

**NATIONAL UNIVERSITY OF RWANDA**

**FACULTY OF ARTS, MEDIA AND SOCIAL SCIENCES**

**M. A. in Development Studies**



**Understanding Community Service as a Tool for Sustainable Development in Rwanda: A Case Study of Nyamagabe District.**

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Dissertation submitted in the partial fulfillment of the academic requirement for Master's Degree in Development Studies.

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**Huye, April 2013**

**Declaration**

I, Emmanuel Murwanashyaka, do declare that this thesis entitled ‘*Understanding Community Service as a tool for sustainable development in Rwanda. A case study of Nyamagabe District*’ is my own work. It has not been presented anywhere for any degree or examination in any other University or college. All sources I have used or quoted have been indicated and acknowledged as complete references.

Emmanuel Murwanashyaka

Signed.....

Date.....

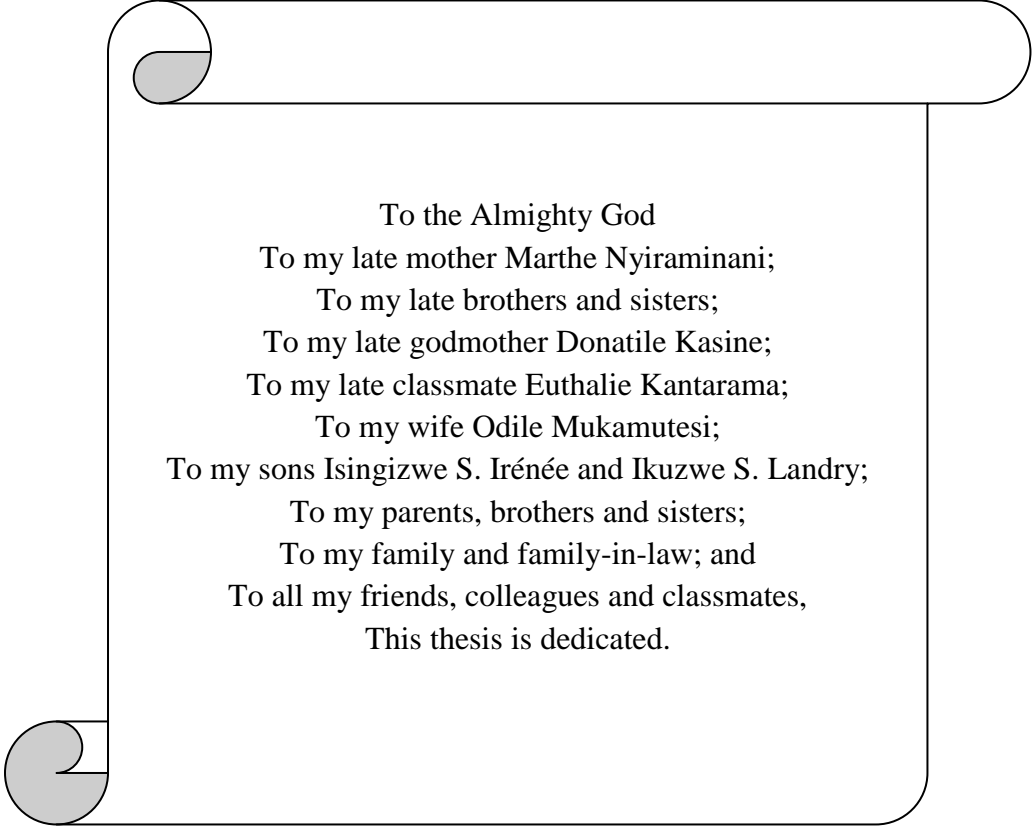
Supervisor: Dr. Théogène Bangwanubusa

Signed.....

Date.....



## Dedication



To the Almighty God  
To my late mother Marthe Nyiraminani;  
To my late brothers and sisters;  
To my late godmother Donatile Kasine;  
To my late classmate Euthalie Kantarama;  
To my wife Odile Mukamutesi;  
To my sons Isingizwe S. Irénée and Ikuzwe S. Landry;  
To my parents, brothers and sisters;  
To my family and family-in-law; and  
To all my friends, colleagues and classmates,  
This thesis is dedicated.

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**Emmanuel Murwanashyaka**

## Abbreviations

<b>12YBE:</b>	Twelve Years Basic Education
<b>CERAI :</b>	Centre d'Enseignement Rural d'Artisanal Intégrés
<b>CS :</b>	Community Service
<b>DC :</b>	District Coordinator
<b>EDPRS:</b>	Economic Development and Poverty Reduction Strategy
<b>EWSA:</b>	Energy and Water Sanitation Authority
<b>GDP:</b>	Gross Domestic Product
<b>GS:</b>	Groupe Scolaire
<b>HIV/AIDS:</b>	Human Immuno Virus/ Acquired Immuno Deficiency Syndrom
<b>ICT:</b>	Information and Communication Technologies
<b>JADF:</b>	Joint Action Development Forum
<b>MDGs:</b>	Millennium Development Goals
<b>MIG:</b>	Multi Investment Group
<b>NCUR:</b>	National Commission for Unity and Reconciliation
<b>NESCSR:</b>	National Executive Secretariat of Community Service in Rwanda
<b>NUR:</b>	National University of Rwanda
<b>PDD:</b>	Plan de Développement du District
<b>PRI :</b>	Penal Reform International
<b>RCS:</b>	Rwanda correctional service
<b>SACCO:</b>	Saving and Credit Cooperatives
<b>SD :</b>	Sustainable Development
<b>SETIG :</b>	Secrétariat Exécutif du Comité National des TIG
<b>SNJG:</b>	Service National des Juridictions Gacaca
<b>TIG :</b>	Travail d'Intérêt Général
<b>TVET:</b>	Technical and Vocational Education Training
<b>UN:</b>	United Nations
<b>UNICOOPAGI:</b>	Union des Coopératives Agricoles Intégrées
<b>USA:</b>	United State of America
<b>USSR:</b>	Union of Soviet Socialist Republics
<b>WCED:</b>	World Commission on Environment and Development
<b>ZNCCZ:</b>	Zimbabwean National Commission of Community Service

# Table of contents

<b>DECLARATION</b>	<b>II</b>
<b>DEDICATION</b>	<b>III</b>
<b>ACKNOWLEDGEMENTS</b>	<b>IV</b>
<b>ABBREVIATIONS</b>	<b>V</b>
<b>TABLE OF CONTENTS</b>	<b>VI</b>
<b>LIST OF TABLES AND APPENDICES</b>	<b>VIII</b>
<b>LIST OF CHARTS, FIGURES AND PICTURES</b>	<b>IX</b>
<b>EXECUTIVE SUMMARY</b>	<b>X</b>
<b>CHAPTER ONE: GENERAL INTRODUCTION</b>	<b>1</b>
1.1. BACKGROUND TO THE STUDY	1
1.2. PROBLEM STATEMENT	10
1.3. RESEARCH HYPOTHESIS AND SIGNIFICANCE OF THE STUDY	12
1.4. SUMMARY OF THE CHAPTER ONE	13
<b>CHAPTER TWO: LITERATURE REVIEW</b>	<b>14</b>
<b>2.1. COMMUNITY SERVICE</b>	<b>14</b>
2.1.1. OBJECTIVE OF COMMUNITY SERVICE	16
2.1.2. GLOBAL PERSPECTIVE OF COMMUNITY SERVICE	17
2.1.3. COMMUNITY SERVICE IN RWANDA	18
2.1.4. COMMUNITY SERVICE AS AN ALTERNATIVE PUNISHMENT	20
2.1.5. COMMUNITY SERVICE AS A RECONSTRUCTIVE MEASURE	22
2.1.6. LINKING COMMUNITY SERVICE TO SUSTAINABLE DEVELOPMENT	22
<b>2.2. INFRASTRUCTURE DEVELOPMENT</b>	<b>27</b>
2.2.1. INFRASTRUCTURE	27
2.2.2. BASIC THEORETICAL MODEL OF INFRASTRUCTURE	30
2.2.3. PROPOSED PRINCIPLES FOR THE INFRASTRUCTURE FRAME	32
2.2.4. INFRASTRUCTURE AND SUSTAINABLE DEVELOPMENT	33
<b>2.3. SUSTAINABLE DEVELOPMENT</b>	<b>35</b>
2.3.1. GOAL, OBJECTIVES AND DIMENSIONS OF SUSTAINABLE DEVELOPMENT	36
2.3.2. PEOPLE AS SOCIAL CAPITAL FOR SUSTAINING DEVELOPMENT	39
2.3.3. SUSTAINABLE DEVELOPMENT IS CO-EVOLUTION OF HUMAN AND NATURAL SYSTEMS	40
<b>2.4. INDICATORS OF SUSTAINABILITY</b>	<b>42</b>
<b>2.5. SUMMARY OF THE CHAPTER TWO</b>	<b>47</b>

<b>CHAPTER THREE: RESEARCH METHODOLOGY</b>	<b>48</b>
<b>3.1. DESCRIPTION OF THE CASE STUDY AREA</b>	<b>48</b>
<b>3.2. INCARCERATION AND COMMUNITY SERVICE IN NYAMAGABE DISTRICT</b>	<b>50</b>
<b>3.3. RESEARCH DESIGN</b>	<b>51</b>
<b>3.4. POPULATION OF THE STUDY</b>	<b>52</b>
<b>3.5. SAMPLING PROCEDURES AND SAMPLE SIZE</b>	<b>53</b>
<b>3.6. METHODS AND TECHNIQUES OF DATA COLLECTION</b>	<b>56</b>
3.6.1. TECHNIQUES OF DATA COLLECTION	56
3.6.2. TECHNIQUES OF DATA ANALYSIS	58
<b>3.7. DELIMITATIONS AND SCOPE OF THE STUDY</b>	<b>59</b>
<b>3.8. SUMMARY OF THE CHAPTER THREE</b>	<b>61</b>
<b>CHAPTER FOUR: RESEARCH FINDINGS AND DATA ANALYSIS</b>	<b>62</b>
<b>4.1. CHARACTERISTICS OF THE RESPONDENTS</b>	<b>62</b>
<b>4.2. COMMUNITY SERVICE AND SUSTAINABLE DEVELOPMENT</b>	<b>69</b>
4.2.1. COMMUNITY SERVICE VS SOCIAL DEVELOPMENT	69
4.2.2. COMMUNITY SERVICE VS ECONOMIC DEVELOPMENT	81
4.2.3. COMMUNITY SERVICE VS ENVIRONMENTAL DEVELOPMENT	88
4.2.4. COMMUNITY SERVICE VS INFRASTRUCTURE DEVELOPMENT	90
<b>4.3. SUMMARY OF THE CHAPTER</b>	<b>95</b>
<b>CHAPTER FIVE: MAJOR FINDINGS AND THEORETICAL IMPLICATIONS</b>	<b>96</b>
<b>5.1. HIGHLIGHTS OF MAJOR FINDINGS OF THE STUDY</b>	<b>96</b>
<b>5.2. THEORETICAL IMPLICATIONS</b>	<b>99</b>
<b>CHAPTER SIX: GENERAL CONCLUSIONS AND RECOMMENDATIONS</b>	<b>113</b>
<b>BIBLIOGRAPHY</b>	<b>118</b>
<b>APPENDICES</b>	<b>123</b>

## List of tables and appendices

### Tables

Table 1.1 Official data of the persons sentenced to CS recognized by RCS in July 2012 .....	5
Table 2.1 The capacity and quality of infrastructure development .....	29
Table 2.2 Sustainable development indicators .....	44
Table 2.3 Indicators for sustainable development of human society .....	46
Table 3.1 The study population per Sector and per category and its sample size .....	53
Table 4.1 Employment before 1994 and post-community service employment .....	65
Table 4.2 Alternative punishment to incarceration and standards of living .....	70
Table 4.3 Professional skills gained from alternative penalty to custody .....	72
Table 4.4 Insurance of food security from community service .....	75
Table 4.5 Meals per day before community service .....	76
Table 4.6 Meals per day after the introduction of community service .....	77
Table 4.7 Level of food satisfaction .....	79
Table 4.8 Institutions and development programmes contributing to food satisfaction .....	80
Table 4. 9 Infrastructures for commodity and communication facilities .....	82
Table 4.10 Activities from which community service get production .....	84
Table 4.11 Professional skills in preserving environment .....	89
Table 4.12 Durability of infrastructure facilities .....	91
Table 4.13 The quality of infrastructure facilities pertaining to TIG .....	92
Table 4.14 Contribution of infrastructure to sustainable development .....	94

### Appendices

Appendix 1: Request permission for data collection .....	123
Appendix 2: Recommendation for research .....	124
Appendix 3: Data collection permission approval by RCS .....	125
Appendix 4: Research questionnaire design for data collection .....	126
Appendix 5: Questionnaire for data collection .....	128
Appendix 6: Indicators of sustainable development for the infrastructure system of a global region	129
Appendix 7: Certificate of Community Service completion .....	130



## List of Charts, Figures and Pictures

### Charts

Chart 4.1 The categories of respondents .....	63
Chart 4.2 Educational level of respondents .....	64
Chart 4.3 Period of performing community service .....	66
Chart 4.4 District of origin of respondents .....	67
Chart 4.5 Kinds of work in community service .....	68
Chart 4.6 Post-punishment profession .....	69
Chart 4.7 Meal taking and community service .....	78
Chart 4.8 Contribution of Community service on Government budget 2008-2011.....	86
Chart 4.9 Community service and District budget 2008-2012.....	87

### Figures

Figure 1.1: Conceptual framework of the study .....	11
Figure 3.1: Map of Rwanda .....	48
Figure 3.2: Map of Nyamagabe .....	60

### Pictures

Picture no1: G.S. St Nicolas Cyanika 12YBE classrooms .....	71
Picture no 2: HIV/AIDS Test .....	71
Picture no 3: Masonry .....	73
Picture no 4: Weaving .....	73
Picture no 5: Hydraform use .....	73
Picture no 6: offenders constructing the roads .....	83
Picture no 7: offenders constructing the roads .....	83
Picture no 8: Offender in masonry .....	85
Picture no 9: Offender in establishing terraces .....	85
Picture no 10: Offender fighting against erosion .....	90
Picture no 11: Offenders protecting rivers and marshlands .....	90

## **Executive Summary**

*‘Understanding Community service as a tool for sustainable development in Rwanda: A Case Study of Nyamagabe District’* is a study that was carried out in Nyamagabe district. In particular administrative sectors, namely Cyanika and Gasaka, community service was regarded as a way of punishment for people who committed the crime against humanity. Rather, it involves tigtistes’ self-discipline and respect. As a result, it has the potentials for the offender to make a constructive contribution to the community. As reconstructive measure, it exclusively targeted the offenders who committed genocide crimes in Rwanda.

With reference to the conceptual framework established for this study, the existing literature accords to view sustainable development as a complex concept that advocates for environment protection, natural resources management, social life and development, and community development. Emphasis being made on the infrastructure development, an urgent need was felt to reconcile both the theoretical and professional point of views to understand the effect of community service on sustainable development. Along these lines, the primary interest of this study was to establish an inventory of community service achievements. On the basis of these achievements, the study discussed the relevance of community service for the sustainable development of Nyamagabe district.

In so doing, the study intended to investigate the questions formulated as follows: In which ways does infrastructure development ensure the subsistence of both present and future generations in Nyamagabe? How does infrastructure development contribute to social services in Nyamagabe district? In which ways does the infrastructure development promote economic welfare in Nyamagabe district? How does the infrastructure development ensure environmental sustainability in Nyamagabe district? These questions involved an empirical inquiry to come up with tentative responses. The sample size was of 99 respondents was selected from genocide survivors, offenders in Cyanika labor camp, ex-offenders and other people. These respondents were reached through different research methods and data collection techniques like questionnaire survey, face-to-face interview, observation and documentation.

The findings established the alternative punishment to imprisonment promotes social and economic welfare, environment sustainability through infrastructure development. As a matter of fact, the offenders gained professional skills in different fields such as carpentry; masonry, excavation work, joinery, hydraform machine use and weaving. They have built various public offices, established terraces, schools and markets, added value to human and natural resources, protected infrastructures and environment, self-developed themselves as well as their families, kept unity and reconciliation in their cooperatives. As a result, the empirical inquiry supported that the infrastructure development contributes to the subsistence of present and future generations. High quality infrastructure facilities pertaining to community service such as houses for vulnerable groups, schools, and terraces are among the indications widely highlighted.

Finally, the study establishes that the infrastructure facilities support commodity exchange and communication facilities within the district and between the neighboring districts. There are few problems, if at all, in transporting manufactured goods, agriculture production, timber and charcoal in these districts. Thus, community service activities have yielded fruits that promote the economic welfare of the population of Nyamagabe district and beyond.

## **Chapter One: General Introduction**

This chapter introduces the reader to the study. It further provides the background of the study, the statement of the problem, research questions, research objectives, research hypothesis, and the significance of the study.

### **1.1. Background to the study**

In 1994, more than one million of Rwandan people were killed in the genocide against Tutsi. Rwanda was devastated and many people were suspected to be the perpetrators, and hence, were imprisoned in the aftermath of genocide. To illustrate, “about 130,000 people accused of having organized and participated in genocide were imprisoned in difficult conditions” (Nsabimana, 2005:25). There has been downward trend in statistics of genocide suspects imprisoned in the last few years. Hence, the difference between the prisoners of crimes of common law and the genocide is not very high.

For instance, Turatimana (2005:2) argued that statistic in relation to the amount of prisoners in 2003 shows that 74,481 were imprisoned because of sins of common law while 86,107 were connected to genocide. The Republic of Rwanda (2000:10) emphasized the same argument. It suggests that the Rwandan imprisoning system was not able to receive and accommodate a great number of people in poor conditions, at least to link up to the previous sources. Besides, maintaining the imprisoning system increases the state budget (Republic of Rwanda, 2002:11). Put differently, big numbers of prisoners overload the government budgeting and respective families on both material and psychological grounds. Also, the National Commission for Unity and Reconciliation (NCUR) perceives the latter as often causing conflicts involving social issues among people (Republic of Rwanda, 2002:14). There are nationwide perceptions useful here for illustrations.

The families from which genocide suspects and perpetrators come perceive detention as a dreadful phenomenon which isolates their relatives from the society. They mostly view the imprisonment as discrimination based on ethnicity, social isolation, misunderstanding, and social insecurity. These conflicts and other challenges are strong obstacle to the process of offenders’

reintegration in society, at least to refer to Borzycki and Makkai (2007:10). As they put it, many offenders are challenged by skills deficits that make it difficult for them to successfully compete in the hosting community. Among other deficits, poor inter-personal skills, low levels of formal education, illiteracy or innumeracy and, poor cognitive or emotional functioning are widely cited.

Consequently, the period of incarceration may itself have had several warranty effects that alienate and coerce the prisoners. In a particular way, Borzycki and Makkai (2007:10) state the following: “many offenders may have lost their livelihood, their personal belongings, their ability to maintain housing for themselves and their family; they may have lost important personal relationships and incarceration may have damaged their social networks.” The 1994 genocide has not only targeted human beings; it also damaged the infrastructures. In his book ‘The Genocide’, Prunier (1999:432) stated that 150,000 houses belonging to Tutsi group were damaged in April-June 1994. And the public infrastructures were also destroyed such as schools, hospitals, churches etc.

Apart from social and economic problems mostly pertaining to infrastructure damaging, the Rwandan imprisoning system is worldwide distressing. Faced with the genocide consequences, the Rwandan legislative has introduced and organized community service<sup>1</sup> as an alternative to imprisonment. To refer to the Republic of Rwanda (2006:60), Community Service aims at setting unity, reconciliation of Rwandans and contributing to the development of Rwandan nation. In this context, this alternative is set to ease the reintegration of genocide prisoners in their respective communities, on the one hand, and the development of Rwandan economy, on the other hand, as a result of participating in infrastructure building.

The Penal Reform International (PRI) clearly spelt it as follows: “Community Service is a method carrying out the prison sentence prescribed by the law, and which the penal jurisdiction can resort to when they deem that a person is guilt of an offence. The offender can make up for his or her wrongdoing by doing unpaid work for the benefit of community without having to be

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<sup>1</sup> Community Service (CS), a sentence issued by the *Gacaca* courts for genocide perpetrators of the Second Category who have confessed, which replaces half of the prison sentence. (PRI, 2007:1)

imprisoned” (PRI, 2007: 5). Nevertheless, community service is not a Rwandan innovation. In the world, a lot of countries make use of this punishment in case of simple offences such as wounds, crops destruction, abuses and distortion so as to eradicate primary delinquency. To illustrate, Rugira (2003:67) releases as follows: “In the world TIG<sup>2</sup> exists, it applies only to minor offences where imprisonment is too high a penalty for the crime. It was introduced as an alternative penalty to imprisonment into the penal codes of several western and Asian countries.” Contrary to the context of minor offences, TIG applies to the major offence in Rwanda – that is, genocide.

At the very beginning, community service was “first introduced in England in 1972 as the first European country followed by Scotland, Portugal, France, Germany and Belgium and Asian Countries such as India and China. Experience showed that in Paris, Community service helped in reintegration of people between 25 and 68 years old,” (PRI, 2007: 5- 6). Later on, several African countries took ownership of community service, as a response to arising problems.

To the same source, as an illustration, Community Service found application to several sub-Saharan African countries like Kenya, Burkinafaso, Zambia, Uganda and Malawi as an alternative punishment to imprisonment. Women, children, underage, mentally ill people and sick prisoners are vulnerable categories that have most been subjected to such an alternative. In Senegal 95% of people in community service were judged and conformed to their contract. In Zimbabwe, 60% of all prisoners spent three months in prison. Equally, community service was reserved to non-paid fine in Uganda.

In Uganda, for instance, 16,000 offenders who might have been sent to prison participated in community service in the period ranging from 1994 to 1997 at the level of 80-90%. In some countries, moreover, community service aims to diminish the huge number of the offenders in prison, because keeping a big number in prison requires a huge budget. In fact, its objective is also to discipline an offender to recognize his\her crime, to repair damages he/she caused during

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<sup>2</sup> TIG is a French acronym that means "Travail d'Intérêt Général". In this study, it is used to translate "Community service" (PRI, 2007:1). Ntagungira (2010) takes TIG as a Rwandan program that allows people found guilty of participating in the 1994 Genocide against the Tutsi to serve part of their sentences doing works of common interest. Hence, TIG is viewed to be an alternative penalty to imprisonment.”

the crime by rehabilitating or building infrastructures for the general interest of the community. In the aftermath of genocide, big numbers in prisons, the truth to be revealed, financial problems, slow preliminary investigations, the challenges to unity and reconciliation, and economic reconstruction forced Rwanda to go for this approach to justice – that is, community service.

This punishment was at the core of Gacaca<sup>3</sup> courts originally aimed at “managing the consequences of genocide made the Rwandan government establish Gacaca jurisdiction under the organic law no 40/2000 of 26<sup>th</sup> January 2001... [The latter] explained its creation and organization and proceeding of the 1994 genocide criminals against humanity in Rwanda between the 1<sup>st</sup> October 1990 and the 31<sup>st</sup> December 1994.” (PRI, 2007:7) In this regard, it is argued that “Gacaca jurisdictions, like the community service, correspond to the legislature’s choice because it was impossible to judge the genocide participants in the ordinary judicial system” (PRI, 2007:8). The same source reports that the implementation of TIG in Rwanda since 2005 is a response to the legal crisis in the aftermath of the genocide and that it represents a unique form of this alternative penalty (PRI, 2007:6).

