasha Simba lodge	No feedback
	Kenya Forest Service (KFS)	Forester, Geta Forest Reserve Station	Only involved with forest rehabilitation
	Dr. David Harper	Professor in Limnology & Sustainable Catchment Management at University of Leicester, United Kingdom	No feedback

Appendix 2: Interview guide

General questions

1. When did the PES program start at Lake Naivasha basin and what have changed over time?
2. Why the choice of Lake Naivasha basin? (How did it happen?)
3. How has been your operation within the Lake Naivasha basin since the PES implementation?

On actors

1. Please give a short brief about the Lake Naivasha basin. Why did you choose to join this PES scheme? How was PES program agreement formed and its operation?
2. Are you part of the agreement (a request for a copy of agreement)?
3. What role(s) do you play under the PES agreement?
4. What is your contribution to the PES program? (Technical expertise, financial resources, influence)
5. Who are the other key stakeholders in the PES program? What roles do they play? Why are they important? How do the stakeholders get involved – local communities, private sector, national and county government, local and international organizations?
7. Of these stakeholders, who are your partners? What are the selection criteria? Are there agreements with every partner? (a request for copies of agreements) Who are your sponsors?

On power and resources, discourse, and rules

1. Which actors are most crucial to the continuation of this scheme, and why?
2. With reference to the past, what would you change in this arrangement, and why?
3. There are different sectors (tourism, agriculture and fisheries) which sector do you think should make more contributions towards the scheme, and why?
4. What is the annual cost of the PES scheme for your organization? How much/or approximate financial returns do you get per annum?
5. Do you have other financial avenue e.g. donors, sponsors or partnering investors and what are their contributions?
6. Where does most of your financing go? What proportion of it? (either in percentage or actual figures)
7. What are the guiding rules with the PES scheme and do they differ across different actors?
8. What are the consequences if the rules are not followed to?
9. What are the guidelines for the actors in facilitation of PES program? What are the challenges to the rules?
10. Who makes/take part in the decision in policy process? Who is excluded and why?
11. What are the resources (human or financial) available in the Lake Naivasha basin PES program?

12. What has changed over time in terms of resource availability since PES program commenced?
13. What are the stakeholders (actors) perspectives of PES program in terms of economic values or nature values?
14. In your opinion, what is the future of the Lake Naivasha basin PES program?
15. In your opinion, what do you foresee with the availability of financial resources?

Additional questions to LANAWRUA and WRUAs:

1. What is the history of LANAWRUA/WRUAs? When was it formed? Why?
2. Who are the members of LANAWRUA/WRUAs? Is membership voluntary or recruitment?
3. What is the organisation structure of LANAWRUA/WRUAs, what are the members' roles?
4. How do you receive the payments?
5. How are the payments distributed among members?
6. Do all members receive payments? If not, why not?
7. What do members do with the money they receive?
8. How are negotiations done on how much each member to receive? Are they reviewed from time to time, and how?
9. Are there other sources of financing other than from the PES programmes? If yes, which ones?
10. Has the membership grown/reduced overtime? If yes/no, why?
11. Are there divisions or grouping among members e.g. with similar interests, or influence or resource, or even disagreements?
12. Does LANAWRUA/WRUAs experience any active influence from non members e.g. resources mobilisation?
13. How are decision reached in choosing the WRUA(s) to work or collaborate with as LANAWRUA in the PES program i.e. Wanjohi and Upper Turasha WRUAs.
14. What documents (legal bidding) are drawn to recognize the engagement or collaboration (agreement, memorandum of understandings or contracts).
15. How has LANAWRUA contributed in influencing conservation or development in the Lake Naivasha basin through the creation of policies and laws?
16. In your opinion, how is the political scenario within the LANAWRUA/WRUAs membership and PES program? Any effect on it operations?
17. What are the resources available for LANAWRUA/WRUAs and where do they come from? Are there conditions on how/where to utilize them? How often are the resources received? How are resources distributed in the PES program to WRUAs?
18. What are the challenges or barriers hindering the LANAWRUA resources mobilisation for the PES program?
19. Where can I find your annual report? (get a copy if possible).