As earlier mentioned, TIG is a Rwandan program that involves people widely known as Tigiste<sup>4</sup> - that is, “a person who committed genocide crime and who confessed in Gacaca court and gets forgiveness of doing TIG as penalty outside prison. In 1998, around 130,000 prisoners who were suspected to have participated in genocide, Gacaca had to deal with their cases. Reference made to the statistical data of Service National des Juridictions Gacaca (SNJG), prisoners linked to genocide and condemned to community service were estimated to 94,466. However, only 84,896 were recorded in the database of the Rwanda Correctional Service (RCS). Table 1.1 gives more details on these statistics.

From Table 1.1, data can be converted into percentage to ease understanding and interpretation. As it reads, 89.87% of the total number people (94,466) condemned to community service have

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<sup>3</sup> Gacaca is the Rwandan traditional and reconciliatory justice adopted by the Government of Rwanda to handle some categories of genocide cases. It is based on the traditional practice of community conflict resolution carried out openly with the participation of the whole community (Republic of Rwanda, 2007:35).

<sup>4</sup> Tigiste is a popular term used in Rwanda to designate a genocide perpetrator involved in community service. It translates a genocide perpetrator of the second category who has confessed and, as a result, is sentenced by Gacaca courts to participate in community service (PRI, 2007: 1).

been identified. It means that they have been recognized by RCS. 60, 05% have reported and started their sentence; that is 50,983. Out of the people who agreed to serve their sentence, 75.75% of the latter (38,620) have already finished community service. This means that 45.5% of all people who are recognized by RCS to be condemned to community service have gone through it. In contrast, 2.8% that is 1,427 have deserted TIG camps. The number of offenders who were carrying on their sentence in July 2012 was estimated to 20.8% (10,596). Obviously, the same Table shows big amounts of prisoners who are neither identified nor condemned.

**Table 1.1. Official data of the persons sentenced to CS recognized by RCS in July 2012**

Province	People sentenced to TIG	Offenders who have started	Offenders at work	Deserted offenders at work	Offenders who finished their penalty	Offenders who have returned to prison <sup>5</sup>	Offender who died in labor camp	Offenders who have not yet started their sentence
Southern	31511	22021	3775	399	17756	19	91	11182
Kigali city	2534	2061	309	140	1600	16	12	605
Northern	3941	3016	753	102	2124	1	37	1222
Eastern	22852	9686	2143	433	7025	6	85	14005
Western	24058	14199	3616	353	10115	2	115	7500
TOTAL	84896	50983	10596	1427	38620	44	340	34514

*Source:* RCS (July 2012)

However, the table keeps silent not only about those non-identified and condemned but also about the reason why there are some who have not yet started their punishment and others deserted the work. The PRI (2007:25) attends to this worry as follows: “we find that even the TIG in camp form is not appropriate for long community service sentences that last several years.” While the Table 1.1 shows irregularities in attendance, community service is documented to bear a number of benefits.

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<sup>5</sup> These data comes from SETIG (2009:6) in the 2009 Annual Report of the National Executive Secretariat of Community Service in Rwanda (NESCSR).



For instance, “The persons sentenced to CS receive professional training, which on their end help them to be reintegrated professionally in society” (PRI, 2007:1). In labor camp, the offenders gain vocational training in masonry, carpentry, excavation work, joinery, hydraform machine use, crushing etc. Evenings and afternoons of weekends are dedicated to teaching sessions that prepare the Offenders for reintegration on their respective village. In going through labor camps, they acquire skills that they could live on through job seeking. In an economic recession, and with difficult access to land, this can be a real asset for the tigestes who are for the most part farmers.

As the PRI (2007:22) establishes, offenders explain the benefits they see in this vocational training as follows: “We’ve gained some knowledge; and we now hope that we’ll have the possibility of finding work on construction sites after we’ve carried out our sentence. There are more than thirty-seven people who went home after they carried out their sentence. We learned that some of them found work on construction sites. The trainers also promised us jobs.” That is a development of latent potentials which contributes to infrastructure development. Thus, Ntagungira (2010) argues, “the genocide perpetrators under this category carry out developmental projects and contribute to the reconstruction of the country.” It is true that the benefits of community service are a crosscutting phenomenon.

It does not only repair economic damages through infrastructure building but also protects environment. The protection of environment is at the core of different areas of community service – that is anti-erosion activities, conservation of rivers and lakes, forest maintenance, and the construction or maintenance of public interest (PRI, 2007:21). Examples of activities widely cited are the reforestation and caring for existing forests, digging dumps against erosion, radical terraces establishment, planting of anti-erosive grasses which are used as fodder for animals, lakes and rivers protection and, building and rehabilitation of bridges that connect sectors (The Republic of Rwanda, 2004:14).

In carrying out such activities, community service contributes to the Economic Development Poverty Reduction Strategy (EDPRS) as well as the Vision 2020 which are set as operational

tools for the Millennium Development Goals (MDGs).<sup>6</sup> In various regards, community service has consistently responded to both the first and seventh goals – that is, to eradicate extreme poverty and hunger, on the one hand, and to ensure environmental sustainability, on the other. It is a contribution that links to the alarming context of Rwanda where a big number of the population live on less than \$1 a day and suffer from hunger, as a result.

With this perspective, community service action plan is based on Vision 2020 and the national programme of poverty reduction, much as the objectives, strategies and activities supporting community service are complementary with other states programmes. Emphasis is here put on the national policy of unity and reconciliation, with great impact on the national sustainable development. Hence, integrating the principles of sustainable development into country policies, programs and best practices prepared the ground for community service to play a key role in achieving economic development plans at both international and national level.

At national level, this study puts strong emphasis on the Vision 2020<sup>7</sup> through which the Republic of Rwanda (2003:3) clearly highlights the key development priorities as supported by specific pillars. Those are ways in which both national and international development plans overlap. To refer to the Republic of Rwanda (2000:7) there is a cutting point between the MDGs and the Vision 2020. All the times, the latter argues, these pillars translate objectives that are “affected by a number of cross-cutting issues including, gender equality and sustainable environmental and natural resource management. Rwanda’s ongoing development will have, at its core, the Nation’s principal asset- its people.” In a particular manner, this study has strong interest in the fifth pillar that closely relates to the infrastructure development. Widely known as

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<sup>6</sup> The Millennium Development Goals include inter alia: (i) Eradicate extreme poverty and hunger; (ii) Achieve universal primary education; (iii) Promote gender equality and empower women; (iv) Reduce child mortality; (v) Improve maternal health;(vi) Combat HIV/AIDS, malaria, and other diseases; (vii) Ensure environmental sustainability; and (viii) Develop a global partnership for development.

<sup>7</sup> With reference to The Republic of Rwanda (2000:6-7), these pillars include: (i) Reconstruction of the nation and its social capital anchored on good governance, underpinned by a capable state; (ii) Transformation of agriculture into a productive, high value, market oriented sector, with forward linkages to other sectors; (iii) Development of an efficient private sector spearheaded by competitiveness and entrepreneurship; (iv) Comprehensive human resources development, encompassing education, health, and ICT skills aimed at public sector, private sector and civil society. To be integrated with demographic, health and gender issues; (v) Infrastructure development, entailing improved transport links, energy and water supplies and ICT networks; and (vi) Promotion of regional economic integration and cooperation.

entailing improved transport links, energy and water supplies, and ICT networks, however, the infrastructure development is still faced with major challenges that urgently need addressing.

Firstly, the agricultural sector that totalizes more than 90% of the labour force remains unproductive and largely based on subsistence. The distribution of arable land now stands at one hectare for every 9 Rwandans and is diminishing due to high birth rates. The obvious consequence is that a substantial number of rural families that subsist on agriculture own less than one hectare, which is too small to earn a living (The Republic of Rwanda, 2000:9). This move results in intense exploitation of the land, with no simultaneous application of corrective measures, most notably through fertilizer use. In many cases, it followed a drastic decline in land productivity and massive environmental degradation, contributing to rampant malnutrition amongst the Rwandan population (The Republic of Rwanda, 2000:10). Furthermore, the level of technology is low, infrastructure in rural areas is inadequate and human and physical capital is in short supply. Thus, the agricultural productivity is low which generates poor returns on private investment (The Republic of Rwanda, 2007:7-8).

Secondly, Rwanda is land-locked, with long distances from ocean ports. This is a factor that raises transportation costs for both exports and imports. Rwanda lacks a link to regional railway networks, which means that most trade is conducted by road. Poor road quality creates high transportation costs leading to inflated prices of domestically manufactured products – that is, raw materials used for manufacturing need being imported. These natural barriers to trade hinder industrial and other forms of development, (The Republic of Rwanda, 2000:10). This is a specific challenge identified with Rwanda within the regional setting. The same applies to the internal road network, at least to refer to the *Ubudehe*<sup>8</sup> survey. With it, the roads network was identified as a top infrastructure priority. For example, the proportion of roads in good condition has only risen from 4.7 to 6.4 and from 1.7 to 5% respectively, implying that large sections of the population face immense transportation obstacles to bring produce to markets, and more generally integrate into the national economy. Moreover, energy remains very expensive in Rwanda, accounting for 14% of all non-food expenditure, though the proportion is higher for

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<sup>8</sup> Community-based participation approach.

poorer households. The high cost of energy results in almost 80% of the value of fuel being obtained from biomass sources, such as firewood, (The Republic of Rwanda, 2007:8).

Thirdly, the severe shortage of skilled personnel constitutes an obstacle to the development of all sectors. Lack of adequately trained people in agriculture and animal husbandry hampers modernization of this sector, whilst a shortage of technicians and competent managers severely constrain the expansion of the secondary and tertiary sectors. (The Republic of Rwanda, 2000:10). Fourthly, the 1994 genocide devastated the Rwandan economy as well as its population. The GDP was halved in a single year; eighty percent of the population was plunged into poverty and vast tracts of land and livestock were destroyed. The genocide also exacerbated a number of development constraints, which existed before 1994. The already poorly developed productive infrastructure was completely destroyed and the nation was robbed of a generation of trained teachers, doctors, public servants and private entrepreneurs (The Republic of Rwanda, 2000:11).

At local level, community service is participating in fixing, at least partly, the above challenges. Alone, Nyamagabe District is rehabilitating and building the infrastructures including roads, terraces against erosion, and houses for vulnerable people, schools etc. Community service offers the manpower required for land consolidation, environment management, increasing production and constructing houses and roads. In so doing, it yields due results in the area of development (Republic of Rwanda 2008:34). In fact, the rehabilitation and development of infrastructure is a crucial aspect of development, and has the ability to make it sustainable. This statement is coherent with the findings by Kates et al., (2005:10) who concluded as follows: “to make development sustainable is to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.” Not all countries have the opportunities to conform to similar findings, however.

For instance, Rwanda is faced with many problems relating to infrastructures in land use management, urban development, transport, communication and ICT, energy, water, waste management (Republic of Rwanda, 2000:18-21). Furthermore, “there are concomitants of global warming, such as land degradation, desertification and flooding appear to threaten an impact on

the poor disproportionality. Such environmental circumstances are also expressed in terms of problems of food security” (Vandana, D. and Potter, R.B., 2008:277). Meanwhile, ‘How community service should improve this dramatic situation?’ on the one hand, and ‘How should community service promote infrastructure development in order to help population to meet their basic needs?’, on the other hand, are questions that need particular research interest.

These questions intend to target the interventions being run under community service. With regard to Nyamagabe, this is the way for this study to be systematic and specific about what is being done, how sustainable they are, how much they respond to food security matters and so on. This is an exercise that is intended for the purpose of investigating what is the real practice of community service. This statement links to the fact that “activities already done by offenders are varied: construction of classrooms of nine and twelve years basic education program, health centers, renewal and construction of roads, construction of biogas station, mining and tailoring stones, construction of houses for vulnerable people, anti-erosive ditches, cultivating coffee, maize, soya, cassava, planting trees, and making bricks etc” (PRI, 2010: 21-22). There enormous facts to support this source.

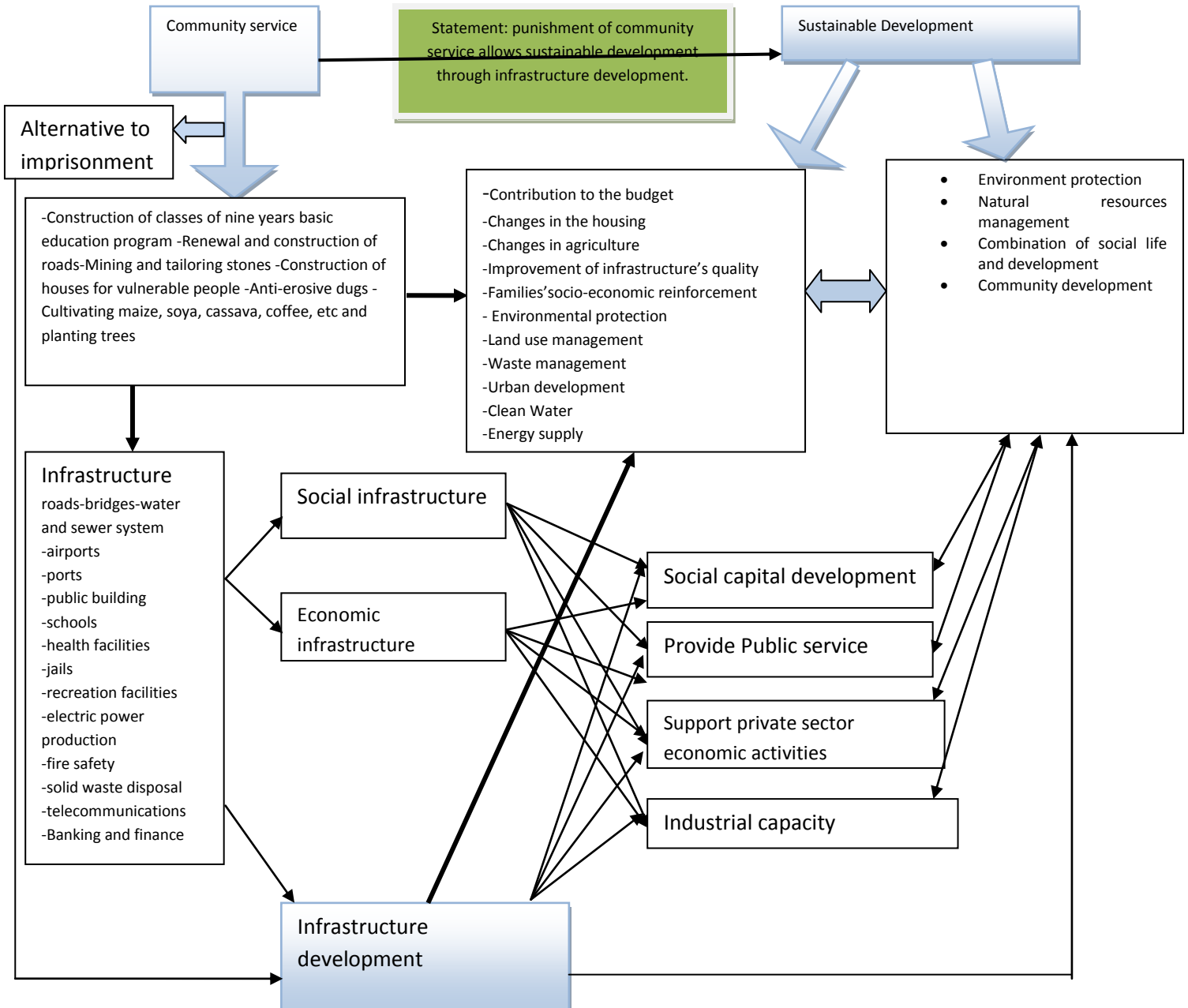
## **1.2. Problem statement**

With reference to the conceptual framework established for this study (Figure 1.1), the existing literature accords to view sustainable development as a complex concept that advocates for environment protection, natural resources management, social life and development, and community development. However, there is still no consensus among theorists and professionals on what causes sustainable development. Some theory-based views tend to argue for a combined effort of budget, changes in the housing, changes in agriculture, the improvement of infrastructure quality, family socio-economic reinforcement, environmental protection, land use management, waste management, urban development, clean water, energy supply, and communication facilities.

Under the framework of community service, development professionals in Nyamagabe district consider a number of interventions – that is, construction of classes rooms for the nine years basic education program, renewal and construction of roads, mining and tailoring stones,

construction of houses for vulnerable people, anti-erosive ditches, cultivating cassava, coffee, etc and planting trees to be the way toward to sustainable development. The infrastructure development – through its social and economic aspects – ensues.

**Figure 1.1: Conceptual Framework of the study**



Source: Designed by the author

In so doing, it brings sound contribution to social capital development, public service providing, private sector economic activities and to industry capacity in order to impact on sustainable development. Thus, there is an urgent need to reconcile both the theoretical and professional point of views to understand the effect of community service on sustainable development, with emphasis on infrastructure development. The primary interest should be the inventory of community service practices and their relevance in the area of sustainable development of Nyamagabe. In so doing, the study intends to investigate the questions formulated as follows:

1. In which ways does infrastructure development ensure subsistence of both present and future generations in Nyamagabe?
2. How does infrastructure development contribute to social services in Nyamagabe district?
3. In which ways does infrastructure development promote economic welfare in Nyamagabe district?
4. How does infrastructure development ensure environmental sustainability in Nyamagabe district?

### **1.3. Research hypothesis and significance of the study**

Infrastructure development contributes to the subsistence of both present and future generations in Nyamagabe district. Regarding to this statement, the infrastructure development is the independent variable while the subsistence of both present and future generations is dependent variable.

The significance of undertaking this research study was to strengthen the use of community service orders as an instrument of infrastructure development in Rwanda; and the information gathered from this study will be important for the following reasons. Firstly, it is to provide relevant background information on the implementation of the community service programme as a tool for integrated development that would benefit other researchers who intend to carry out similar or related research in this area. In addition, it will be in response to the demand of the National University of Rwanda which requires presenting a research project in partial fulfillment of requirements for Master's Degree. Secondly, this work will raise the awareness of the offenders and help them to establish good relationships through Community Service with the rest

of the population. Finally, the significance of the study is to look at what lessons can be drawn by the policy-makers, developmental actors, legislators and the law reformers based on some of the recommendations that would emerge from this study.

#### **1.4. Summary of the Chapter one**

Chapter one introduced the study to the readers about community service in the world, Africa and particularly in Rwanda for the reasons of its implementation and advantages to the society. It concerns the background, the research problem statement, the objectives, research questions as well as the significance of this study.



## **Chapter Two: Literature Review**

The conceptualization and the global perspective of community service are highlighted as an alternative punishment. On the basis of the conceptual framework designed for the entire study, chapter two indicates how community service is being performed in Rwanda for the development of infrastructure. It also presents the interests, objectives, and forms of community service. Finally, the relationship between community service and economic development, and infrastructure development to sustainable development was also pointed out.

### **2.1. Community Service**

Various authors and scholars have differently defined the concept of community service. According to the Zimbabwean National Commission of Community Service (1997:4)

Community service is an option the court may use when it has decided that a person's offending is serious and that s/he is suitable for making reparation by constructive unpaid work in the community. Community service should be physically and emotionally demanding of the offender in that it is a restriction of liberty. It involves self-discipline and a respect for others and should engage the offender in tasks or situation that challenges his/her outlook, experience and ability. Community service can therefore bring the offender to making the reparation for offences and encourage personal growth and self-respect. It shows the offender that the community is affected by criminality and expects offenders to make a constructive rather than destructive contribution to the same community.

Furthermore, Birungi (2005:18) added that the term community service is a non-custodial punishment by which, after conviction, the court, with the consent of the offender, orders for the offender to serve the community rather than undergoing imprisonment. In this context, the performance of community service is paid. The conviction to community service depends much on the nature of offenses. As an illustration, Zedriga (1998:8) found community service to be "a scheme in which carefully selected persons who have committed non-serious criminal offences

like petty theft or offences causing minor damage to property, instead of offenders being committed to totally established prisons to undertake penal obligations, are ordered to perform unpaid work of benefit to the community". These conceptual views bear a lot of ideas very much beneficial to this particular study. In this regards, community service gives valuable opportunity to genocide convicts to build new infrastructures and rehabilitate the ones damaged during the 1994 genocide that occurred in Rwanda.

To this end, one can conclude that the above sources concur with that community service understood as an optional alternative to imprisonment, in which the offender undertakes to perform unpaid works beneficial to the community instead of going to prison. However, the offender, for reasons best known to him/her, has a choice to go to prison instead of doing community service. In some cases, people perform community service on voluntary basis. In this regards, it is not a punishment. Community service is donated service or activity that is performed by someone or a group of people for the benefit of the public or its institutions.

Volunteers may provide free community service even though it is not always perceived as such. Not everyone who provides community service is seen as a volunteer, because some people who provide community service are not doing it of their own free will. They are compelled to do so by competent institutions such as the government as a part of citizenship requirements, in lieu of military service; the courts, the school, to meet the requirements of a class, such as in the case of service learning or to meet the requirements of graduation, or, in the case of parents, required to provide a certain number of hours of service in order for their child to be enrolled in a school or sports team. There are also people who provide community service and who receive some form of compensation in return for their year of commitment to public service, such as American Corps in the USA (who are called members rather than volunteers).<sup>9</sup>

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<sup>9</sup> "Community service" Memidex/word Net Dictionary [Online]. Available at: [http://en.wikipedia.org/wiki/community\\_service\\_cite\\_note](http://en.wikipedia.org/wiki/community_service_cite_note). Visited on April 2<sup>nd</sup>, 2012.

### **2.1.1. Objective of community service**

The objectives of community service involve the reconstruction of the economy of the society. The ZNCCS (1997:4) sets out two major purposes to community service punishment: firstly, it enforces the discipline of positive and demanding unpaid work; secondly, it ensures that the work provides reparation to the community by requiring the offender to do non-paid works which is socially and economically useful. In so doing, the offender pays back to the community for the wrongdoings whatsoever. In order to achieve its objectives, community service manifests in different forms.

Linda (2006:8-10) suggests two types of community services which are either mandatory or voluntary. In this study, the focus is on mandatory community service. This has several forms of community service as alternative sentencing such as building schools, public housing, rehabilitation/insurance benefits, and Workfare/welfare reform. At the same time, it is an alternative sentence imposed by competent courts. This form of mandatory community service is arguably the furthest from “voluntary” since it is court-mandated and carries a clear and unavoidable penalty for non-compliance, up to and including a jail sentence. For instance, the State University of New York uses community service as a disciplinary sanction. In another variant, parents may be forced into service for the school as a penalty for their children’s problem behavior. The mandatory community service also applies to school environments.

Public housing also benefits a lot from mandatory community service. For example, a federal law in the U.S. allows the providers of public housing to require community service work of tenants, or risk eviction. Predictably, the service is perceived as made on voluntary basis<sup>10</sup>. The alternative punishment to custody is applied to international, continental and national levels.

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<sup>10</sup> “Communityservice” Memidex/wordNetDictionary [Online]. Available at: [http://en.wikipedia.org/wiki/community\\_service](http://en.wikipedia.org/wiki/community_service) cite note. Visited on April 2<sup>nd</sup>, 2012.

### **2.1.2. Global perspective of community service**

Community service orders are one of the alternatives adopted and implemented by many countries in very specific circumstances. According to Klaus (1998:15), in the western world, some European countries, like France, incorporated the use of community service orders in their criminal justice system. It was made a significant tool aimed to address the problem of prison overcrowding and reduction in government expenditure in 1983, borrowing a leaf from the Canadian experience where the implementation of this programme was a real practice since the 1960's. In Italy, community service was introduced in 1980, Portugal in 1983, Norway and Denmark in 1984 and Finland in 1994. In the Netherlands it was introduced in 1989 as a court order officially called community service where convicts performed unpaid work for the public interest.

In the Eastern part of the world, especially with the Eastern block and after the collapse and disintegration of the Soviet Union (USSR), many countries in Central and Eastern Europe and Central Asia faced economic hardships and cuts in social welfare programmes. The resulting effect was an increased crime rate. Most of the crimes committed, however, were minor and non-serious, and were committed by first time offenders (PRI, 2000). Community service as a non-custodial measure was introduced in Kazakhstan in 2001, the Russian Federation in 2001, in Latvia in 1999 and in the Czech Republic in 1997 (Stern, 2002). However, this wave of change regarding penal reforms in the criminal justice systems was not only a challenge for developed countries of Europe but also for some African countries. According to PRI (2007: 5- 6) community service found application to sub-Saharan African countries like Kenya, Burkina Faso, Zambia, Uganda and Malawi as an alternative punishment to imprisonment.

In fact, the objective community service is to discipline an offender to recognize his\her crime, to repair damages he/she caused during the crime by rehabilitating or building infrastructures for the community development, at least in Rwanda.

### **2.1.3. Community service in Rwanda**

This section is mainly concerned with the vision and mission, objectives, guiding principles, organs in charge of community service in Rwanda, the implementation and motivations, and links to infrastructure development in Rwanda.

#### ***The vision and the mission of community service in Rwanda***

Community service was introduced in the Rwandan penal code and established by the Presidential Order No-10/01 of 07/03/2005 as reviewed and amended to date (the Republic of Rwanda, 2006: 63). The government of Rwanda has put community service in place as a way of punishment in order to eradicate the culture of impunity, to reinforce the process of unity and reconciliation and to ease social-economic development.

Community service was meant to target individuals convicted of genocide or crimes against humanity by Gacaca courts and who were classified in the second category of criminals. As a result, these individuals were also meant to perform unpaid work of public interest as an alternative penalty to the imprisonment (the Republic of Rwanda, 2006: 61). The convicts under this category spend half of their sentence in community services implementing developmental projects. Hence, community service contributes to the reconstruction of the country. To achieve its goal and missions, some specific objectives were clearly set.

#### ***Objective, guiding principles and motivations of community service in Rwanda***

To begin with, four major objectives of community service were formulated as follows (PRI, 2007: 8): 1) to serve as an instrument of reconciliation and nation unity; 2) to serve as an instrument of reconstruction and rehabilitation of the development infrastructures; 3) to serve as an instrument of social rehabilitation for people having confessed to the crime of genocide and who have been accused and convicted; 4) to considerably reduce the prison population as well as related budgetary implications.

The focus of this study is on the second objective. It is remarkable that community service contributes to social and economic development through reconstruction and rehabilitation of the

infrastructures of the development destroyed by 1994 genocide in Rwanda, and the construction new ones. In connection to the above, the community is the primary beneficiary of community service in terms of the development of basic infrastructures. Among others, the Republic of Rwanda (2006: 59) lists the organs in charge of community service in Rwanda such as the National Committee of TIG, Executive Secretariat of TIG, Province and Kigali City committees, District Committees, Sector Committees.

Also, prisons are strong stakeholders of the process of community service after the TIG Executive Secretariat was merged with the National Prisons Services to become the Rwanda Correctional Services (RCS) Ntagungira (2010:1). In line with earlier discussions, there is a number of motivations that prompted the government of Rwanda to design and implement community service. To begin with, community service has been running since 2005 as a response to the legal crisis in the aftermath of the genocide. This specific context feeds the major motivations, at least to refer to the PRI (2007:6-8). For a country which has led a noticeable fight against poverty and has placed economic development among its major objectives, it would be counteractive to deprive its economy of a significant portion of its active population.

### ***Implementation of Community service: factor of economic and infrastructure development***

The implementation of community service has materialized itself through two ways: the Labor Camp and the ‘community service of proximity’<sup>11</sup>. During the first timeframe of 2005-2008, 118 community service camps were opened: 52 camps among them have finished whereas 66 are still working. In the first term of 2009 only 10 new camps were set up. All the Rwandan provinces run the ‘community service of proximity.’

As the two Presidential Orders of December 2001 and March 2005 defining the organization of TIG indicate, the *Neighborhood Community Service*, carried out by the *convicts* in close proximity to his/her own hill, was most privileged. In their own districts, the convicts work three days a week. However, facing logistical and organizational difficulties, such as unequal distribution of *convicts* among the sectors with very few in some locations, the convicts get

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<sup>11</sup> Community service of proximity: the offenders performing their sentence of community service near their respective villages.

grouped into labor camps. The legal texts have been modified accordingly. This labor camp system is economically more productive than neighborhood community service.

At national level, community service led to the following achievements in the first session of the year 2009 like 342 houses; 1,343.7 km roads; 30 ha terraces; 2,018,903 coffee trees; 229,453 tiles; 495,495 bricks” (Repubulika y’u Rwanda, 2009: 9-19). And their activities in the second session of 2009 are: “143 houses; 49 annexes and 48 toilets; 17,219 ha radical terraces; 268,444 ha progressives terraces; 1,819.82 ha land consolidation; 427,958 km roads; 488,304 pineapples; 124,089 tiles; 454,565 bricks; 136 classrooms and 190 toilets” (Repubulika y’u Rwanda, 2010: 19). According to Ntagungira (2010:2), the productivity of TIG works from 2005-to mid 2009 allowed the government to pocket the production worthy Rwf 17,118,033,106.

Locally, in its 2010 report, for instance, the Coordination of Community Service identified Gasaka sector of Nyamagabe district with some promising outcomes of community service. In 2009, this sector registered the following outcomes: 90 houses for vulnerable people; 6 classrooms of nine years basic education; 15km roads construction; 164 ha of progressive terraces; 43 ha of radical terraces; 148 ha growing cassava; 1,346,179 bricks; 248,160 tiles; 84.5 ha growing coffee etc. At the same time, Ntagungira (2010:1) states, “the CS allows eligible genocide convicts to complete their sentences through participation in developmental activities and they engage in hard unpaid work.”Therefore the use of community service is the way of getting out of the crisis and of contributing to Rwanda’s development in general and to Nyamagabe District in particular. All those works contribute to the realization of the Vision 2020 and the achievement of MDGs. They are also contributing to the development of infrastructure so far perceived as leading to sustainable development.

#### **2.1.4. Community service as an alternative punishment**

As the ZNCCS (1997:7) argues, the prisons are expensive to maintain, on the one hand. One gets a clear idea about this while thinking of how much public money is spent on feeding thousands of people, housing and clothing them and caring for their basic medical needs. Hence, community service is used as a direct alternative to imprisonment.

On the other hand, most of the people in prison are not dangerous criminals from whom society expects to be protected. As this idea goes, community service is a typical solution of overcrowded prisons and its additional expense. The same source ZNCCS (1997:7) argues that community service is a court order whereby the offender is offered the opportunity to compensate society for the wrong s/he has done by means of performing unpaid works to the benefit of the community. Behind the fact of not being incarcerated, there are relative interests – that is mainly victims’ rights, social security, and offender’s human rights. Sumithra, R. et al., (2009:135) have the merit of having deepened these relative interests.

Firstly, it takes account into victims’ rights. In sentencing community service, the victim’s opinion in matters regarding the kind of suitable punishment to particular cases is theoretically preserved. If the offender is granted alternative punishment that the victim disapproves, it might seem to violate the victim’s right to recover from the offense to which s/he was subjected. With this, a compensation order is theoretically supported to be helpful. In this context, the term ‘victim’ is broadly understood much as it includes all those who are affected by the crime. This is worthwhile to ensure the victims’ rights bring to social security.

Secondly, referring to the Sumithra, R. et al., (2009:135), community service is also important to ensure social security. Some kind of dangerous cases, such as shooting, or highly-dangerous offenders, like gangsters or recidivists, may not be the best persons to be granted alternatives to imprisonment, even if the victim agrees not to take action against the offender or there is no victim.

Lastly, community service as alternative sentence to custody should obey the offender’s human rights because in case an offender’s human rights are withheld, he or she may consider himself or herself to be less human and may be more willing to commit other offences.



### **2.1.5. Community service as a reconstructive measure**

The reconstructive measure is, according to Birungi (2005:16), a theory that aims at ensuring that the offender is reformed and rehabilitated into a law-abiding person. Community service as an institution is supposed to provide social rehabilitation programmes to inmates, such as vocational training and sports, which help inmates develop and acquire new skills so that when they finish the sentence they are able to be self-reliant and productive to their communities and their families (Feldman, 1996:333). Activities such as sports help inmates to develop a sense of responsibility and instill discipline in them.

However, this new idea may be difficult to implement. To Sumithra R. et al., (2009:136), this concept is not perfect, but can be utilized, especially for minor crimes like motor vehicular accidents. Contrarily, community service in Rwanda has been applied to the crime against humanity like genocide.

### **2.1.6. Linking community service to sustainable development**

This section is about the relationship between infrastructure development and sustainable development thought in the framework of community service. It enlightens the manner in which community service contributes to infrastructure development, community development, environmental protection, social capital development, and to achieve the development programmes like MDGs, and Rwanda Vision 2020. It also demonstrates how infrastructure development remains a key factor for sustainable development and basic needs provision which guarantee the intergenerational equity.

#### ***Community service and community development***

Community service helps in rehabilitating and constructing the basic infrastructures for development. For Ndatabaye (2003: 29), basic infrastructures are those of community infrastructures which present the general interest to local community. Infrastructures are assets that the population needs in daily life – that is, for instance roads, electricity, schools, and health

centers. To yield such results, the infrastructure development requires deep transformation of all or parts of the factors that have impact on the community of Nyamagabe district.

According to Sumithra R. et al., (2009:134) community development is a coordinated and systematic policy whose aim is to organize the global progress of a specific region, with the participation of the concerned population. With regard to community service, genocide convicts have driven Nyamagabe district into similar perspectives of community development. Under these circumstances, community service became beneficial to Nyamagabe community, even though it happens to be altruistic. Attention is here drawn to the fact that the works carried out by genocide convicts differs from that of volunteers from different organizations.

Assignments that can be considered as community service include tutoring children, building homes in low income areas with Habitat for Humanity, assisting the elderly, socializing animals at animal shelters, being a museum docent, performing habitat restoration, helping with civic beautification. Non-paid volunteers perform all these cases of community service work. In some instances, the work would not be accomplished without the participation of such volunteers, and many small organizations rely on people with community spirit to survive<sup>12</sup>. This makes environmental preserved.

### ***Community service and environment protection***

Many people engage in community service because they believe that it carries rewards beyond the obvious and tangible outcomes. Clearly, engaging in things like environmental restoration will make life enjoyable by making the world around oneself more pleasant. It also helps to build a rich and supportive community of people who know each other and lend each other a hand when it is needed<sup>13</sup>. The environmental preservation has been granted by the people who have enough skills and techniques gained in performing community service.

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<sup>12</sup> <http://www.wesegeek.com/what-is-habitat-for-humanity.htm>. Visited on May 14<sup>th</sup>, 2012.

<sup>13</sup> <http://www.wesegeek.com/what-is-environmental-restoration.htm>. Visited on May 14<sup>th</sup>, 2012.

### ***Community service and social capacity development***

For people who are given community service as a punishment or sentence, it can be an opportunity to atone for a crime. Others engage in community service out of a spirit of altruism, or a desire to connect with their communities by helping out. For people who are new to a community, community service can be a great way to learn more about the place in which they live and the people they live with<sup>14</sup>.

As part of community sentence, the convict could be offered treatment for drug, alcohol or mental health problems. S/he may also be given a training course to complete or to improve skills like reading and writing. Find out what's available to help her/him keep away from crime. *Fostering community-social capital:* Whereas physical capital refers to physical objects and human capital refers to the properties of individuals, social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them. In that sense social capital is closely related to what some have called “civic virtue.”

### ***Community service to support the Millennium Development Goals***

In September 2000, the 189 member countries of the United Nations adopted the development programmes commonly known as MDGs. According to Mutamba, A. H., (2009:373-4) in 2001, through a Declaration, the United Nations member states alongside 23 international organizations set up a set of development goals to be achieved by 2015. The major objective of setting up these goals was to improve the social and economic conditions in the world's poorest countries. The eight goals are ambitious: to eradicate the extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/AIDS, malaria, and other diseases; to ensure environmental sustainability; and develop a global partnership for development. The goals are then assigned specific targets.

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<sup>14</sup> <http://www.wesegeek.com/what-is-altruism.htm>. Visited on May 14<sup>th</sup>, 2012.

These MDGS are interconnected and interdependent, and this study focuses on some of them. The first is to **eradicate extreme poverty and hunger**. To achieve this, community service contributes in land use consolidation and terracing where the Tigistes plant food crops such as maize, cassava, and cash crops like coffee and tea. **The second is to achieve universal primary education**. In this regards, community service contribute in building schools for Nine and Twelve Years Basic Education, vocational training schools and their sanitation.

In additions to that, during community service Tigistes learn how to read, write and calculate in Labor camps. These also contribute in achieving the third MDG. **The last is to ensure environmental sustainability**. This integrates the principles of sustainable development into country policies and programs and reverses the loss of environmental resources. In this, regards, community service helps in reforestation and caring for existing forests, digging dumps against erosion, radical terraces establishment, grass planting for soil protection, lakes and rivers protection, building and rehabilitating of roads and bridges. It also reduces the proportion of people without access to safe drinking water. The offenders dig water pipe lines.

### *Community service and Rwandan Vision 2020*

Moavenzadeh and Kyle (2010:7) point out that infrastructure investment is the most successful in regions and countries that have an overarching vision of how infrastructure development would fit into their national economic development plan. Within the current spending plans, infrastructure spending in China is implemented with a clear national vision. India, while still somewhat wanting in the realm of execution of infrastructure projects, has a vision for its infrastructure development. These two countries are not the only one to have national economic development plans. Rwanda has also got one.

According to the Republic of Rwanda (2000:1) Vision 2020 is a framework for Rwanda's development, presenting the key priorities and providing Rwandans with a guiding tool for the future. It supports a clear Rwandan identity, whilst showing ambition and imagination in

overcoming poverty and division. In order to reach this vision, the major objectives have been set up. The Vision 2020 seeks to fundamentally transform Rwanda into a middle-income country by the year 2020. This ambition requires achieving annual per capita income of US\$ 900, (US\$ 290 today), a poverty rate of 30% (64% today) and an average life expectancy of 55 years (49 years today) (Republic of Rwanda, 2000:11). This vision has six pillars such as good governance and a capable state, human resource development and a knowledge based economy, a private sector-led economy, infrastructure development, productive and market oriented agriculture, regional and international economic integration, (Republic of Rwanda, 2000:14). In investigating the earlier-formulated research question, this study focuses on the fourth pillar. The genocide convicts help in rehabilitating and constructing different infrastructures in Nyamagabe District.

According to the Republic of Rwanda (2000:18-22), the rehabilitation and development of infrastructure is a crucial aspect to lower the costs of doing business in Rwanda and, in turn, attract domestic and foreign investment. Infrastructures fall into nine categories such as land use management, urban development, transport facilities, communications and ICT facilities, energy supply, water supply, waste management, environmental protection and agriculture transformation. Hence, community service is understood as playing an important role in the development of those infrastructures through various activities, including those carried out by genocide convicts in Nyamagabe district.

This development helps in the improvement of the living conditions of the current population and guiding the preservation of resources for the coming generations. The infrastructure development policy is organized into various supports that reflect some of the key enablers of economic, social and environmental sustainability of infrastructure projects in Nyamagabe district.

## **2.2. Infrastructure development**

This discussion is commissioned for pointing out the significance of the concept of infrastructure, social and economic infrastructures, hard and soft infrastructures, and the development of infrastructures.

### **2.2.1. Infrastructure**

In broad context, Moteff and Parfomak (2004:1) define the term “infrastructure” as the basic facilities, services, and installations needed for the functioning of a community or society. They include transportation and communication systems, water and power lines, and public institutions including schools, post offices, and prisons. The same authors add that, infrastructure is a wide array of public facilities and equipment required to provide social services and support private sector economic activity.

They include roads, bridges, water and sewer systems, airports, ports, and public buildings, and might also include schools, health facilities, jails, recreation facilities, electric power production, fire safety, waste disposal, and communication services (2004:2). From different sources and to different scholars there are also different categories of these infrastructures like physical, social and economic infrastructure, hard and soft infrastructure and so on.

***Social and economic infrastructure:*** According to Fedderke and Garlick (2008:2), infrastructure is broadly divided into economic and social categories. The former conventionally includes transport, communication, power generation, water supply and sanitation facilities, while the latter includes educational, health-care facilities, waste management, recreation and environmental protection though some authors include cultural and recreational facilities. With similar classification, Moavenzadeh and Kyle (2010:28) added two more categories – that is, the physical and national security infrastructure systems.

To this source, the physical infrastructure is a major engineering and construction market segment which facilitates economic activity and makes possible the quality of life enjoyed by

residents of those states. They also facilitate in providing mobility, communication, electric power, clean water, sanitation and other services. National security infrastructure includes defense facilities and installations, and border security systems.

In the case study selected for intensive investigations, these categories are interwoven and each type of infrastructure system plays significant roles. In both direct and indirect way, they contribute to sustainable development in Nyamagabe district. Economic infrastructures directly support productive activities; while social infrastructures, are those meant to increase the social comfort and to act on the favor of the economic productivity<sup>15</sup>. Those social and economic infrastructures are at the same time classified in hard and soft infrastructure categories.

***Hard and Soft infrastructures:*** In the context of sustainable development, "hard" infrastructure refers to the large physical networks necessary for the functioning of a modern industrial nation, whereas "soft" infrastructure refers to all the institutions which are required to maintain the economic, health, and cultural and social standards of a country. These are, for instance, the financial system, the education system, the health care system, the system of government, and law enforcement, as well as emergency services.<sup>16</sup> The soft infrastructure is an important term for finding out how Nyamagabe District's development is.

However, the usage of the word "infrastructure development" has evolved quickly in the past, especially between the 1980s and 1990s. Infrastructure is widely defined "as the basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function." (Fedderke and Garlick, 2008:2). From this definition, infrastructure development lays the foundation for the production of goods and services. The focus of this study is limited to the development of economic, human capital and social infrastructures aimed at achieving sustainable development. It is an aim that falls in Gianpiero (2010:19)'s perspective. As he argues, the development of infrastructure is first of all the development of economic infrastructure. Second, it is the development of human capital infrastructure, and, lastly, it is the development of social infrastructure.

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<sup>15</sup> <http://en.wikipedia.org/wiki/manufacturing-infrastructure>. Visited on April 5<sup>th</sup>, 2012

<sup>16</sup> <http://www:Infrastructure.htm#cite-note-opendb.net-6>. Visited on April 5<sup>th</sup>, 2012

Furthermore, the Office of Fair Trading (2010:12) considers the infrastructure development as networks that enable people, goods, energy, information, water and waste to move efficiently around the region or country, and, in some cases, across its borders. The extent, capacity and quality of these networks has a direct bearing on the economy of the region, the environment and the quality of life of everyone who lives in or visits that region. In Table 2.1, Lord and Skinner (2010:9-10) set out the capacity and quality of infrastructure development in significant assets.

**Table 2.1: The capacity and quality of infrastructure development**

<b>Sector</b>	<b>Significant assets</b>
<b>Water</b>	Water resources (rivers, reservoirs and dams), drinking water distribution (pipes and pumping stations), waste water treatment, sewerage systems, flood and coastal defenses.
<b>Waste</b>	Landfill, recycling facilities, waste collection and processing, hazardous waste treatment, energy recovery.
<b>Transport</b>	Roads (strategic and local), heavy rail, light rail, airports, ports, metro systems.
<b>Energy</b>	Gas storage, transmission and distribution, electricity generation (renewable and non-renewable) transmission and distribution.
<b>Communications</b>	Fixed voice and data networks, mobile voice and data networks, satellite networks, television and radio broadcast networks and radio spectrum
<b>Human capital</b>	Education, Training, Research and development, Pensions and wage supplementation, Labor.
<b>Social infrastructure</b>	Culture and recreational services, Health, Other social affairs (assistance and charity), other health and sanitation, Defenses, Public order, Justice, General administration, unclassified expenditure
<b>Manufacturing infrastructure</b>	Industrial parks and special economic zones, mines and processing plants for basic materials used as inputs in industry, specialized energy, transportation and water infrastructure used by industry, plus the public safety, zoning and environmental laws and regulations that govern and limit industrial activity, and standards organizations.
<b>Agriculture, forestry and fisheries infrastructure</b>	including specialized food and livestock transportation and storage facilities, major feedlots, agricultural price support systems (including agricultural insurance), agricultural health standards, food inspection, experimental farms and agricultural research centers and schools, the system of licensing and quota management, enforcement systems against poaching, forest wardens, and fire fighting,

Source: Lord and Skinner (2010:9-10)

Infrastructures have the general interest to improve life condition of population which becomes conversant with sustainable development.



### **2.2.2. Basic theoretical model of Infrastructure**

This theoretical framework is based on the quality of infrastructure development in promoting social and economic living conditions. Infrastructure development is considered as an instrument of production, a complement to other factors, a stimulus to economic factor for accumulation to aggregate demand, and as a tool of industrial policy. To Fedderke and Garlick (2008:3), the economic theory identifies four channels through which infrastructure can positively impact on economic growth for sustainable development. To contextualize these channels, a brief diversion into basic growth theory is developed below.

***Infrastructure as a factor of production:*** According to Fedderke and Garlick (2008:4) infrastructure may simply be regarded as a direct input into the production process. As infrastructure could otherwise be placed under the broader heading of physical capital, this approach assumes that infrastructure to be related to growth in a manner different from other forms of physical capital. Theory holds that an increase in the stock of infrastructure would increase the output of the economy as a whole, directly inducing economic growth.

The role of power generation infrastructure provides a concrete example of this channel. It is a necessary input into many production processes for both goods and services and so unreliable power supplies render these processes either more expensive or entirely impossible. In addition to that, viewed functionally, infrastructure facilitates the production of goods and services, and also the distribution of finished products to markets, as well as basic social services such as schools and hospitals; for example, roads enable the transport of raw materials to a factory.<sup>17</sup> Infrastructures development may be considered as the supplemental factor in the process of economic development.

***Infrastructure as a complement to other factors:*** Fedderke and Garlick (2008:5) argued that improvements in infrastructure may lower the cost of production. Inadequate infrastructure creates a number of costs for firms that may have to develop contingency plans against

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<sup>17</sup> <http://en.wikipedia.org/wiki/agriculture-infrastructure>. Visited on March 31<sup>st</sup>, 2012.

infrastructure failure or even build infrastructure themselves. Conversely, good infrastructure generally raises the productivity of other inputs in the production process. In examining this linkage, different papers adopt different approaches and consider a range of factors of production, including capital, labor and total factor productivity. The intuition behind each of these linkages is relatively straightforward. The productivity of capital such as machinery or electronic equipment is clearly raised by reliable power supplies, while the productivity of labor will be far higher if good education and health-care infrastructure produce a well-educated and healthy workforce.

***Infrastructure as a stimulus to factor accumulation:*** Concerning the role of infrastructure development on acquiring economic factors, Fedderke and Garlick (2008:5) stressed that while the production function of infrastructure development considers the aggregate production taking place in an economy, each factor of production is itself the outcome of a specific production process. Human capital formation, for example, is a function of factors such as school facilities and educators qualifications. In particular, infrastructure, in the form of schools, roads used to access schools and electricity provided to schools, is likely to be an important factor in the human capital production function. Infrastructure may influence growth indirectly, by boosting the accumulation of other factors of production or by boosting the productivity of these factors of production in Nyamagabe district.

***Infrastructure as a tool of industrial policy:*** The development of infrastructures influences also the development of industries. Fedderke and Garlick (2008:5-6) highlights this argument as follows: another somewhat controversial channel focuses on the potential for infrastructure spending by government to act as a tool of industrial policy. Governments might attempt to activate this channel by investing in specific infrastructure projects with the intention of guiding private-sector investment decisions. A road construction project in a rural area may be intended to facilitate integration of that area into the regional economy and hence promote private sector investment and economic growth.

Here again, however, many critics charge that such interventions do not actually succeed in stimulating economic growth, as they fail to boost economic growth or simply divert resources that could be better spent elsewhere. Many of these challenges revolve around issues relating to infrastructure quality and usage, which have been deliberately postponed until now. The quality of infrastructures comes from the regular maintenance and management of them.

According to Button (2002:8-9), infrastructure generally involves significant initial outlays and continual on-going expenditures on maintenance and management. Most African governments are not in position to provide this on any significant scale, especially where there is a need for items requiring foreign exchange outlays. This is one of the clearest reasons why international agencies have traditionally been major contributors to transportation infrastructure development. It is supported that the development of infrastructure and its manifestation are the outcomes of main belief, values and philosophy of a given national development policy, but sometime those are common.

### **2.2.3. Proposed principles for the infrastructure frame**

According to Lord and Skinner (2010:27), infrastructure projects or policies should be considered and appraised in terms of:

1. Their long-term costs and benefits, including their expected effect on infrastructure outcomes for the next 10 years and their consistency with the 50 year vision, in particular their contribution to the transition to a low-carbon economy;
2. Their choice of funding and finance models and their efficiency and effectiveness compared with alternative models;
3. The options for demand management and more effective utilization of existing or renewed assets, as alternatives to major investment in new assets;
4. The potential synergies and interdependencies with other infrastructure;
5. Their impact on the overall resilience of infrastructure networks; and
6. Any significant impact on the supply chain, particularly innovation and new business opportunities.

These principles contribute to improvement of the quality of the status of the infrastructures. They also help in evaluating the role of infrastructure in meeting the basic needs of current generation without compromising their satisfaction in the coming generation, and how they should be measured in Nyamagabe district.

#### **2.2.4. Infrastructure and sustainable development**

Various theories have postulated the support of the infrastructure in productivity, economic development, its sustainability in economic and environmental imperatives. They also range infrastructure in broader systems, as interrelated systems and highlighted the major challenges in rebuilding infrastructure.

##### ***Infrastructure, productivity and economic development***

Generally, the productivity is the rate at which a company or a country makes goods, usually judged in connection with the number of people and the amount of materials necessary to produce the goods. In the process of production of the goods and services, infrastructure has an added value in increasing the production. In this regard, Fedderke and Garlick (2008:14) argued that infrastructure is a public good that produces positive externalities for production. The provision of adequate infrastructure is a necessary condition for private firms to be productive. Even if infrastructure is also provided for its amenity value (i.e. for its direct utility value to individuals) it is obvious that it plays a central role in generating external effects that fundamentally alter the capacity of the economy to produce goods and services. Just imagine an economy without roads or telephones to think about the impact that infrastructure have on productivity.

Furthermore, few would argue that infrastructure is not important to economic activity. Copeland, Linda, and Mallett (2011:5) stressed that public roads are important, but by themselves, they don't produce anything. Yet they are linked in complex ways to economic growth. Economically, what is important are the services that roads provide in transporting goods and people, mitigating congestion, etc. this contributes to economic development.

Investment in infrastructure is part of the capital accumulation required for economic development and may have an impact on socioeconomic measures of welfare<sup>18</sup>.

Additionally, the infrastructure development influences economic development in sustainable manner. According to Fedderke and Garlick (2008:16) the amount and quality of a nation's economic infrastructure has an important bearing on economic growth in both the medium- and longer-term. It is often viewed as the wheels of economic activity since it provides the environment for productive activities to take place and facilitates the generation of growth.

### ***Infrastructure, economic recovery and skills development***

According to Copeland, Linda, and Mallett (2011:6-7) there are two issues concerning the contribution of infrastructure development to the economy. One is the issue of the effects of infrastructure spending and investment on productivity and growth. The second related issue is the role of infrastructure spending, including short-term job creation, as a countercyclical tool to support economic recovery.

In addition, infrastructure development plays an important role in social capital development. According to Fedderke and Garlick (2008:15) the employment generation and skills development may also be key considerations of public sector infrastructure policies - such policies are often justified in the language of job creation and skills development, instead of or in addition to the language of economic growth. It also enhances the quality of life of the populace by empowering them economically, politically and socially, with the attendant positive effects on efficient use of national resources and on poverty alleviation.

Regarding this study, sustainability is a broad concept encompassing not only environmental sustainability but also dimensions relating to economics, politics and social equity which help the population of Nyamagabe District to satisfy currently their basic needs with respect to further satisfaction of their children and their offspring. This sustainability put into effect infrastructure to be like unified systems.

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<sup>18</sup> <http://www.Infrastructure.htm#cite-note-31>. Visited on March 21<sup>st</sup>, 2012.

### *Major challenges in developing basic infrastructure*

There are the key challenges in rehabilitating and constructing infrastructure such as decline in infrastructure quality and capacity, low levels of maintenance, and, costs of infrastructure services are high. According to the Republic of Zimbabwe (2010:8) the sustained deterioration in the quality of infrastructure assets stemmed from very inadequate levels of public expenditures for routine and periodic maintenance of the infrastructure networks, especially in power, water and sanitation, and transport.

In terms of sustainable development of Nyamagabe district, one of the major challenges facing in infrastructure built by the offenders in the coming years is the rehabilitation of the existing social and economic infrastructure and the addition of new capacity to meet existing and future demand in both urban and rural areas of Nyamagabe district. Additionally, Moavenzadeh and Kyle (2010:46) point out that infrastructure development has repeatedly fallen short of targets. There are many reasons for this: delays in land acquisition, clearances from a multitude of authorities, unavailability of equipment, inadequate pipeline of projects and so on. Consequently, the sustainable development will be controversial between generations in this District.

The analysis of the importance of infrastructure development for assuring long-term societal needs, Gianpiero (2010:12) concludes that the first attribute refers to the essential needs of human life. Following this perspective, material infrastructures can be defined as goods and services able to satisfy those wants of economic agents originating from physical and social requirements of human beings. The development of material infrastructure in Nyamagabe District has the ability to grant the evenhandedness satisfaction between current and coming generations.

### **2.3. Sustainable development**

This section concerns the clarification of the term such as development, sustainability and sustainable development. It also covers the theoretical basis of sustainable development with particular focus on the goal, objectives, dimensions, features and principles. It also focuses on

sustainable development strategies and indicators of sustainable development in human and natural systems.

**Development:** According to Aronson (2006:3) development entails a modern infrastructure (both physical and institutional), and a move away from low value added sectors such as agriculture and natural resource extraction. It is a process which enables human beings to realize their potential, build self-confidence, and lead lives of dignity and fulfillment.

**Sustainability:** Desta (1998:514) argued that the concept of sustainability is based on the recognition of the supposedly separate existence of the natural, economic, and social systems. This closely matches with Todorov (2009: 484)'s perspective according to which the term sustainability reflects the need for careful balance between economic growth and environmental preservation. Sustainable development generally refers to meeting the needs of the present generation without compromising the needs of future generations. That is why infrastructure development has to ensure the satisfaction for many generations, as Clayton (2000:4) highlights, sustainable development aims to reverse these trends. There is a growing consensus that sustainable development means achieving a quality of life that can be maintained for many generations because it is: -*Socially desirable*: it fulfills people's cultural, material and spiritual needs in equitable way; - *Viable*: it pays for itself, with costs not exceeding income; - *Ecologically sustainable*: it maintains the long-term viability of supporting ecosystems.

### **2.3.1. Goal, objectives and dimensions of sustainable development**

The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. To Ingabire (2011:24), sustainable development is actually a core concern for all human beings as users and managers of the universe. The same source perceives sustainable development as aiming at:

1. Maintaining the standards of living of the largest number of people with equity and justice.

2. Conserving and protecting earth's natural resources from misuse and wasteful consumption. This demand respects for the land and its diversity as the foundation for health communities.
3. Innovating technology and scientific techniques, which work together with laws of nature and are not opposed to it. There needs to be a consideration of sharing the risks and benefits from developmental policies undertaken by different nations.
4. Respecting diversity and involving local and indigenous communities for more grassroots oriented and relevant developmental policies. This would involve consideration of economic viability, culture and values, as policies and programs are developed.

These objectives will be achieved from the respect of a certain range of magnitude of infrastructure development in Nyamagabe district. This improve the living conditions of people, where community service activities conserve and protect environmental resources for ensuring the satisfaction of basic needs for both current and coming generations of this district. This sustainable satisfaction is aligned into social, economic, environment and institutional dimensions.

### ***Dimensions of sustainable development***

The World Bank (2009:126) has pointed out the four main dimensions of sustainable development: social, economic, environmental and institutional. In recognition of the growing importance of information and communication technologies and the role they play in development, a fifth dimension on ICT is added.

Firstly, development is considered to be socially sustainable when it achieves social justice via equitable resource allocation, eradicates poverty, and provides social services, such as education, health, and others to all members of the society, especially the neediest ones. Secondly, economically, sustainability means providing economic welfare at the present and the future,



while paying more attention to natural capital, which means the natural resources of economic value, considered as the bases for the economic system, such as plants, soil, animals, fish, and bio-environmental system such as air and water purification. Thirdly, in environmental dimensions, an ecologically sustainable system means a solid base of natural resources and avoids excessive use of such resources. This involves the conservation of biodiversity, attaining atmosphere balance, productivity of soil as well as other systems of natural environment which are usually classified as noneconomic resources. Therefore, from an environmental point of view, sustainability means setting limits for consumption, population growth and pollution, as well as the faulty ways of production; including wasting waters, cutting the forests or the soil erosion.

Fourthly, the institutional dimension of sustainable development is concerned with the participation of all community members in the decision making process and the acquisition of the information that affect their lives transparently and accurately. It is also concerned with the organizations, such as councils and committees, charged with the implementation of various aspects of MDGs. The fifth additional dimension is information and communication technologies (ICT) are closely related to the abovementioned four dimensions of sustainable development. The Millennium Development Goals and the recommendations of the international summit for information and communication technology held in Geneva in November 2003 provided a suitable methodological framework on how to make use of ICT in achieving sustainable development. Therefore, the digital dimension was added as a fifth dimension of sustainable development. The main principle of sustainable development is common interest.

For the aforementioned dimensions, our study focuses on how alternative punishment to incarceration throughout infrastructure development provides social services of education, health, practical and professional skills. It also concerns the improvement of economic welfare rooted to the protection of environment where ex-offenders in Nyamagabe district reinsure the quality and maintenance of soil.

### **2.3.2. People as Social Capital for sustaining development**

The sustainable development might through infrastructure development contribute to improve the awareness of the people who assume their responsibilities, sharing their skills for leading to better quality of life. Terry and Wernke (2011)<sup>19</sup>elaborated on this in the following aspects.

**Accept responsibility** – It is our ethical responsibility to assume leadership over the vision and values for our infrastructure projects. Adhering to a decision model that maximizes economic results, minimizes environmental impact and restores degraded ecosystems, and maximizes the quality of life for the community within and beyond the scope of the project in question gives us the opportunity to deliver uniquely valuable solutions for the future of our civilization. **Share knowledge** – Without sharing the knowledge gained through the project development process to others, projects can lose financial and social value, and can ultimately become unsustainable over the life of the project. It is vital to sustain the original intent for all projects through the transfer of knowledge about the project, so current project team members can more effectively integrate their efforts and products.

Further, future owners and stakeholders must understand the original project vision and intent in order to maintain the sustainability of a project indefinitely. Lastly, sharing knowledge gained on specific projects to stakeholders throughout the world will play an important role in ensuring our sustainable future for all time.

### **2.3.3. Sustainability and human society**

Bossel (1999:1) to *sustain* means “to maintain; keep in existence; keep going; prolong.” He also identifies sustainability and its alternative or opposite. He (1999:1) argued that there is only one alternative to sustainability: unsustainability. But sustainability involves a time dimension: unsustainability *now* rarely implies an immediate existential threat. Existence is threatened only

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<sup>19</sup> <http://www.triplepundit.com/wp-content/uploads/2011/01/Sustainable-Development-Matrix.jpg>. Visited on April 21<sup>st</sup>, 2012.

in the distant future, perhaps too far away to be properly recognized. Even if threats are understood, they may not cause much concern now: there still seems to be enough time for them to disappear, or for finding solutions.

To the same source to (1999:2) human society is a complex adaptive system embedded in another complex adaptive system—the natural environment—on which it depends for support. These systems coevolve in mutual interaction, and they each consist of a myriad of subsystems that coevolve in mutual interaction. There is permanent change and evolution. Moreover, this ability for change and evolution must be maintained if the systems are to remain viable (able to cope with their changing system environment) and sustainable.

The sustainability goal translates more accurately into a goal of sustainable *development*. According to Bossel (1999:2) one of the most commonly cited definitions stresses the economic aspects by defining sustainable development as “economic development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.” Another takes a broader view by defining sustainable development as “the kind of human activity that nourishes and perpetuates the historical fulfillment of the whole community of life on earth.”

The principle of survival of the fittest with its effectiveness and dynamics, but also its cruelty and hardship, would not be accepted as a principle for sustainable development by the majority of humankind. According to Bossel (1999:2) some human societies have been sustainable in their environment over long periods of time by institutionalizing systems of exploitation, injustice, and class privilege that would be equally unacceptable today for most of humankind.

### **2.3.3. Sustainable development is co-evolution of human and natural systems**

In the context of systems analysis of sustainable development, Bossel (1999:17) made a useful distinction of six essential subsystems of sustainable development such as individual development, social system, government system, infrastructure system, economic system, and resource and environmental system. They promote the private sector activities, economic

recovery, and public services delivery through infrastructure constructed by the offenders in Nyamagabe District.

- **Individual development:** it involves civil liberties and human rights, equity, individual autonomy and self-determination, health, right to work, social integration and participation, gender and class-specific role, material standard of living, qualification, specialization, adult education, family and life planning horizon, leisure and recreation, arts. In this context, through community service, genocide prisoners receive different training, produce goods and services and are integrated in society. They are specialized in different activities regarding to what they do as punishment.

- **Social system:** it comprises population development, ethnic composition, income distribution and class structure, social groups and organizations, social security, medical care, old age provisions. Concerning social development, Offenders and victims of 1994 genocide, and other population are interdependent in their social life. The development of infrastructure rebuilds the social ties of all members of Nyamagabe community. This maintains the social system and help to live with harmony and stability. The rapprochement and coexistence of the different groups in conflict reinforce social security and health care management in Nyamagabe District.

- **Government:** it includes government and administration, public finances and taxes, political participation and democracy, conflict resolution (national, international), human rights policy, population and immigration policy, legal system, crime control, international assistance policy, technology policy. In this regards, the government of Rwanda has introduced community service as a way of conflict resolution to promote human rights, crime control and economic development.

- **Infrastructure:** it involves settlements and cities, transportation and distribution, supply system [energy, water, food, goods, services], waste disposal, health services, communication and media, facilities for education and training, science, research and development. This is the main target subsystem of sustainable development. The offenders in Nyamagabe district rehabilitate and construct infrastructures. The infrastructure development is the core subsystem which others

depend on. Thus, its success improves others. Its specificity concerns the social capital development, providing public service, supporting private sector activities and improving industrial capacity in Nyamagabe district.

- ***Economic system:*** production and consumption, money, commerce and trade, labor and employment, income, market, interregional trade. When the basic infrastructures are developed, the economic system is also developed. That is why the development of infrastructures through community service facilitates the process of production, consumption and distribution of services and goods in Nyamagabe district.

- ***Resources and environment:*** natural environment, atmosphere and hydrosphere, natural resources, ecosystems, species, depletion of nonrenewable resources, regeneration of renewable resources, waste absorption, material recycling, pollution, degradation, carrying capacity. In this study, the development of infrastructure should ensure the sustainability of environmental resources. The ex-offenders contribute to environment protection, natural resources management, combination of social life and development. So, this is one of the ways to reach community development in Nyamagabe District and the sustainability of the entire system.

To make the total system viable, in Nyamagabe district, each of these essential subsystems must be viable: the viability of the total system depends upon the proper functioning of the subsystems and heading by the development of infrastructure system. Furthermore, we must identify indicators that provide information about the contribution of each subsystem to the viability of the total system. The six subsystems correspond to potentials that must be sustainably maintained. According to Bossel (1999:18) the major relationships between the six subsystems are shown and each of these subsystems can be viewed as representing a certain type of potential that is vital to the development of the total system.

#### **2.4. Indicators of sustainability**

Indicators of sustainability are grouped into three main categories. For Nussbaumer (2006:12), are like from local to global environment, social sustainability and development, and economic and technological development. These indicators have been developed by Gold. And the details

are presented in Table 2.2. From the same Table 2.2, through community service activities, infrastructure development in Nyamagabe district contributes to the sustainability; firstly, to water supply, environment conservation, and to improvement of soil condition; secondly, to the livelihood of the poor, energy services, human and institutional capacity; and thirdly, to economic and technological positive changes.

In this study, the sustainability will depend upon how the victims of 1994 genocide, the ex-genocide prisoners, and the population of Nyamagabe judge and believe the importance of community service's activities. The main interest lay on the sustainability of the society. The table 2.2 states that the World Conservation Union (IUCN 1991) sees three main conditions for society to claim sustainability. Firstly, it must preserve the essential ecological processes that maintain life and biodiversity. Secondly, it has to guarantee the sustainable use of renewable resources and minimize the use of non-renewable ones. Thirdly, its activities are required to remain within the carrying ecological capacity.

For more explanation, the fulfillment of these three conditions in Nyamagabe District, will lead to sustainable development, that is as stated by the World Commission on Environment and Development (WCED, 1987), the development which development implies meeting the needs of the present generations without compromising the ability of the future generations to meet their own.

In Nyamagabe district, the needs to be sustained primary are not luxurious but physiological, security and social needs. Therefore, these physiological needs will help in the accomplishment of psychological needs for generations, current and future one. Consequently, advocating future needs represents a challenge for current populations.

**Table 2.2: Sustainable Development Indicators.**

<p><b>Local/regional/global environment</b></p> <ul style="list-style-type: none"><li>Water quality and quantity</li><li>Air quality (emissions other than GHGs)</li><li>Other pollutants: (including, where relevant, toxicity, radioactivity, POPs, stratospheric ozone layer depleting gases)</li><li>Soil condition (quality and quantity)</li><li>Biodiversity (species and habitat conservation)</li></ul>
<p><b>Social sustainability and development</b></p> <ul style="list-style-type: none"><li>Employment (including job quality, fulfilment of labour standards)</li><li>Livelihood of the poor (including poverty alleviation, distributional equity, and access to essential services)</li><li>Access to energy services</li><li>Human and institutional capacity (including empowerment, education, involvement, gender)</li></ul>
<p><b>Economic and technological development</b></p> <ul style="list-style-type: none"><li>Employment (numbers)</li><li>Balance of payments (sustainability)</li><li>Technological self reliance (including project replicability, hard currency liability, skills development, institutional capacity, technology transfer)</li></ul>

*Source:* Gold Standard (2006:11)

In this regards, Nussbaumer (2006:14) points out that a list of needs is unlikely to be identical in different cultural contexts. As well, it would be mistaken to take for granted the fact that the needs of future generations will be equivalent to the ones of the present generation. Moreover, future generations have no agents and therefore no means of defending their preferences. In spite of the divergent interpretation and critiques, the concept of sustainable development can't be characterized as being completely relative.

According to Asian Development Bank (2000:92), there is a convergence on three key goals. Firstly, human beings should be able to enjoy a decent life; secondly, humanity should become capable of respecting the finiteness of the biosphere; and thirdly, neither the aspiration for the good life nor the recognition of the global biophysical limits should preclude the search for greater justice in the world.

But, community service in Nyamagabe District develops infrastructures which increase welfare. This welfare makes shifts in preferences in a more ecological sustainable direction and gives higher value to the preservation or restoration of environmental quality in this district through sustainable consumption. However, to refer to Mulder and Van Den Bergh (2001:126), changing current consumption patterns into a more ecologically sustainable direction is not only a matter of developing the right concepts. It is about asking the right questions. In view of the debate on growth versus environment, important questions refer to future consumption patterns of commodities, food, water, energy, and so on.

With regard to Nyamagabe district, the attention is given to the evolution of needs, preferences, and lifestyles when trying to understand the determinants of consumption behavior. Bossel (1999:40) presents the basic indicators for sustainable development of human society in Table 2.3. To Table 2.3, the viability of sustainable development in Nyamagabe community depends upon ways in which the current generation lives on consuming the natural resources efficiently. This will bring the freedom of action when the social security systems are assured. The population should acquire different skills for being accustomed and gaining the ability for competing with different culture development actors.

The harmony coexistence will help in meeting psychological needs where stress, anxiety, dissatisfaction and family quarrel are well managed. Also, viability is also lying on infrastructure development. The latter indicates the manner in which Nyamagabe acquires sustainable development.



**Table 2.3: Indicators for sustainable development of human society**

<b><i>ORIENTORS</i></b>	<b><i>SYSTEM PERFORMANCE</i></b>	<b><i>POSSIBLE INDICATORS</i></b>
<b>Existence</b>	Is the system compatible with and able to exist in its particular environment?	Availability of shelter, clothing, food, water, sanitation, life expectancy
<b>Effectiveness</b>	Is it effective and efficient?	Work hours necessary for life support, efficiency of resource use
<b>Freedom of action</b>	Does it have the necessary freedom to respond and react as needed?	Income level, job opportunities, health, mobility
<b>Security</b>	Is it secure, safe and stable?	Safe neighborhood, saving, insurance, social security scheme
<b>Adaptability</b>	Can it adapt to new change?	Education and training, flexibility, cultural norms
<b>Coexistence</b>	Is it compatible with interacting systems?	Social skills, compatibility of languages and culture
<b>Psychological needs</b>	Is it compatible with psychological needs and culture?	Emotional stress, anxiety, dissatisfaction, family quarrels

*Source:* Bossel (1999:40)

Thus, infrastructure development also comes in shape a new layout of indicators of sustainable development, as presented in Appendix 6; the orientors are not different from those of the viability of human society. They only serve the purpose of required instruments to evaluate the contribution of infrastructure development to the viability of global region, with application to Nyamagabe district. The development of infrastructure helps people of this district in self-organizing, changing the structure and behavior in the course of time in the process of the development.

Referring to the Appendix 6, Bossel (1999:101) indicates that the infrastructure development system contributes to the global system. That is, the indicators of infrastructure sustainability reflect the development of a region through its expansion. The same infrastructure development in Nyamagabe district performs in ways that the social capital and public service delivery bring about to the satisfaction of basic needs, promotion of private sector and to ensure the capacity of industries in their daily activities is effective. The skills and trainings form an asset that is connected to community service. Equally, they are the core factor for essential food, transportation, education, and health care in Nyamagabe district.

This freedom of action leads to the security and adaptability of the population of this district. The environmental protection increases the probability for the population to reach the basic needs and

services. To sum up, different interventions run in the framework community services bring about positive change in the living conditions of the population of Nyamagabe district.

## **2.5. Summary of the Chapter two**

In brief, this chapter is related to literature review. It has shown how various authors defined community service as a non-custodial punishment reserved for people who committed non-serious criminal offences like theft or minor damage to property. Community service involves self-discipline and respect to others and can make the offender make a constructive rather than destructive contribution to the community. It is also a reconstructive measure that has been adopted for offenders who committed genocide crimes in Rwanda.

Activities carried out in community service are related to community development, environmental protection and social capital development. It is involved in different types of infrastructures such as social, economic, hard and soft infrastructures regarded as a factor of production that complements other factors. For sustainable development, community service plays an important role in increasing productivity, economic recovery and professional skills.

## Chapter Three: Research Methodology

This section presents the research methodology that was used in this study including the description of the case study area. Additionally, the methodological aspects describe the research design, selection of participants for the study, methods and techniques for data collection and analysis, the limitation of the study and the problems encountered in the study process.

### 3.1. Description of the case study area

This study was conducted in Nyamagabe district. It is one of the 8 districts composing the South Province and is situated. It borders Karongi and Ruhango district in the north, Nyanza and Huye in the East, Nyaruguru in the South, and Rusizi and Nyamasheke in the West. According to Figure 3.1, the map of Rwanda clarifies the location of the study area.

**Figure 3.1: Map of Rwanda**



*Source: Nyamagabe District Development Plan [2008-2012], (July 2007)*

Nyamagabe District is subdivided into 17 administrative Sectors, 92 Cells and 536 Villages, (Nyamagabe District, 2011:4). Demographically, Nyamagabe District has a population of 327 449 persons and 52.67 % of whom are women. There are 73 249 Households which implies an average of five persons per family. The population density is 325/km<sup>2</sup>, (Nyamagabe District, 2011:5).

By this study, the majority of the population of Nyamagabe District lives on agriculture. They produce the following crops by order of importance: beans, Irish potatoes, wheat, bananas, sorghum, cassava, peas, maize and soya. Serious problems facing food production in the District are linked to poor soil fertility due to soil acidity, land fragmentation and unexploited land. It is important to emphasize on the fact that, the existence of 2 tea factories (One which is operational at Kitabi and another at Buruhukiro as Mushubi Tea Factory which is under construction) and 6 coffee washing stations in Nyamagabe District constitute concrete development signs of these two commodities (Nyamagabe District, 2011:5).

Handicrafts and small-scale industries are also present. In this economic sector, there are activities such as basket weaving and pottery. The District counts 6 handicraft cooperatives. The District commercial activities are largely concentrated in Nyamagabe town and certain trading centers. Agricultural and animal products are the most marketed in the District. Nyamagabe District has five commercial banks. Regarding markets, markets of Musebeya, Nyamagabe, Gasarenda, Kaduha, Miko and Masizi are in good conditions (Nyamagabe District, 2011:6). Generally, the secondary sector is not well developed.

Industries in Nyamagabe are non-existent except a few agro-processing units such as tea processing of Kitabi and coffee washing stations. These units constitute important engine for the promotion of cash crops. Minerals found in Nyamagabe District include coltan, tin, wolfram all of which are exported. Quarries contain stones and sand are mined for construction purposes and clay for pottery.

Concerning Social Infrastructure, Nyamagabe District has 25 health establishments (2 hospitals, 1 District Pharmacy, 17 health centers, 2 Health Post and 3 Community Posts). In education,

Sports, youth and culture aspects, the District counts 55 nursery schools, 103 Primary schools, 46 Secondary schools and 5 TVETs. Nyagisenyi stadium helps the District team “Amagaju” to perform in National Football League (1st Division). There is only one youth training centre in Nyamagabe District “Itorero Peak Family”.

At District level, Inkumburwa folkloric group entertains people and guests in public ceremonies. Finally, Nyamagabe District is among several zones in the country with sufficient water sources which can potentially satisfy the demand of the population. The population makes on average distance of 300 m to access clean drinking water.

### **3.2. Incarceration and community service in Nyamagabe district**

By 31<sup>st</sup> May 2007, Gikongoro prison had 5689 inmates, including 5376 men and 313 women even though it has accommodation capacity for only 2500 individuals. Among these prisoners 4773 i.e 83.8 % are accused of genocide and 916 i.e 16 % committed common crimes, (Nyamagabe District, 2007: 60). Nyamagabe District currently has 8000 survivors of genocide, 828 of whom have accommodation, 883 have houses which urgently require rehabilitation, (Nyamagabe District, 2007: 61). The 564 and 603 genocide survivors are from Cyanika and Gasaka sectors respectively.

As per January 2012, the number of persons who should be doing work of general public interest was estimated to have risen to 4,107; the number of offenders who have been received by RCS is 2,269 people. The offenders at work (in labor camps and proximity community service) are 588 persons. In this district, the offenders who have finished their sentence are evaluated to 1,643 people, while 308 have dropped out<sup>20</sup>.

Additionally, the people condemned to the alternative punishment to imprisonment who have returned to prison are 477 and those who passed away in labor camp are 63<sup>21</sup>. Furthermore, from the same source, Cyanika sector has 775 persons who have been condemned to community

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<sup>20</sup> RCS, 2011-2012 Annual Report, Official data of the persons sentenced to CS recognized by District in July,2012.

<sup>21</sup> Umurungu M. Claudine, RCS Production Coordinator Nymagabe, Report of data of persons sentenced to CS in Nyamagabe District dated 24<sup>th</sup> January, 2012.

service while Gasaka sector has 325 people sentenced to community service. A number of 120 offenders who have finished their sentence come from Cyanika Sector, and 89 from Gasaka sector<sup>22</sup>.

However, in Nyamagabe District, the penalty of community service has been carried out at the Neighborhood Community Service model, where the offenders worked 3 days per week at their respective community hills. The 1<sup>st</sup> Labor Camp was introduced on the 18<sup>th</sup> September, 2007 in Musange sector with 300 offenders who constructed the houses for genocide survivors. In Gasaka sector, where the community service has had intensive interventions, the labor camp started on the 29<sup>th</sup> of February, 2008<sup>23</sup>.

Currently, Nyamagabe district has one labor camp in Cyanika sector, in Nyanzoga cell. This labor camp has officially started on the 1<sup>st</sup> of April, 2012 with 310 offenders; 24 people among them have by now finished the work. Contrarily, 11 offenders have deserted the work. At the time of collecting data, the offenders at work in labor camp were evaluated to 275 people (221 population of Nyamagabe district and 54 from other district)<sup>24</sup>. In labor camp the work begins at 6 am and finishes 2pm, from Monday to Saturday. After work it is time for learning, practicing sports and doing other entertainment activities for the offenders. Sunday is a day off, and they join different religious confessions and visits.

### **3.3. Research design**

In this section, we highlight the steps that were followed during our research, from problem statement, methodology, data collection to results analysis. Different authors have defined the concept and we would like to quote some of them. According to Mouton (2001:55), “a research design is a plan of how you intend to conduct the research”. The other authors like Hussey and Hussey (1997: 114) define a research design as “the science (and art) of planning procedures for conducting studies so as to get the most valid findings”.

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<sup>22</sup> Idem

<sup>23</sup> Habumukiza Juvenal, RCS Nyamagabe District Coordinator, the preliminary contact on the 1<sup>st</sup> October, 2012 at Nyamagabe District office.

<sup>24</sup> Ruremesha Cesar, Coordinator of Cyanika Community Service labor camp, the preliminary contact on the 26<sup>th</sup> September, 2012 at Cyanika Labor camp.

The field data collection exercise was conducted after getting clearance from the relevant authorities. These included the Faculty of Arts, Media and Social Sciences of the National University of Rwanda, The Rwanda Correctional Service Commission and the Nyamagabe District authorities. Then, we have organized the preliminary visits to the Rwanda Correctional Service commission, to the District staff, to the Executive Secretaries of Sectors in Nyamagabe district and to the Cyanika Community Service labor camp and made appointment for the interviews.

During this empirical research, the techniques such as questionnaire, observation, face-to-face interview and documentary technique were helpful in collecting data for analyzing and interpreting. After collecting data, the researcher coded and edited them to verify their relevance. The researcher used cross-tabulation in tabulating the data, the two entries, one for indicators and another for categories of respondents helped in data analysis, interpretation and draw conclusions easily. Finally, the researcher reported the results and assessed their implications regarding theoretical assumption.

### **3.4. Population of the study**

This study concerns the population of Nyamagabe district, especially 25148 people of Gasaka sector where the community service began in 2008. This population is spread into 6 cells and 29 villages. Community service activities are being carried out in labor comps located in Cyanika sector. This sector includes an estimate of 24,078 persons who are spread into 6 cells and 45 villages. We note that Gasaka sector is the most influential sector in implementing community service activities in Nyamagabe district.

In additionally, these two sectors present urban-rural dichotomy. Cyanika is entirely a rural sector and Gasaka is urban sector with some rural aspects. This dichotomy helped in assessing the impact of community service through infrastructure development in urban and rural areas of Nyamagabe District. The distribution of the population study per sectors and per category, and its sample size is demonstrated in Table 3.1.

**Table 3.1: The study population per Sector and per category and its sample size**

Categories  Sector	Population study				Sample size						
	Genocide survivors	Offenders in Labor camp	Ex-Offenders	Tot	Genocide survivors	Offenders in Labor camp	Ex-Offenders	S/tot	Other population		Total
									Opinion leaders	District staff	
Cyanika	564	275	120	<b>959</b>	25	13	6	<b>44</b>	6	-	
Gasaka	603	-	89	<b>692</b>	27	-	5	<b>32</b>	6	-	
District staff	-	-	-	<b>11</b>	-	-	-	-	-	11	
<b>Total</b>	<b>1167</b>	<b>275</b>	<b>209</b>	<b>1661</b>	<b>52</b>	<b>13</b>	<b>11</b>	<b>76</b>	<b>12</b>	<b>11</b>	<b>99</b>

*Source:* Researcher's design, September 2012

### 3.5. Sampling procedures and sample size

Sampling is the process of selecting participants. The probability or random sampling has been used in this study. According to Alrdidge and Levine (2001:62) “if data from the selected cases is to be used as the basis for generalizations about an entire target population then the probability (or random) methods of sampling should be employed.” In this case, the random sampling has been used to gather data from different categories of the population of Nyamagabe district.

The target population includes 11 District staff in charge of community service and development activities, genocide survivors themselves, ex-genocide prisoners who are carrying or have finished their sentence of community service and 12 opinion leaders from each village of both sectors (Cyanika and Gasaka) and were also the part of the population study of the two sectors. As it seems difficult to cover all population, a sample was drawn. A sample is a portion of the population selected to achieve the objectives of the study.



According to Gupta (2001: 37), “a sample is any group of measurements selected from a population for analysis.” This study has adopted random sampling procedure where the following formula of Cochran was useful:

$$n = \frac{z^2 * p * q * N}{d^2(N-1) + z^2 * p * q}$$

Where:  $n$  = Sample size,  $N$ = Size of the population,  $Z$ = Coefficient normal distribution,  $p$ = probability of success,  $q$ = probability of failure,  $d$ = margin error

For Cochran (1977), the margin error varies between 5% and 10%. We have used the margin error of 8%, then the confidence level of 95%, our probability of success was  $p=.5$ , while failure probability is  $q=.5$  and the Coefficient normal distribution  $Z=1.65$ . We have applied this formula on the population equaling to 1662people, and we got the following sample size:

$$n = \frac{(1.65)^2 * 0.5 * 0.5 * 1662}{(8/100)^2 * (1662 - 1) + (1.65)^2 * 0.5 * 0.5} =$$

$n = \frac{1130.51812}{11.31103} = 99.94829 \cong 100$ . To avoid further confusion between sample size and percentage of it in analysis and interpretation of data, the researcher kept 99 (99.94829) as sample size.

Therefore, the sample size under the study population of 1662 is 99 people. From this Simple random sampling; the stratified random sampling has been applied. The sample size of 99 was used to the different categories at the district and sector levels. Firstly, at the district level, purposively, 11 respondents were chosen because of their relevant information and their important role play in the process of the development of the district and implementation of community service.

Secondly, at sector level, we have divided the target population into distinctive strata, and we have identified the genocide survivors, offenders who have finished their punishment, offenders

at work in labor camp and other population (district staff and opinion leaders) as a stratifying variable. In this regards, we have taken the sample size minus 11 respondents at the district level and 12 opinion leaders from each cells of both sectors. Thereafter, we have taken the remaining (99-11-12=76) multiply by the number of each category of respondent of each sector and then divided by the whole total of the respondent category of the two sectors. For instance, in calculating the sample of Cyanika sector we proceeded as follows:

$$Cyanika = \frac{76 * 959}{1651} = 44.145366445 \cong 44. \text{ The stratification of the sample of Cyanika sector is:}$$

The sample of genocide survivors =  $\frac{44 * 564}{959} = 25$ . This formula has been applied to other categories for the same manner and the stratification of sample size is presented in Table 3.1.

Then for Gasaka sector, the sample size and its stratification is as follows:

$$Gasaka = \frac{76 * 692}{1651} = 31.854633555 \cong 32. \text{ The stratification of the sample of Gasaka sector}$$

follows: The sample of genocide survivors =  $\frac{32 * 603}{692} = 27$ . This formula has been applied to other category for the same manner and the stratification of sample size is presented in Table 3.1.

The sample size is 99 and includes 50, 38 and 11 from Cyanika, Gasaka and at the district level respectively. The proportion of the sample size of the two sectors has been stratified in respondents' strata of Genocide survivors, offenders at work in labor camp, Ex-offenders and Opinion leaders. This has respected the rule of proportionate stratified sampling whose a uniform fraction was used for all the strata. We noted in data presentation that the category of opinion leaders and district staffs were represented by other population. In order to carry out this research an emphasis has been put on the quantitative and qualitative approach. The techniques of data collection are presented as follows.

### **3.6. Techniques of data collection**

Through this study, a number of methods and techniques were used in collecting data. The approach of hypothetical-deductive model of science was focused on.

#### **3.6.1. Techniques of data collection**

The data collection process involves a number of techniques that require a particular attention at this level. First of all, there is a **questionnaire** whose rationale is widely cited. To Aldridge and Levine (2001:58), questionnaire will provide basic information about the sample from which generalizations can be made to the whole population. In itself, the questionnaire is described as “a list of carefully structured questions, chosen after considerable testing, with the view of eliciting reliable responses from a chosen sample” (Hussey and Hussey 1997:161). In this research, open and closed questions were used. For open-ended questions, the respondents gave their answers and expressed their opinions detailed in a given blank space.

For closed ended questions, the respondents gave their answers in a reserved place without detailed information. They should chose the most important answer as it required for SPSS analysis. The questionnaire was addressed to the district staff, genocide survivors, offenders and ex-offenders and opinion leaders. Except in Community Service Labor Camp where the researcher was assisted by the Coordinator of Camp, the questionnaires were firstly self administrated and supervised by the researcher at the household of respondents, and on Tuesday and Thursday the days of community work (*umuganda*) and *Itorero ry’umudugudu* respectively. In cases where respondents did not know how to read and write, we have recorded their views. The staff of sector in Charge of Civil Status and Notary helped to reach to the Executive secretaries of cells to facilitate and invite the opinion leaders at cells offices. The questionnaires were designed in English; and have been firstly translated into Kinyarwanda. Thereafter participants’ responses were translated and recorded in English.

Secondly, this study used the **face-to-face interview** in line with Aldridge and Levin (2001:51). They suggest the researcher running the interviews with “the respondent in person, either in respondent’s home, or in the researcher’s office, or in some neutral location.” In so doing, the study was able to involve and engage key respondents in themes regarding the implementation

and effectiveness of community service in the area of infrastructure development. Among others, key respondents include the Assistants to the Mayor of the District and to the Vice Mayor in Charge of Economic Affairs; Chairman of District Council; District Coordinator of Community service; Infrastructure Officer; Land Manager; Agronomist; Director of Planning and Economic Unit; Permanent Secretary of JADF; Genocide Survivor Representative; Civil Society Representative; and Private Sector Federation Representative. At the sector level, the Executive Secretaries, agronomists, and in charge of Social and Economic Development of cells were interviewed.

We also interviewed the genocide survivors, convicts involved in community service as well as the staff in charge of community service labor camps and other sections of population found relevant. The interview was organized on Mondays for District staff after the management meeting held each Monday at the District office, and on other appointment offered by interviewees. For the coordinator of community service labor camps and tigistes, the interviews were held in Labour Camps.

For the tigistes in neighborhood community service, the interview was held at the site they were carrying their sentences. This technique helped to get more information from interviewees and also helped to expand on their thoughts, feelings and experiences on community service as an instrument of ensuring food security and environment in Nyamagabe. The whole process is intended to take a single interviewee at a time. It refers to an interview schedule aiming to avoid the possibilities of derailing from the required discussion and to minimize irrelevance and time wasting.

Third, **observation** has been privileged to offer first hand information to this study. At least, to refer to Hussey and Hussey (1997: 77), “observation is a method for collecting data used in the field whereby people’s actions and behavior are observed and recorded.” Direct observation has been the most privileged in order to enable us to find out by ourselves ways in which community service-related infrastructure development activities are running on the ground. This technique helped us to know what is really taking place in Nyamagabe District in terms of community

service and how are being done sustainably for ensuring the subsistence of both present and current generations.

Finally, this study was interested in the **documentary** technique to gather the information required for the theoretical discussions. During this work sample technique was used to get primary data. Also, the researcher utilized secondary data to reinforce the validity of gathered data from the field. According to Gupta (2001: 37), “primary data are measurements observed and recorded as part of an original study”. These are data not available elsewhere. For the secondary data, a particular focus is being put on different textbooks, reports, journals, government publications and other policy documents, electronic documents, and photos. Regarding the results of community service from different sources of literature, we were able to agree, support and challenge the data from respondents’ questionnaires and interviews. This technique helped us to relate chronologically the activities of community service, their results and their contribution to state budget and to infrastructure development in Nyamagabe District. These data were analyzed and interpreted.

### **3.6.2. Techniques of data analysis**

After collecting data, the efforts were oriented to data processing activity. The data are to be given a thorough check, coded, edited and tabulated. The first step is **coding, cleaning and editing**. According to Gupta (2001: 35), “the process of coding involves translating responses in numerical terms in order to facilitate the analysis”. For Hussey and Hussey (1997: 174) emphasize this saying that the method of coding is largely dictated by the way a variable has been measured in your research instrument and the way you want to communicate the findings about a variable to your readers. The **cleaning** consists in scrutinizing the completed research instruments to identify and minimize, as far as possible, errors, incompleteness, misclassification and gaps in the information obtained from the respondents. And **editing** is necessary to see that the questionnaires are complete in every respect and the information supplied is consistent and accurate.

After organizing data, the next step is the **presentation**. Data organized in orderly manner offered significant information from gathered data and, therefore, facilitate statistical analysis. In

this case, some tables and charts were used. Contingency tables, which are frequency tables of two variables presented, were simultaneously used. In this way, contingency tables are a convenient means of showing the relationship between two variables. When relative frequencies are computed, useful information about the distribution of a single variable over levels of another variable may be presented. There was an association between activities done and sustainable development, and to test whether the changes in infrastructures depend on the condemned contribution.

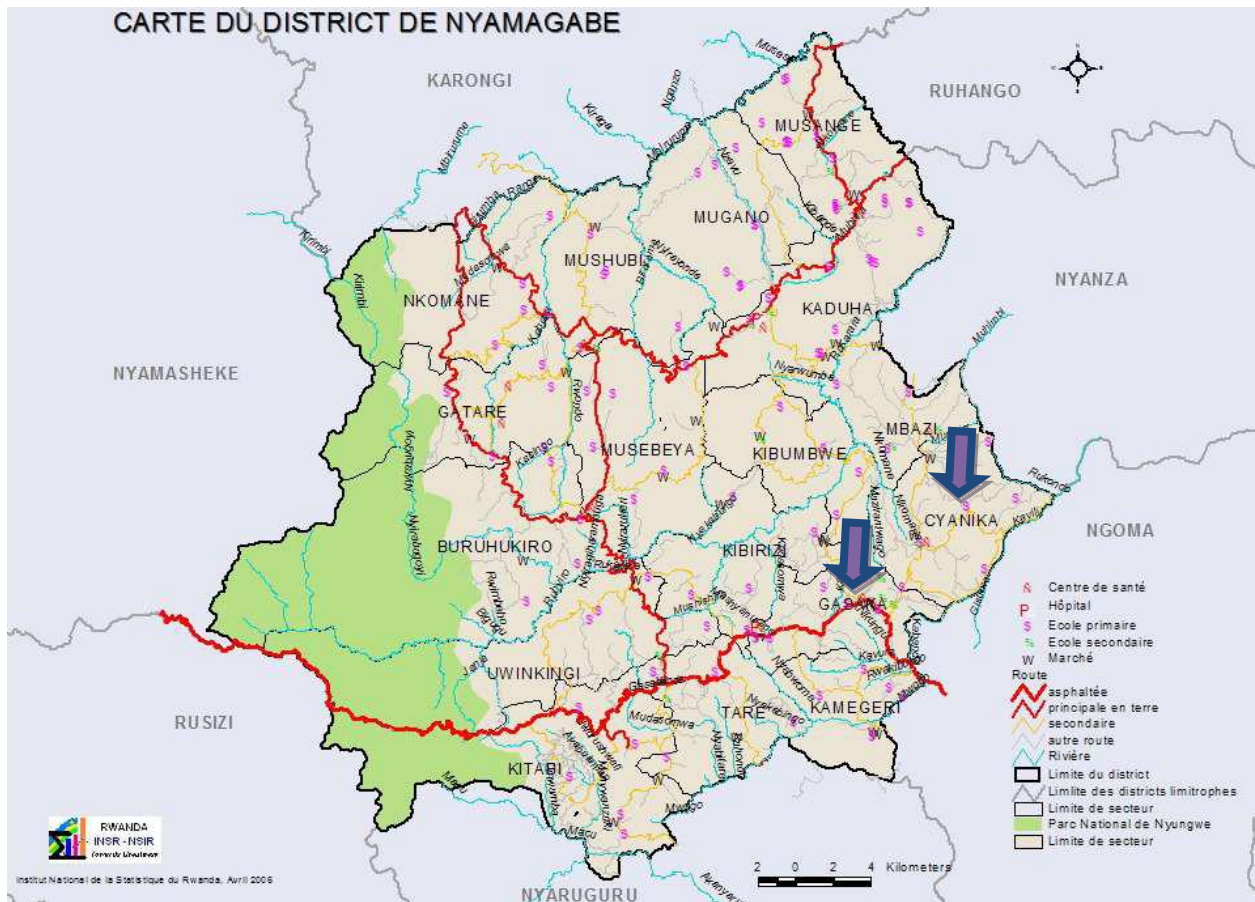
The last step is **analysis and interpretation of the findings**. Once data are obtained from the field, they must be cleaned, coded, keypunched into a computer, and analyzed before they are interpreted. Analyzing the data means turning the raw observations into summaries that can be interpreted. Appropriate methods for analysis depend on the objectives, the study design and the nature of observations. To analyze the data collected basing on the number of respondents calculation in percentages was performed and the researcher based on the latter to draw conclusion and recommendations. When analysis takes place, SPSS matrixes and Excel spreadsheet package were used as tools, as well as photographs taken during the survey or provided by the Public relations officer at RCS and Nyamagabe Community Service District Coordinator.

### **3.7. Delimitations and scope of the study**

Since it is rare that a sociological inquiry can be carried out to the whole population (Javeau, 1985:42), there are a number of reasons why delimitations and scope of this study should be clearly established. The resources it requires lead the researcher to focus on Nyamagabe district, as located in the Southern Province. The development of this district improves in all domains, especially infrastructure development. In this process, the Tigistes are among the main actors. The District geographical situation has been more localized at the map in Figure 3.2. The study is set to investigate the labor camp and its neighborhoods within the time limits of 2008 and 2012. On theoretical grounds, the sociological, economical, environmental and developmental aspects of infrastructure development are expected to inform this study for ensuring the subsistence of present and coming generations.

In terms of **timeframe** the data collection process lasted two months ranging from September to October 2012.

**Figure 3.2: Map of Nyamagabe**



Source: Nyamagabe District Development Plan [2008-2012], (July 2007)

**Problems encountered during the research**

During the process of data collection in the field, the researcher faced the following problems:

- ✚ The Delay in delivering the permission of data collection in Cyanika community service labor camp and non respect of appointments at the scheduled time.
- ✚ The problem of locating some key respondents, ex-offenders in the two sectors. This is because they are scattered in different villages of Cyanika and Gasaka sectors.

- ✚ The problem of incapability to meet some of the key local leaders for interview like the chairman of the district council, Private Sector Federation Representative....
- ✚ Unwillingness of some of the respondents to respond and being interviewed. They said that the study was a waste of their time and nothing new will change in community service management system.

### ***Ethical Statement***

This research study was conducted after clearance and approval of the research topic by the National University of Rwanda, the Faculty of Arts, Media and Social Sciences, as well as after getting the Recommendation letter from the above faculty confirming that the researcher is their student and the data he was to collect was purely for academic purposes. During the data collection process and the report writing, the researcher ensured that the following ethical considerations were pragmatic: -Protecting the identities and interests of all respondents. - Obtaining written permissions from the Rwanda Correctional Service and Nyamagabe district to carry out research in Nyamagabe district including Cyanika community service labor camp. - Acknowledgement of all the sources of data used and quotations in the report. -Explanation of the purpose of the research to the participants beforehand, and seeking permission to use the information gathered from them in writing thesis. -The researcher behaved in a respectful way with all participants throughout the research. Respondents who wanted to withdraw from the interview or not to fill the questionnaire at any time were allowed to so.

### **3.8. Summary of the Chapter three**

The above chapter related to Research Methodology dealt with the area of study which is Nyamagabe District especially Gasaka and Cyanika sectors of the case study of the incarceration and community service, the research design, sampling procedure and sample size. The sample size was 99 respondents from genocide survivors, offenders in Cyanika labor camp, ex-offenders and other population. It also presented the research methods and techniques of data collection like questionnaire survey, face-to-face interview, observation and documentation. In addition, it explained the techniques of data analysis process used and their importance in relation to the study. Lastly, this chapter points out the delimitations and scope of the study, time frame, problems encountered during the research and ethical statement.



## **Chapter Four: Research Findings and Data Analysis**

Chapter four is an empirical chapter that presents the field research findings. These findings constitute a summary of field opinions closely linked to the data collection instruments, as presented in the appendices 4 and 5. This chapter is more interested in making an inventory of alternative punishments to imprisonment practices, on the one hand, and in reflecting on their relevance for infrastructure development, on the other hand. The whole idea is that infrastructure development would contribute to the subsistence of both current and future generations of Nyamagabe district. There are lots of detailed data to present in this chapter. Therefore, there is a guidance to ease the reading of the findings. As much as possible, it further highlights opening quotes that indicate the information that the author wants the audience to see which is in direct connection to the research questions and the theoretical framework.

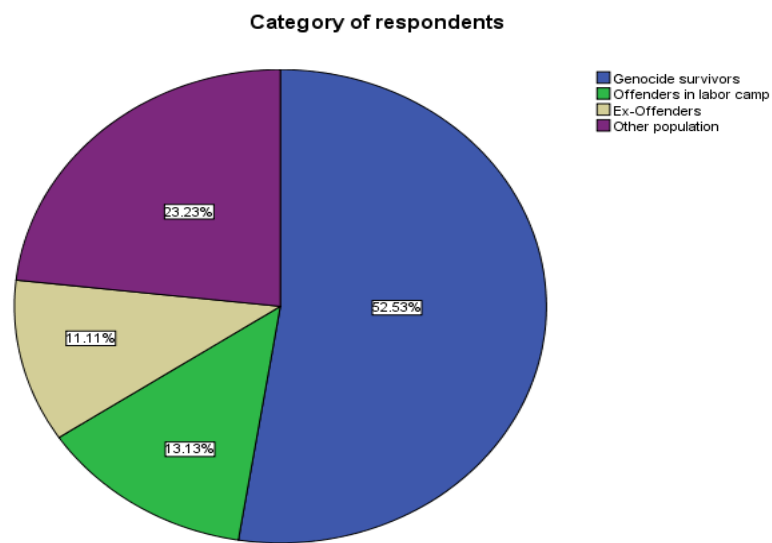
### **4.1. Characteristics of the respondents**

The sample size established for this study is 99. As Table 3.1 shows, the sample is distributed between Cyanika (50) and Gasaka (38) sectors and the district level (11). The proportion of the sample size of the two sectors falls in the categories of genocide survivors, offenders at work in Cyanika labor camp (namely Tigistes), and ex-offenders or ex-tigistes. The selection of respondents in these categories is based on their personal characteristics such as educational level, employment, period sentenced to community service, district of origin of offenders, and the expected profession of ex-offenders after their sentence. These categories help us to find out how different categories of people understand or perceive the role of alternative punishment to imprisonment in developing infrastructures sustainably in Nyamagabe District. It makes our research an inclusive study. These proportions of respondents are presented in Chart 4.1.

*The crime of genocide had negative effects on the whole society. However, the research on alternative punishment to imprisonment sentenced to genocide perpetrators as a tool for sustainable development should concern all categories of the population concerned. This heterogeneity of respondents presents the different levels of instruction.*

The Chart 4.1 deals with the categories of respondents involved in this research who are: genocide survivors, offenders in Cyanika labor camp, ex-offenders, and other population. The Chart 4.1 distributes the respondents between these four categories as follows: genocide survivors represent 52.53 %; other population represents 23.23%, the offenders undergoing labor camp 13.13% while the ex-offenders are estimated to be 11.11%.

**Chart 4.1: The categories of respondents**

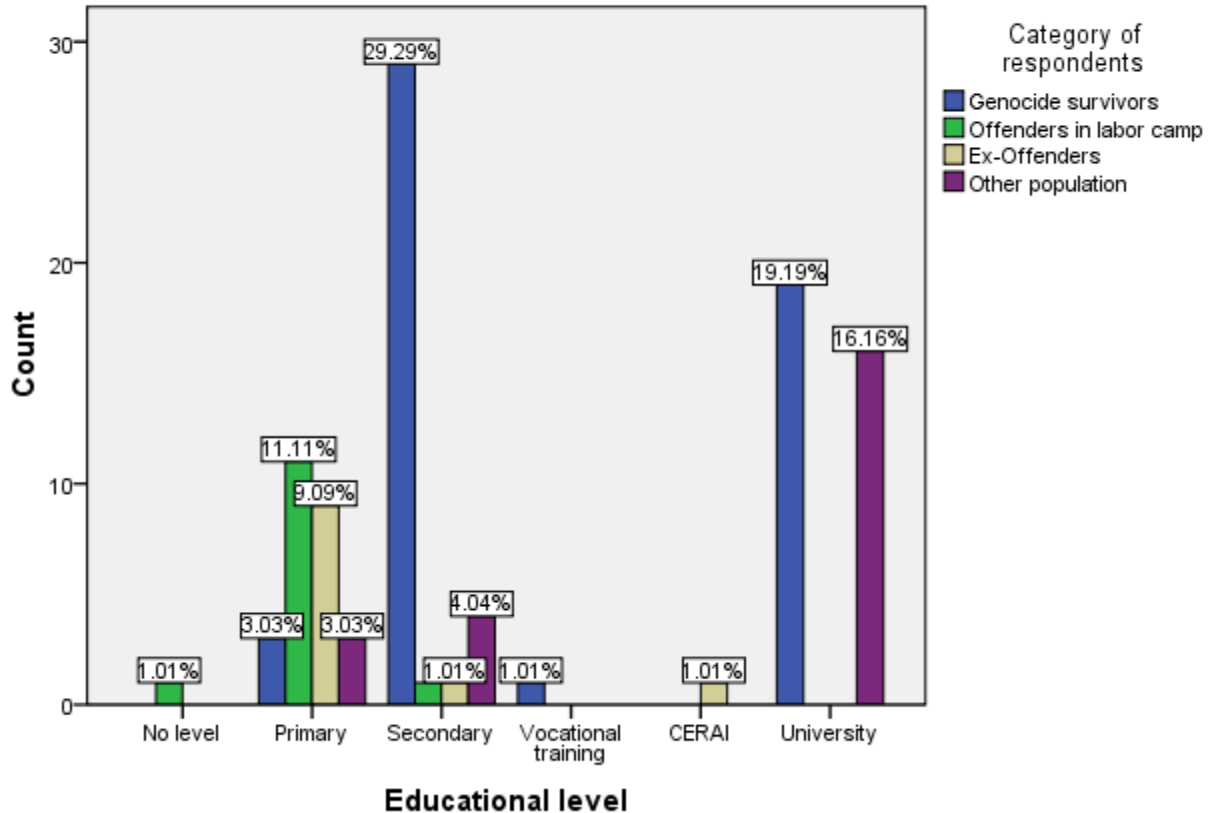


**Source:** Primary data, October 2012

The Chart 4.2 presents the respondents' level of education like illiterate, primary, secondary, vocational training, CERAI and University.

*The educational level is important in analyzing how alternative punishment to custody contributes to the development of social capital. Offenders in Cyanika labor camp gain vocational training in general while the illiterate learn to read, write and counting in particular. Human skills development is one of the key factors to ensure social welfare of offenders, their family members and the entire community of Nyamagabe.*

**Chart 4.2: Educational level of respondents**



*Source:* Primary data, October 2012

Regarding the educational level, the Chart 4.2 shows that 1.01% of the offenders in labor camp did not attend school while 3.03 % of genocide survivors and other population represent 3.03%, 11.11% of the offenders in labor camp and 9.09 % of ex offenders had only attended the primary level of education. Similarly, 1.01% of the offenders in labor camp and ex offenders represent 1.01%, 4.04% of other population and 29.29% of genocide survivors had a secondary level of education. Vocational training was attended by only genocide survivors at an estimate of 1.01% and 1.01% of ex offenders at 1.01% had attended what is known as *Centre d’Enseignement Rural et Artisanal Intégré* (CERAI). An estimate of 19.19% and 16.16% of genocide survivors and other population had respectively attended university education.

To evaluate the contribution of community service on employment, only offenders in labor camp and those who have completed their sentences were asked about their employment status before 1994 genocide. Table 4.1 demonstrates ex-offenders' employment before 1994 and post-community service. It establishes that 13 offenders in labor camp, that is 100%, were farmers before 1994; 8 ex-offenders, that is 72.7%, were farmers while 3 ex-offenders 27.3% were masons before 1994. As far as the post-community service employment is concerned, 5 ex-offenders 45.4% are farmers, 2 ex-offenders 12.2% are masons, 3 of them 27.3% are private and 1 that is 9.1% is a weaver.

*The study showed that the alternative punishment to incarceration offers the opportunity of changing the employment status. The research had intended to compare the situation of ex-offenders before 1994 genocide with their employment status after performing their sentence and their reintegration in their families. Referring to professional skills gained from alternative sentence to custody, the offenders and ex-offenders were farmers before 1994 genocide while ex-offenders are now farmers, masons, and weavers, and employed in private sector. The public institutions or government agencies do not employ them because it prohibited by the law.*

**Table 4.1: Employment before 1994 and post-community service employment**

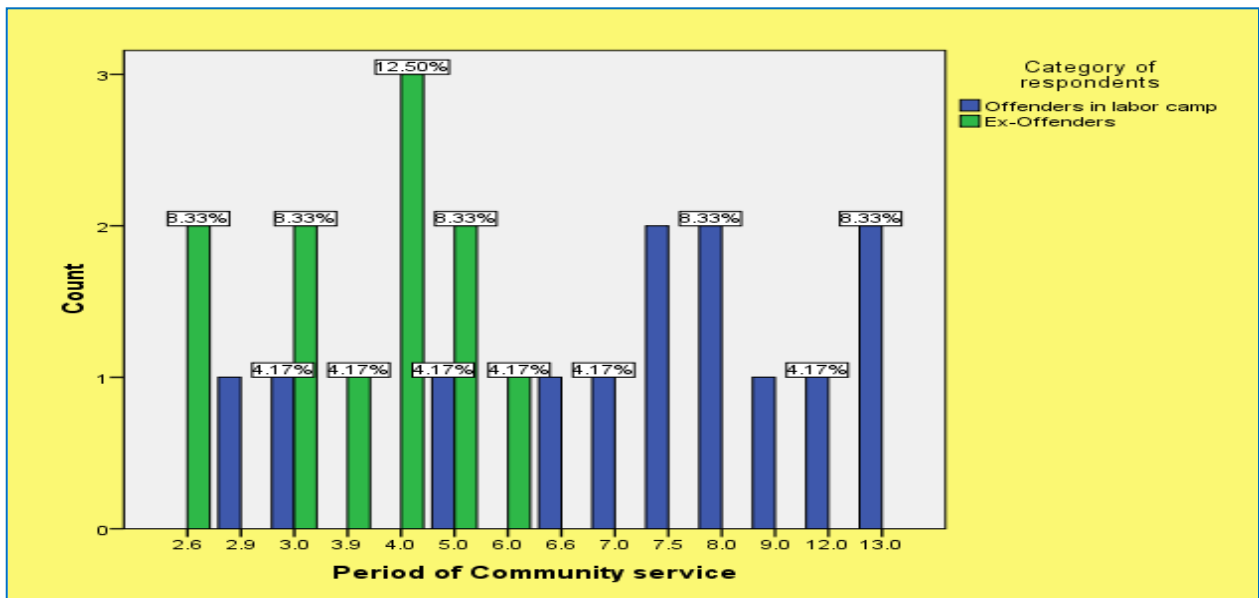
Employment Category of respondent	Employment before 1994			Post-community service employment						
	Farmer	Masonry	Total	Farmer	Masonry	Employed by state	private	students	Weaving	total
Offenders in labor camp	13 (100%)	0	13 (100%)	-	-	-	-	-	-	-
Ex-offenders	8 (72.7%)	3 (27.3%)	11 (100%)	5 (45.4%)	2 (12.2%)	0	3 (27.3%)	0	1 (9.1%)	11 (100%)
total	21 (87.5%)	3 (12.5%)	24 (100%)	5 (45.4%)	2 (12.2%)	0	3 (27.3%)	0	1 (9.1%)	11 (100%)

*Source:* Primary data, October 2012

The period of performing community service is different from one offender to another. The following Chart 4.3 is concerned with the offenders in labor camp, the ex-offenders and the period of performing their sentence is ranging from 2.6 to 13 years in community service.

*The period of community service sentenced to genocide perpetrators is very crucial because the more they spend much time at labor camp, the more they become recidivists, and deserters. In addition, when the period of community service exceeds three years, it is a long period which cannot facilitate the process of reintegration. As the community service sentence to genocide perpetrators is mandatory pronounced by Gacaca courts in Rwanda this period is not considered.*

**Chart 4.3: The period of performing community service**



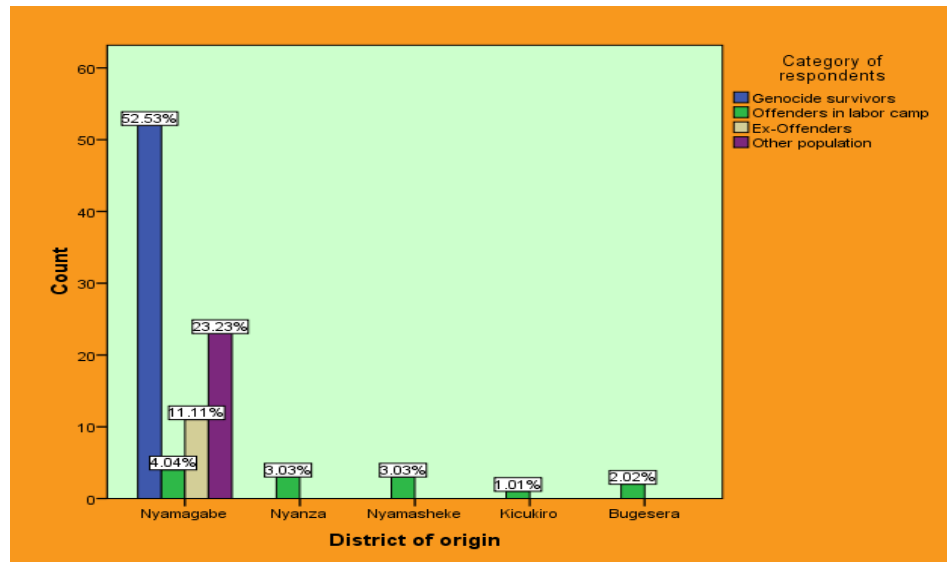
*Source:* Primary data, October 2012

Chart 4.3 establishes that 8.33% of the ex-offenders spent a period of time ranging from 2.6 to 5 years in community service. At the same time, others representing 4.17% spent between 3.9 and 6 years while 12.50% of another category had 4 years of alternative penalty to imprisonment. The offenders in labor camp representing 4.17% are assigned the periods of 2.9, 3, 5, 6.6, 7, 9 and 12 years in community service. It is also observable that offenders in labor camp of 8.33% their punishment will serve 7.5, 8 and 13 years. Hence, the maximum period of community service for ex-offenders was 6 years while it is estimated to 13 years to those in labor camp.

As Chart 4.4 relates to district of origin of respondents, this presentation highlights that genocide survivors, ex-offenders and ‘other population’ involved in this empirical discussion come from Nyamagabe district. To the contrary, the offenders in labor camp came from different districts all over Rwanda.

*The research revealed that the offenders who participate in infrastructure development in Cyanika labor camp come from different districts such as Nyanza, Nyamasheke, Kicukiro, Bugesera and Nyamagabe.*

**Chart 4.4 District of origin of respondents**



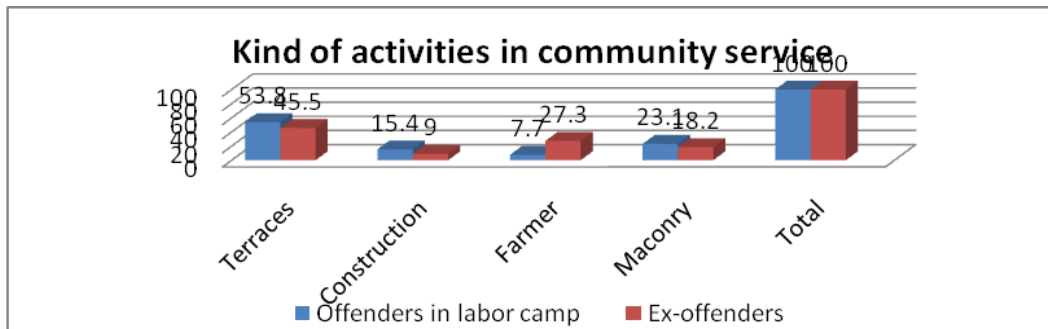
**Source:** Primary data, October 2012

The Chart 4.4 shows the offenders currently in labor camp originate from different districts such as Nyamagabe (4.04%), Nyanza and Nyamasheke (3.03%), Kicukiro (1.01%), and Bugesera (2.02%).

After reaching the labor campsite for community service, offenders and ex offenders do different types of work of common interest for the society such as terracing, masonry, farming, construction as presented in the Chart 4.5.

The research findings showed that the farming activity was performed by both offender and ex-offenders which means that the alternative sentence to custody contributes to food security and to social capital empowerment in Nyamagabe district.

**Chart 4.5 Kinds of work in community service**

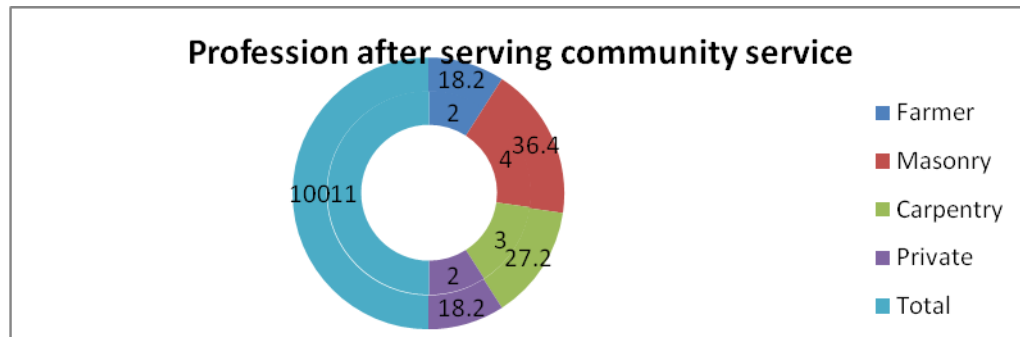


*Source:* Primary data, October 2012

From Chart 4.5, it is made clear that 53.8 % of the offenders in Cyanika labor camp participate in terraces, 23.1% in masonry, 15.4% in construction and 7.7% in farming 7.7%. Similarly 45.5% of the ex-offenders participated in terraces, 27.3% in farming, 18.2% in masonry and 9% in construction.

As community service is the rehabilitation and integration, punishment intended to reconstruct the society and the offenders. Chart 4.6 deals with profession practiced by ex offenders after finishing their punishment in their daily life. Those professions of ex offenders are farming, masonry, carpentry and private.

**Chart 4.6: Post-punishment profession**



*Source:* Primary data, October 2012

It is shown, from the Chart 4.6, that after completion of the punishment 36.4% of the ex-offenders participate in masonry, 27.2% in carpentry while 18.2% attend farming as well as private sector. The following section deals with the relationship between the alternative punishment to custody and sustainable development.

#### **4.2. Community service and sustainable development**

The alternative punishment to custody intervene in different activities that foster sustainable development which may appear in various domains such as social, economic, environmental, infrastructure development for insuring the subsistence of both current and coming generations.

##### **4.2.1. Community service Vs social development**

The alternative punishment to incarceration contributes to improved standards of living conditions, providing professional skills (know-how), and to ensuring food security. Table 4.2 shows how education, health care, cultural and recreational facilities, power generation and water supply are improved through community service.

*The research clarified that the alternative punishment to custody mainly contributes to the improvement of social living conditions in education, health, recreational and cultural facilities. The offenders learn how to read, write and count. They get all*



*necessary primary health care at Cyanika health center. When the illness becomes serious the offender is transferred to Kigeme District Hospital. Entertainments practiced include dancing, football and volleyball.*

As per Table 4.2, the respondents argue that the alternative punishment contributes to the standards of living in various domains. For instance, they point out the increase in education facilities (46%), health facilities (9%), cultural facilities (25.3%), recreation facilities (12.1%), and power generation (2%) and in water and sanitation (5.5%). This is a summary of opinions to which most respondents were satisfied with at various levels, of course.

**Table 4.2. Alternative punishment to incarceration and standards of living**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Contribution of alternative punishment to incarceration on standards of living	Education Facilities	Count	26	3	5	12	46
		%	50.0%	23.1%	45.5%	52.2%	46.5%
	Health Facilities	Count	4	0	1	4	9
		%	7.7%	.0%	9.1%	17.4%	9.1%
	Cultural facilities	Count	12	5	4	4	25
		%	23.1%	38.5%	36.4%	17.4%	25.3%
	Recreation facilities	Count	8	4	0	0	12
	%	15.4%	30.8%	.0%	.0%	12.1%	
Power generation	Count	0	1	0	1	2	
	%	.0%	7.7%	.0%	4.3%	2.0%	
Water and sanitation	Count	2	0	1	2	5	
	%	3.8%	.0%	9.1%	8.7%	5.1%	
Total	Count	52	13	11	23	99	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Source:* Primary data, October 2012

For instance, genocide survivors recognize the contribution in education facilities (50%), the offenders in labor camp see the contribution in cultural facilities (38.5%) while the ex-offenders (45.5%) and other population living in Nyamagabe District (52.2%) also greatly appreciate the

impact of community service on people's lives. The general view of all categories of the respondents is that community service does not remarkably contribute in some areas such as power generation, water and sanitation.

As a matter of fact, the District Coordinator of community service in Nyamagabe district in interview disclosed the following: “the role of the offenders in power and water supply is only limited to dig where to plant the electricity poles, and water pipes transport or to carry them. This does not happen regularly, it depends on the projects of EWSA related to energy and water supply.” While this is the case, the Coordinator of community service in Cyanika community lauded the value it has brought to the increase in cultural facilities. Those convicted for community service, he argued, “have contributed to the maintenance of genocide memorial sites of Cyanika, Gasaka and Murambi.” He added that “in this camp, we have Itorero Abatiganda. They are theatre actors, dancing troupes recognized at sector and district levels. They compete with others”. In this camp there are football and volleyball teams. The picture 1 below shows 12YBE classrooms at G.S. Saint Nicolas Cyanika built by the offenders while picture 2 shows the testing event to HIV/AIDS in Cyanika labor camp.

**Picture no1: G.S. S<sup>t</sup> Nicolas Cyanika 12YBE classrooms**

**Picture no 2: HIV/AIDS Test**



*Source:* Primary data (1) and RCS Nyamagabe District (2).

Offenders in labor camp are not only sensitized to government programs like contribution to building schools and HIV/AIDS testing but also gain professional skills namely: carpentry,

masonry, excavation work, joinery, hydraform machine use and weaving that is helpful in their life as shown in the Table 4.3.

*The study demonstrated the main professional skills gained from community service are masonry, joinery, excavation work, hydraform machine use and weaving. These professional skills will help offender to contribute to the subsistence of their family after getting back to the society. They also help ex-offenders to promote the economic welfare of their family and sustain social wellbeing. The learners teach others what they have gained through community service for sharing the know-how and living in harmony with the rest of the society. Nyamagabe district benefits from these professional skills in the fact that offenders build various public offices, establish terraces, build schools and markets, add value to human and natural resources, protect infrastructures, self development and their families, keep unity and reconciliation in their cooperatives and protect the environment.*

**Table 4.3. Professional skills gained from alternative penalty to custody**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Professional skills gained from alternative penalty to custody	Carpentry	Count	8	0	1	1	10
		%	15.4%	.0%	9.1%	4.3%	10.1%
	Masonry	Count	20	6	5	4	35
		%	38.5%	46.2%	45.5%	17.4%	35.4%
	Excavation work	Count	7	0	1	6	14
		%	13.5%	.0%	9.1%	26.1%	14.1%
Joinery	Count	15	4	2	11	32	
	%	28.8%	30.8%	18.2%	47.8%	32.3%	
Hydraform machine use	Count	2	2	1	1	6	
	%	3.8%	15.4%	9.1%	4.3%	6.1%	
Weaving	Count	0	1	1	0	2	
	%	.0%	7.7%	9.1%	.0%	2.0%	
Total	Count	52	13	11	23	99	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

Source: Primary data, October 2012

Through Table 4.3, it is made obvious that the offenders in the alternative penalty to custody gain different professional skills such as carpentry, masonry, excavation work, joinery, using hydraform machine and weaving. As an illustration, 35.4% of the respondents stated that people gain the most professional skills in masonry while 32.3% of the respondents consider much the joinery. Table 4.3 also indicates that the professional skills in excavation work are acquired at the rate of 14.1%. Carpentry is acquired at an estimate of 10%, the least being hydraform machine use, weaving of which skills are acquired respectively with the rates of 6% and 2%.

Among the respondents, it is found that the offenders in labor camp (46.2%), the ex-offenders (45.5%) and genocide survivors (38%) consider masonry as the best professional skills whereas ‘other population’ (47%) consider joinery instead. However, professional skills from weaving are given less importance by ‘other people’ and genocide survivors (0%) in comparison with the offenders in labor camp (0%) for carpentry and excavation work.

The following pictures show the skills gained in community service activities. The picture no.3 below refers to masonry, the picture no.4 weaving and the picture no.5 hydraform machine use in making bricks.

**Picture no3: Masonry**



**Picture no 4: Weaving**



**Picture no 5: Hydraform use**



**Source:** RCS at Nyamagabe (4) and at national (3&5) levels

In Cyanika Labor camp, there are 74 tigestes who are learning how to write, count and read, 26 offenders are learning to weave baskets and 110 are skilled in preparing kitchen garden, 44 offenders in masonry, 25 technicians for measuring terraces. Societal benefits from these professional skills include various public offices, establishing terraces, building schools and markets, adding value to human and natural resources, protecting infrastructures. There are also governmental programs such as fighting against illiteracy, sensitizing gender education, patriotism and increasing family productivity so as to ensure food security.

The Table 4.4 is related to domains used in community service that insure food security like land use consolidation, terracing, chemical fertilizers, cultivation of food and cash crops. It presents data on a number of indicators. They include, for instance, the ‘assurance of food security’ by community service.

*The study revealed that community service played a great role in fighting against endemic famine and hunger in Nyamagabe district. This Nyamagabe district is located in former Gikongoro province where the persistence of food shortage was the characteristic. That is the main reason why offenders in Nyamagabe district are employed in increasing agriculture production, land use consolidation, terracing for cultivating food (cassava, maize,) and cash crops (coffee and tea).*

An estimate of 34.3% of the respondents argued that community service plays an important role in radical terracing. This statement is shared among genocide survivors (40.4%), ‘other population’ (34.2%), the ex-offenders (27.3%) and the offenders in Cyanika labor camp (15.4%). The percentage 28.8% of genocide survivors, 26.1% of the ‘other population’, 18.2% of the ex-offenders and 15.4% of the offenders in labor camp lauded land use consolidation to be an area where community service is yielding important results. Food crops are cultivated at 16.2% as remarked by offenders in labor camp 23.1%, ex offenders 18.2%, genocide survivors 15.4% and other population 13%. Increase of agriculture productivity at the rate of 11.1%, cultivating cash crops 7.1% and the use of chemical fertilizers 6.1%. Regarding food security assurance, they build “kitchen gardens” in labor camp and in the surrounding environment.

In connection to this brief background, the empirical part of this study intended to know how many times the people of Nyamagabe district take meals per day before (Table 4.5) and after (Table 4.6) the introduction of alternative punishment to incarceration. It was also interested in the level of satisfaction (Table 4.7) vis-à-vis food security. This level of satisfaction describes an encouraging pattern (Chart 4.7) as comparison is established between the two distinct periods of reference. These Tables and Chart come up with details presented further.

**Table 4.4. Assurance of food security from community service**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Insurance of food security from community service	Land use Consolidation	Count %	15 28.8%	2 15.4%	1 9.1%	6 26.1%	24 24.2%
	Radical Terracing	Count %	21 40.4%	3 23.1%	3 27.3%	8 34.8%	35 35.4%
	Chemical Fertilizers	Count %	3 5.8%	1 7.7%	1 9.1%	1 4.3%	6 6.1%
	Increasing agriculture productivity	Count %	3 5.8%	1 7.7%	3 27.3%	4 17.4%	11 11.1%
	cultivating food crops	Count %	8 15.4%	3 23.1%	2 18.2%	3 13.0%	16 16.2%
	Cultivating cash crops	Count %	2 3.8%	3 23.1%	1 9.1%	1 4.3%	7 7.1%
Total		Count %	52 100.0%	13 100.0%	11 100.0%	23 100.0%	99 100.0%

*Source:* Primary data, October 2012

*The social sustainability should not exist without the abundance of food. The study showed that there were a decreasing number of people who take meal once day after the introduction of alternative punishment to custody. It also confirmed that there is*

*an increase in number of people who take meals twice day after the introduction of alternative sentence to prison. The study guarantees the levels of food satisfaction in Nyamagabe district. From the historical analysis, during the period of 1980 and 1990s people died from hunger. Some people migrated to Bugesera and Kibungo areas in search of food and fertile land. The former Karama commune (the current Cyanika sector) was the most affected by these events. The famine in this province had caused the displacement of people. Currently, it is not the case. The intervention of community service and other institutions make certain the food abundance.*

**Table 4.5. Meals per day before community service**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Meals per day before community service	1	Count	29	9	4	10	52
		%	55.8%	69.2%	36.4%	43.5%	52.5%
	2	Count	23	3	7	13	46
		%	44.2%	23.1%	63.6%	56.5%	46.5%
	3	Count	0	1	0	0	1
		%	.0%	7.7%	.0%	.0%	1.0%
Total	Count	52	13	11	23	99	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Source:* Primary data, October 2012

Table 4.5 reports on the number of meals before the introduction of community service in Nyamagabe district. An estimate of 52.5% of the respondents stated that they ate once per day. This opinion was fairly shared among the respondents –that is, 69.2% of the offenders in labor camp, 55.8% of genocide survivors, 43.5% of the ‘other population’ and 36.4 % of the ex-offenders. The overall opinion of the respondents claimed to eat twice a day (46.5%).

Again, individual categories of respondents adhered to this position in a fair manner: the ex-offenders (63.6%), the ‘other population’ (56.5%), genocide survivors (44.2%) and the offenders in labor camp (23.2%). Only 1% of the respondents claimed to eat three times a day. This category involves the offenders in labor camp (7.7%) and this situation existed before they started performing community service. There is an improvement in number of those who take the meals per day after the introduction of community service. The table 4.6. refers to times of taking meals after the introduction of community service in Nyamagabe District

**Table 4.6. Meals per day after the introduction of community service**

		Category of respondents				Total
		Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Meals per day	1	Count 6	1	0	1	8
		% 11.5%	7.7%	.0%	4.3%	8.1%
	2	Count 44	12	11	18	85
	% 84.6%	92.3%	100.0%	78.3%	85.9%	
	3	Count 2	0	0	4	6
	% 3.8%	.0%	.0%	17.4%	6.1%	
Total	Count	52	13	11	23	99
	%	100.0%	100.0%	100.0%	100.0%	100.0%

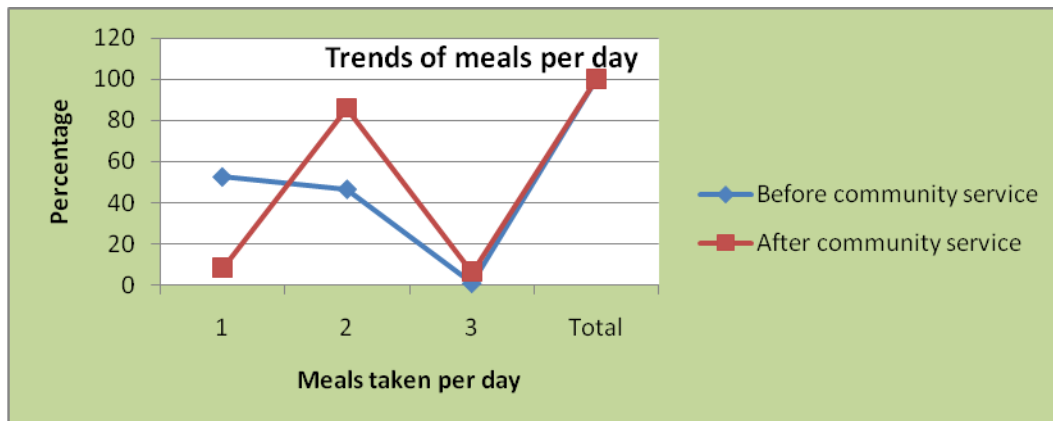
*Source:* Primary data, October, 2012

Referring to meal taking after the introduction of community service, Table 4.6 presents related data. Many respondents reported that they eat twice a day (85.9%): the ex-offenders (100%), the offenders in labor camp (92.3%), genocide survivors (84.6%), and the ‘other population’ (78.3%). About taking meal once a day genocide survivors confirm it at 11.5%, the offenders in labor camp 7.7%, and the ‘other population’ 4.3% while no ex offenders eat once, that is 0%. Only other population with 17.4% and genocide survivors 3.8% takes a meal three times a day at 6.1%.

The Chart 4.7 illustrates the pattern of the situation of food security before and after the introduction of community service.



**Chart 4.7: Meal taking vs Community service**



*Source:* Primary data, October 2012

As it appears, Chart 4.7 compares Tables 4.5 and 4.6. It shows that the number of respondents who take meals before the introduction to community service once a day reduced from 52.5% to 8.1% and an increase in number of respondents (from 46.5% to 85.9%) who take meals twice a day after the introduction of community service. The table 4.7 demonstrates the levels of food satisfaction on behalf of respondents that is very high, high, middle, low, very low levels.

As Table 4.7 reports, the respondents argued that food satisfaction is at high level at 44.4% as confirmed by ex offenders 54.5%, the 'other population' at 52.2%, genocide survivors 44.2% and the offenders in labor camp at 23.1%. In general, the respondents (39.4%) reported food satisfaction to be at the middle level. It is a pattern shared by all the categories involved in this study: the offenders in labor camp (53.8%), genocide survivors (44.2%), the ex-offenders (36.4%) and the 'other population' (21.7%).

It is also noted that the level of food satisfaction was graded very high by the same categories to a certain extent: the offenders in labor camp (12.1%), genocide survivors (23.1%), the ex-offenders (9.1%) and the 'other population' (8.7%). Equally, some respondents (3%) regarded the level of food satisfaction as low.

**Table 4.7. Level of food satisfaction**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Level of food satisfaction	very high	Count	6	3	1	2	12
		%	11.5%	23.1%	9.1%	8.7%	12.1%
	high	Count	23	3	6	12	44
		%	44.2%	23.1%	54.5%	52.2%	44.4%
	middle	Count	23	7	4	5	39
	%	44.2%	53.8%	36.4%	21.7%	39.4%	
	low	Count	0	0	0	3	3
		%	.0%	.0%	.0%	13.0%	3.0%
	very low	Count	0	0	0	1	1
		%	.0%	.0%	.0%	4.3%	1.0%
Total		Count	52	13	11	23	99
		%	100.0%	100.0%	100.0%	100.0%	100.0%

*Source:* Primary data, October 2012

Of this category of respondents the ‘other population’ alone supported this view at an estimate of 13%. The very low level of food satisfaction was estimated to be 1% and was confirmed only the ‘other population’ (4.3%). No matter what the level of food satisfaction is, it is important to know the composition of that meal. Generally, the meal is composed of maize, beans, sorghum flower, cassava, maize flour, rice, potatoes and sweet potatoes.

It is true that the above situation on food satisfaction in Nyamagabe is linked to community service. Also, other institutions and programmes intervene to ensure food security is met. Table 4.8 presents more details on these institutions and programmes.

*The process of fighting against hunger is not a simple task for one actor; it requires the interdependence of multiple stakeholders or institutions in reducing hunger. Community service is not alone in improving food abundance. In this regards, there are other institutions and programmes which concomitantly intervene in improving the level of food satisfaction in Nyamagabe district.*

**Table 4.8. Institutions and development programmes contributing to food satisfaction**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Contribution of institutions on food satisfaction	TIG	Count	9	2	4	2	17
		%	17.3%	15.4%	36.4%	8.7%	17.2%
	Ubudehe	Count	12	2	2	3	19
		%	23.1%	15.4%	18.2%	13.0%	19.2%
	Girinka	Count	9	2	2	2	15
		%	17.3%	15.4%	18.2%	8.7%	15.2%
	VUP	Count	6	1	0	4	11
		%	11.5%	7.7%	.0%	17.4%	11.1%
	Cooperatives	Count	4	1	0	4	9
		%	7.7%	7.7%	.0%	17.4%	9.1%
Umurenge SACCO	Count	7	1	2	4	14	
	%	13.5%	7.7%	18.2%	17.4%	14.1%	
MIG	Count	2	0	0	2	4	
	%	3.8%	.0%	.0%	8.7%	4.0%	
UNICOOPAGI	Count	3	4	1	2	10	
	%	5.8%	30.8%	9.1%	8.7%	10.1%	
Total	Count	52	13	11	23	99	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Source:* Primary data, October 2012

Among other programs, Table 4.8 establishes that Ubudehe<sup>25</sup> contributes a lot to food satisfaction at the rate of 19.2%. The categories of respondents are unanimous about this finding, though there are variations in their opinions: genocide survivors (23.1%), the ex-offenders (18.2%), the offenders in labor camp (15.4%) and the ‘other population’ (13%). In the second place (15.2%), Girinka<sup>26</sup> is also established to be an important role player: the ex-offenders (18.2%), genocide survivors (17.3%), the offenders in labor camp (15.4%) and the ‘other

<sup>25</sup>Ubudehe is a traditional mutual assistance where a gathering of people work together.

<sup>26</sup> Rwandan development programme in fighting against poverty denoted “One cow per one poor family”.

population’ (8.7%). In line with the above, VUP<sup>27</sup> was referred to as a program that contributes at an estimate of 11.1%. Only some categories shared this view: the ‘other population’ (17.4%), genocide survivors (11.5%) and the offenders in labor camp (7.7%).

Referring to institutions, TIG contributes to food satisfaction at 17.2% as remarked by ex-offenders 36.4%, genocide survivors 17.3%, offenders in labor camp 15.4%, other population 8.7%. To the ex-offenders (18.2%), the ‘other population’ (17.4%), genocide survivors (13.5%) and the offenders in labor camp (7.7%), at least, Umurenge Sacco<sup>28</sup> follows with 14.1%. In the very last position, the favor to the UNICOOPAGI<sup>29</sup> amounted to 10.1% as the categories of respondents claimed: the offenders in labor camp at (30.8%), the ex-offenders (9.1%), the ‘other population’ (8.7%), and genocide survivors (3.8%). As it appears the programmes contributing to food security highly compete with the existing institutions, not only in numbers but also in effectiveness so far estimated at less than 10%. Only some cooperatives (9.1%) and Multi-Investment Group (MIG) (4%) were registered as institutions playing an insignificant role.

As we saw that the alternative punishment to custody contributes in different domains of development, the following section focuses on infrastructure assets which lead to economic welfare.

#### **4.2.2. Community service Vs economic development**

The causality involving the infrastructure facilities and both commodity and communication facilities is widely supported to boost the economic development. The infrastructure, commodity and communication are key variables of which community service has made use to ensure economic growth. As a result, the community service is regarded as contributing to the government budget. Table 4.10 illustrates ways in which the ‘offenders’ contributed to putting infrastructures in place and, hence, to economic development in Nyamagabe district.

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<sup>27</sup> Vision 2020 Umurenge” is a new initiative by the Government of Rwanda (GoR) in collaboration with development partners and NGOs. It uses the existing decentralization system and leverages technical and financial assistance to accelerate the rate of poverty reduction in Rwanda. The aim is to eradicate extreme poverty by 2020.

<sup>28</sup> Umurenge Saving and Credit Cooperative is the financial institution which exists in each Rwandan sector since 2008.

<sup>29</sup> Union des Cooperatives Agricoles Intégrées ai The Union of Integrated Agricultural Cooperatives, the local non-governmental organization operates in Nyamagabe, Huye and Nyaruguru district. Its objective is to promote agricultural mechanization.

*As Nyamagabe district is landlocked and backward in transport and communication infrastructures, the intensive internal roads is the key factor for commodity and communication facilities. The study pointed out that the alternative punishment played a good role of intensification of roads within the district. The offenders constructed new roads for sustaining the flux of goods and services. The activities performed by offenders increasing the production in different aspects.*

**Table 4.9. Infrastructures for commodity and communication facilities**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Infrastructures for commodity and communication facilities	good roads	Count	24	3	10	10	47
		%	46.2%	23.1%	90.9%	43.5%	47.5%
	bridges	Count	10	4	1	6	21
		%	19.2%	30.8%	9.1%	26.1%	21.2%
	local streets	Count	18	6	0	7	31
		%	34.6%	46.2%	.0%	30.4%	31.3%
Total		Count	52	13	11	23	99
		%	100.0%	100.0%	100.0%	100.0%	100.0%

*Source:* Primary data, October 2012

Regarding infrastructure for commodity and communication facilities, Table 4.9 summarizes the respondents' views. At an estimate of 47.5%, the categories of respondent such as the ex-offenders (90.9%), genocide survivors (46.2%), the 'other population' (43.5%) and offenders in labor camp (23.1%), report Nyamagabe district to own well maintained roads at 47.5%. In addition, local streets (31.3%) are also perceived as an immediate outcome of community service, at least, to refer to different opinions made by the respondents – that is, the offenders in labor camp (46.2%), genocide survivors (34.6%) and the 'other population' (30.4%). However, 21.2% of the respondents rarely acknowledged local bridges to be part of the infrastructures for

commodity and communication facilities. In different categories such as the offenders in labor camp (30.8%), the ‘other population’ (26.1%), genocide survivors (19.2%) and the ex-offenders (9.1%) confirmed this statement.

The pictures no 6&7 below show the offenders in constructing the roads as commodity facilities which facilitate transport and communication between sectors within the district.



**Source:** Public Relations Officer, RCS, October 2012

Referring to the above pictures of offenders making roads, it is obvious that they will facilitate transport of goods, people, animals, provision of public and private services, industrial capacity for transport of raw materials, finished goods and communication within the district.

In the Table 4.10 Activities from which community service get production will be discussed that is agriculture, construction of houses, construction of road and bridge, mining and tailoring stones, making bricks, carpentry and environmental protection.

*The study emphasized on productive activities in ensuring growth and supporting government budget. Activities related to construction of house and roads, agriculture, preserving environment are at the core source of getting production. There are other activities which are not considered as productive like monthly community work commonly known as “umuganda”. The production is evaluated in term of money. The involvement of offenders sentenced to community service reduces*

*the amount of money that might be spent in development activities comparing to entrepreneurs' prices.*

**Table 4.10 Activities from which community service get production**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Activities from which community service get production	Agriculture activities	Count	17	0	5	3	25
		%	32.7%	.0%	45.5%	13.0%	25.3%
	construction of house	Count	16	4	4	4	28
		%	30.8%	30.8%	36.4%	17.4%	28.3%
	Construction of road and bridge	Count	14	2	0	4	20
		%	26.9%	15.4%	.0%	17.4%	20.2%
	Mining and tailoring the stones	Count	1	0	0	3	4
		%	1.9%	.0%	.0%	13.0%	4.0%
making bricks	Count	1	6	0	3	10	
	%	1.9%	46.2%	.0%	13.0%	10.1%	
Carpentry	Count	2	0	0	1	3	
	%	3.8%	.0%	.0%	4.3%	3.0%	
protecting environment	Count	1	1	2	5	9	
	%	1.9%	7.7%	18.2%	21.7%	9.1%	
Total	Count	52	13	11	23	99	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Source:* Primary data, October 2012

In the framework of community service, Table 4.10 describes the activities performed by the offenders. The construction of houses (28.3%) comes first in the ranking order made by the respondents – that is, the ex-offender (36.4%), the offenders in labor camp and genocide survivors (30.8%) and the ‘other population’ (17.4%) living in Nyamagabe district. The agriculture ranks second (25.3%) according to individual categories of respondents: the ex-

offenders (45.5%), genocide survivors (32.7%) and the ‘other population’ (13%). Thirdly, the construction of roads and bridges (20.2%) was confirmed, by genocide survivors (26.9%), the ‘other population’ (17.4%) and by the offenders in labor camp (15.4%), to be an activity of great importance.

In the same ranking order, brick-making scored the fourth activity (10.1%): the views from the offenders in labor camp amounted to 46.2%, the ‘other population’ scored 13% while genocide survivors comparatively scored the least (1.9%). The activities viewed as rating under 10% are environment protection (9.1%), mining and tailoring the stones (4%) and carpentry (3%) while the ex-offenders saw that mining and tailoring stones, carpentry, making bricks scored 0% as remarked by offenders in labor camp for mining, tailoring stones and carpentry.

The pictures number 8&9 have showed the specific activities from which community service gets production. The picture number 8 shows the offenders in masonry building in a village called Gasharu, Nyabivumu cell, Gasaka sector whereas the picture number 9 shows offenders in agriculture activities establishing terraces at Kibingo Village, Nyanza cell, Cyanika sector.

**Picture no8: Offender in masonry**



**Picture no9: Offender in establishing terraces**



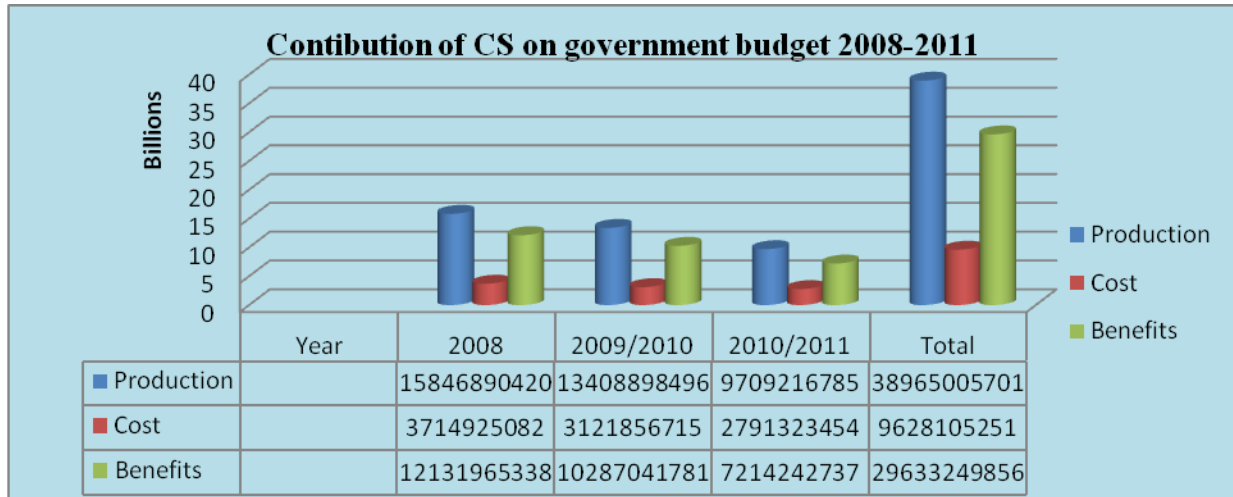
*Source:* Primary data (8) and RCS Nyamagabe District (9)

The areas to which community service contribute are construction of roads, school building and house construction for genocide survivors and other vulnerable groups, establishing terraces and



radical terracing, brick laying and tree planting as a strategy for environment protection. As Chart 4.8 illustrates, community service activities generate revenue to support the local government budget.

**Chart 4.8: Contribution of Community service on Government budget 2008-2011**



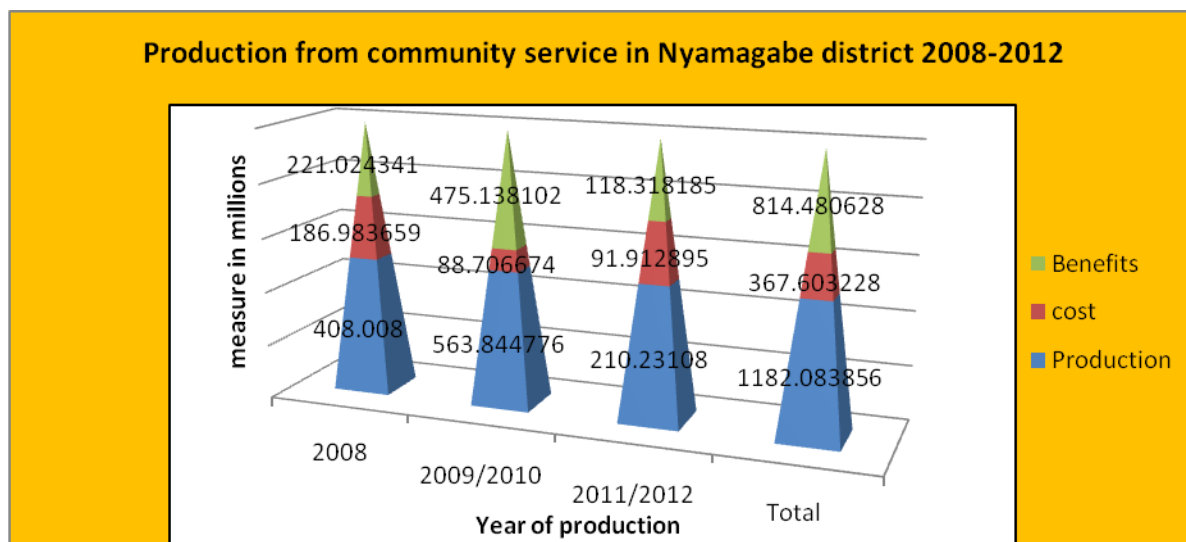
*Source:* Secondary data; RCS, October 2012

The chart 4.8 illustrates the support of community service activities to government budget. For instance, the production from alternative punishment to incarceration from 2008 to 2011 at national level is estimated at more than 38.9 billions of Rwandan francs. The amount spent in running those activities is evaluated at 9.6 billions of Rwandan francs, and the benefit from community service in this period is about 29.6 billion. The alternative punishment to the imprisonment does not only support the government budget but also the local budget of Nyamagabe district. The Chart 4.8 demonstrates the contribution of community service in Nyamagabe district.

As the study highlights in chart 4.9, the support of community service activities to Nyamagabe district budget is enormous. Alone, from 2008 to 2012 the production was 1 billion and 182.1

million, and where the cost of those activities is estimated to 367.6 million and the benefits from those activities is 814.5 millions of Rwandan francs.

**Chart 4.9 Community service and district budget 2008-2012**



*Source:* Secondary data; RCS, October 2012

During the period of 2008-2012, the production was estimated at 1 billion and 182.1 million Rwandan francs. Compared to the production gained at national level from 2008-2011(38965005701Rwf), this production equals to 3.03% ( $11820833856 \times 100 / 38965005701$ ) of the national production. Whereas the average production of each district<sup>30</sup> in the same period is 1 billion and 298.8 million ( $38965005701 / 30$ ). During this period authorities of Nyamagabe district emphasized on achieving their performance contracts signed with the President of the Republic of Rwanda. The local leaders mobilized many offenders in different activities to get more production and achieving their performance contract through community service.

The research findings also showed that the production from community service in Nyamagabe district has decreased at the rate of 50% [ $210231080(2012) \times 100 / 408008000(2008)$ ] from 2008 to 2012. That came from the decrease in number of labor camps and of the offenders who, on the

<sup>30</sup> The country of Rwanda has administrative entities of 30 districts.

one hand, performed their sentence in this district and, on the other hand, the big number of offenders who completed their sentences. The section below presents environmental sustainability as a domain of activities covered by community service.

#### **4.2.3. Community service Vs environmental development**

Professional skills gained from alternative sentence to the imprisonment play a great role in preserving environment of Nyamagabe district. The table 4.11 gives details.

*In preserving environment, the researcher found out that the professional skills gained from alternative punishment to the custody preserve environment. This preservation laid on radical terraces, forest maintenance, anti-erosion activities and conservation of rivers. It was remarkable that the community service does not contribute to waste management in Nyamagabe district. The low rate came from the waste management system in Nyamagabe town where people need the intervention of community service in evacuating the waste around the bus station. The respondents do not consider building and rehabilitation of roads and bridges as the main factors for ensuring environment because are economical asserts.*

Table 4.11 related to professional skills required to preserve the environment and particular emphasis is put on anti-erosion activities (26.3%). Most of the respondents perceived these activities as privileged strategy for environment protection: the ex-offenders scored 36.4%, genocide survivors 32.7%, the ‘other population’ 17.4%, and offenders in labor camp 7.7%. Among these activities, forests maintenance (24.2%) was made a priority by most respondents at varying degrees: the ex-offenders confirm this at 36.4%, genocide survivors and the offenders in labor camp at 23.1% while the ‘other population’ counts 21.7%.

Also, the ‘other population’ (26.1%), genocide survivors (19.2%) the offenders in labor camp (15.4%) as well as the ex-offenders (9.1%) established the conservation of rivers (19.2%) as an

important activity. Radical terraces (17.2%) equally go in this line of thinking according to the offenders in labor camp (38.5%), genocide survivors (15.4%), the ‘other population’ (13%) and the ex-offenders (9.1%). It was remarkably made clear that waste management (7%), building and rehabilitation of roads and bridges (6%) play a major importance in the range of the anti-erosive activities.

**Table 4.11 Professional skills in preserving environment**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Professional skills in preserving environment	Anti-erosion	Count	17	1	4	4	26
		%	32.7%	7.7%	36.4%	17.4%	26.3%
	Conservation of rivers and lakes	Count	10	2	1	6	19
		%	19.2%	15.4%	9.1%	26.1%	19.2%
	building and rehabilitation of roads and bridges	Count	5	1	0	0	6
		%	9.6%	7.7%	.0%	.0%	6.1%
	Radical terraces establishment	Count	8	5	1	3	17
	%	15.4%	38.5%	9.1%	13.0%	17.2%	
Forests maintenance	Count	12	3	4	5	24	
	%	23.1%	23.1%	36.4%	21.7%	24.2%	
Waste management	Count	0	1	1	5	7	
	%	.0%	7.7%	9.1%	21.7%	7.1%	
Total	Count	52	13	11	23	99	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Source:* Primary data, October 2012

For environmental protection, picture 10 below shows offenders digging radical terraces to fight against erosion at Karama village, Cyanika cell, Cyanika sector while in picture 11 they are protecting a river and its surrounding.

**Picture 10: Offender fighting against erosion**



*Source:* RCS Nyamagabe District, October 2012.

**Picture 11: Offenders protecting rivers and marshlands**



The intervention of alternative punishment to the imprisonment in preserving and protecting environment plays a great role in developing infrastructure. It also ensures the longevity of infrastructures.

#### **4.2.4. Community service Vs infrastructure development**

The next paragraphs deal with the durability and the standard quality of infrastructure pertaining to community service. The Table 4.12 shows the respondents' perception about the durability of infrastructure built by the offenders in Nyamagabe district.

*The intension of knowing the lifespan of infrastructure capital, the study supported that the houses for vulnerable groups, classrooms and terraces constructed by offenders are long-lasting in their existence. The status of infrastructure pertaining to alternative sentence to incarceration permits to serve both present and future generation when the regular maintenance is offered.*

As far as the durability of infrastructure facilities is concerned, Table 4.12 presents different levels identified as the highest, high, middle, low and the lowest levels. The respondents rated their durability at the highest level (38.4%), with categories of genocide survivors considering this overall view at 44.2%, the 'other population' at 39.1%, the offenders in labor camp at 30.8% whereas the ex-offenders at 18.2%.

**Table 4.12: Durability of infrastructure facilities**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Durability of infrastructure facilities	Highly	Count	9	2	1	3	15
		%	17.3%	15.4%	9.1%	13.0%	15.2%
	High	Count	23	4	2	9	38
		%	44.2%	30.8%	18.2%	39.1%	38.4%
	Middle	Count	12	6	4	5	27
		%	23.1%	46.2%	36.4%	21.7%	27.3%
	Low	Count	6	1	2	4	13
		%	11.5%	7.7%	18.2%	17.4%	13.1%
	Lower	Count	2	0	2	2	6
		%	3.8%	.0%	18.2%	8.7%	6.1%
Total		Count	52	13	11	23	99
		%	100.0%	100.0%	100.0%	100.0%	100.0%

*Source:* Primary data, October 2012

The durability of infrastructure facilities is regarded as locating at middle level (27.3%) with the category of the offenders in labor camp according to this idea at 46.2%, the ex-offenders at 36.5%, genocide survivors at 23.1% while the ‘other population’ at 21.7%. The highest level was considered at 15.2% in general but from categories of respondents of genocide survivors stated it at 17.3%, offenders in labor camp 15.4%, other population 13% where as ex offenders confirmed it at 9.1%. Rated at 13.1%, the low level attracted the attention of the respondent as follows: the ex-offenders rated it at 18.2%, the ‘other population’ 17.4%, genocide survivors 11.5% and the offenders in labor camp 7.7%. The lowest level was concerned with 6.1%, ex offenders regarded it at 18.2%, other population 8.7% genocide survivors 3.8%.

As the durability should go with the quality of infrastructures facilities pertaining to TIG, the Table 4.13 presents the respondents’ perception in details. It reports that houses built by offenders in community service for vulnerable groups are of a high quality at 37.4%. As a matter of fact, genocide survivors confirm this statement at 40.4%, the ex-offenders at 36.4%, the ‘other

population’ at 34.8%, while the offenders in labor camp did so at the rate of 30.8%. Schools were also put under similar scrutiny. Ranking second (21.2%) in terms of quality, various perceptions by the offenders in labor camp (30.8%), the ex-offenders (27.3%), genocide survivors (23.1%) and the ‘other population’ (8.7%) sounded consistent. The same goes with terraces (17.2%), which ranked third: the offenders in labor camp (23.1%), the ex-offenders (18.2%), the ‘other population’ (17.4%), and genocide survivors (15.4%) were also consistent about this ranking.

In the same line of thoughts, health centers (11.1%) proved to be of quality as well, at least, to refer to the perceptions of the respondents: the ‘other population’ (17.4%) the offenders in labor camp (15.4%), the ex-offenders (9.1%) and genocide survivors (7.7%). In terms of appreciation, only roads and bridges (9.1%) and water supply (4%) are the infrastructure that scored less than 10%.

**Table 4.13: The quality of infrastructures facilities pertaining to TIG**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
The quality of infrastructures facilities pertaining to TIG	Houses for vulnerable	Count	21	4	4	8	37
		%	40.4%	30.8%	36.4%	34.8%	37.4%
	Schools	Count	12	4	3	2	21
		%	23.1%	30.8%	27.3%	8.7%	21.2%
	Health centers	Count	4	2	1	4	11
		%	7.7%	15.4%	9.1%	17.4%	11.1%
	Water supply	Count	3	0	0	1	4
		%	5.8%	.0%	.0%	4.3%	4.0%
	Terraces	Count	8	3	2	4	17
		%	15.4%	23.1%	18.2%	17.4%	17.2%
	Roads and bridges	Count	4	0	1	4	9
		%	7.7%	.0%	9.1%	17.4%	9.1%
Total	Count	52	13	11	23	99	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Source:* Primary data, October 2012

The Table 4.14 is related to the contribution of infrastructure like transport facilities, communication and ICT facilities, land use management, energy supply and water supply, waste management, environmental protection and agriculture transformation to sustainable development.

*The development of infrastructure in Nyamagabe district has an impact on the subsistence of current and future generations in terms of providing shelter, food, water, sanitation, transport and communication facilities etc. The supply system of good and services depends on the improvement of infrastructure and mainly supported by the development of agricultural activities and the preservation of environment and its resources.*

The description in Table 4.14 is mostly concerned with the contribution of infrastructure to sustainable development. First, the agriculture transformation was regarded as contributing to the level of 21.2%. At first glance, the 'other population' (34.8%) category, genocide survivors (23.1%), the offenders in labor camp (7.7%) agreed with this statement, though at varying degrees.

Second, the environmental protection follows with 18.2% and the same variations in perceptions hold. All the categories of respondents remarkably supported the contribution of the environmental protection: the ex-offenders supported at 45.5%, the 'other population' at 21.7%, genocide survivors at 13.5% and the offenders in labor camp at 7.7%.



**Table 4.14 Contribution of infrastructure to sustainable development**

			Category of respondents				Total
			Genocide survivors	Offenders in labor camp	Ex-Offenders	Other population	
Contribution of infrastructure in sustainable development	Land use management	Count	13	1	2	1	17
		%	25.0%	7.7%	18.2%	4.3%	17.2%
	urban development	Count	5	0	3	2	10
		%	9.6%	.0%	27.3%	8.7%	10.1%
	transport facilities	Count	7	4	0	0	11
		%	13.5%	30.8%	.0%	.0%	11.1%
	Communication and ICT facilities	Count	2	2	0	2	6
		%	3.8%	15.4%	.0%	8.7%	6.1%
	Energy supply	Count	1	2	1	2	6
	%	1.9%	15.4%	9.1%	8.7%	6.1%	
water supply	Count	4	2	0	2	8	
	%	7.7%	15.4%	.0%	8.7%	8.1%	
waste management	Count	1	0	0	1	2	
	%	1.9%	.0%	.0%	4.3%	2.0%	
environmental protection	Count	7	1	5	5	18	
	%	13.5%	7.7%	45.5%	21.7%	18.2%	
Agriculture transformation	Count	12	1	0	8	21	
	%	23.1%	7.7%	.0%	34.8%	21.2%	
Total	Count	52	13	11	23	99	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Source:* Primary data, October 2012

Third, land use management (17.2%) also followed with support by genocide survivors at 25%, the ex-offenders at 18.2%, the offenders in labor camp at 7.7% and the other population at 4.3%. Fourth, transport facilities amounted to the score of 11.1% with the support of the offenders in labor camp (30.8%), genocide survivors (13.5%). Fifth, urban development counted 10% with strong support by the ex-offenders (27.3%), genocide survivors (9.6%) and the ‘other population’ (8.4%). Only water supply (8.1%), energy supply, communication (6.1%) and waste management (2%) scored less than 10% in terms of contribution to sustainable development.

### **4.3. Summary of the Chapter**

To conclude, Chapter Four was about presentation and data analysis from different instrument used in this research such as documentation, observation, questionnaire and interview. Different respondents namely genocide survivors, offenders in Cyanika labor camp, ex offenders and other population living or working in Nyamagabe District stated their views about community service with regard to social, economic, institutional, environmental, infrastructure development for the durability of both present and future generations. Chapter Five is dedicated to highlighting the major findings, on the one hand, and discussing the theoretical implications.

## **Chapter Five: Major findings and theoretical implications**

While Chapter Four's mission was about presenting the details of the empirical data, it is worthy helping the audience of this study to view the same data in a summarized format. With this view, an important section (5.1) is being centered on the highlights of the major findings. This section is going to mark a perfect transition from the field to the theoretical discussions (Section 5.2). This is being an opportunity for the study to bridge the gaps between theory and practice. The major idea is about looking into what the field supports or does not and try, as much as possible, to find explanations in the cultural context of Rwanda.

### **5.1. Highlights of major findings of the study**

This section highlights the empirical findings. Regarding the education, the majority of offenders and ex-offenders had primary level while genocide survivors and other population particularly involved in the study had secondary level. It is also perceived that the alternative punishment to imprisonment promotes social and economic welfare, environment sustainability thought infrastructure development.

Against the employment, the comparison made between the situation of the ex-offenders before 1994 and that of after community service establishes that the offenders in labor camp and ex-offenders were farmers. They acquired relevant skills required in private sector, by means of which they have transformed into professional farmers, masons and weavers.

The period of community service is ranged between 2.6 and 13 years. The maximum period of community service for ex-offenders was 6 years while those in labor camp it is 13 years. When the period of community service exceeds three years, it negatively impacts on the process of reintegration. In addition, the labor camp is not adapted to people sentenced to this penalty for many years, or too weak people, the elderly or the sick, because the work would be harmful. Community service should not be a coercive organization as the prison is. Alternative punishment should be a normative one, where the offenders follow the social norms which help

them to move towards peaceful cohabitation. In Nyamagabe district, persons sentenced to community service receive professional training which on their exit offers them the possibility of professional reintegration. In this regards, the alternative punishment to imprisonment helps minimize the social alienation produced by incarceration.

The study showed that the offenders in Cyanika labor camp come from different districts, Nyamagabe included. However, the risk is that the labor camp might be perceived as a second prison, especially in the case where camps are located far from the offenders' places of origin and their families, leading to fewer offenders receiving permission to leave the camps. Some offenders come from Nyanza, Nyamasheke, Kicukiro and Bugesera district.

This process of reintegration as well as many other areas of intervention earlier mentioned link different activities that community service has privileged. Terracing is the main activity for both offenders and ex-offenders. The offenders are doing farming activity while ex-offenders are mainly involved in masonry and related activities. As a result of having served in labor camps, the ex-offenders exercise the masonry, carpentry, farming and commerce, which have a close link to an increase in social wellbeing. In concrete terms, community service enormously contributes to the improvement of living condition in education, and cultural facilities. To some extents, it also contributes to health and recreational facilities but it is poorly contributing to the areas of power generation, water and sanitation.

However, the offenders in labor camp are not only sensitized to adhere to government programs like contribution to building schools and HIV/AIDS testing though they gain professional skills in carpentry, masonry, excavation work, joinery, hydraform machine use and weaving. Nyamagabe district is getting benefits from these professional skills in various respects. The offenders have built various public offices, established terraces, built schools and markets, added value to human and natural resources, protected infrastructures, self development and their families, kept unity and reconciliation in their cooperatives and protected the environment.

These areas of contribution have many other implications such as food security. Through land use consolidation, radical terracing, and cultivating food and cash crops, there is a decrease in those who used to take a meal once a day. As a result of community service, an increase in number of those who take two meals a day is very obvious. To a certain extent, food satisfaction ensues. The main meal is energetic substance composition. However, community service is not the only intervention to assure food security. There are other institutions that intervene in food security in Nyamagabe district. Examples mostly cited include Umurenge SACCO, UNICOOPAGI and MIG. Besides, there are developmental programmes that include Ubudehe, Girinka, food for wok, and school feeding.

In addition to food security assurance, the study establishes that the infrastructure facilities support commodity exchange and communication facilities within the district and neighboring districts in transporting manufactured goods, agriculture production, timber and charcoal in this district. The production from community service activities in Nyamagabe district promoted economic welfare. Furthermore, good roads and local streets in Nyamagabe district are well maintained. The same production recounts to participation in construction of roads, building schools and houses for vulnerable groups, radical terracing, tree planting and in brick laying. In so doing, community service reduces the amount of money that might be spent in development activities. The activities performed by offenders are qualified as durable with the appreciated quality.

The study supported that the durability of infrastructures constructed during alternative sentence to the imprisonment was guaranteed. The infrastructure facilities pertaining to community service with high quality are houses for vulnerable groups, schools, and terraces. The status of infrastructures is a fundamental factor in ensuring the subsistence of both present and future generations in Nyamagabe district. The positive change of infrastructure progress relies on agriculture transformation, environmental protection, land use management, transports facilities, urban and rural development as supported by the study.

The empirical inquiry supported that the infrastructure development contributes to the subsistence of present and future generations. In this line of thinking, infrastructures related to agriculture transformation came at the first level. The same contribution remarkably applied to the environmental protection and land use management. The findings ranked the transport facilities and urban development at the second level but water supply, energy supply, communication and waste management scored at the third level in terms of contribution to sustainable development. These highlighted findings should be challenged to existing theories. The following section related to theoretical implications deals with the research findings from the study and what has been discussed in theory.

## **5.2. Theoretical implications**

This deals with the balance and imbalance between theories and practices. This theoretical and empirical discussions analyze how the theories are coherent or not with the research findings. The major ideas like social development, economic welfare, environment development, infrastructure development and subsistence of current and future generations through community service guide discussions.

### ***Community service and social development***

The social welfare concerns how community service improved the living conditions in Nyamagabe district. It also focused on the professional skills gained from community service and their related effects. It is theoretically stated that the community service minimizes the social alienation produced by incarceration; PRI (2007) persons sentenced to alternative sentence to imprisonment receive professional training which on their exit offers them the opportunity to get professional reintegration. However, Borzycki and Makkai (2007) stated that as offenders put in prison, many offenders are challenged by professional skills deficits that make it difficult for them to successfully compete in the hosting community.

Empirically, there are a number of professional skills gained from community service like masonry, carpentry, hudraform machine use, weaving, terracing etc. In addition, offenders are learning to weave baskets and are skilled in preparing kitchen garden, technicians for measuring terraces. At the same time, offenders in community service labor camp perform their sentence and acquire the know-how which will help them to be human resource productive in their respective families and in the Nyamagabe community.

Among other deficits, poor inter-personal skills, low levels of formal education, illiteracy or innumeracy and, poor cognitive or emotional functioning are widely cited. The persons sentenced to CS receive professional training, which on their end help them to be reintegrated professionally in society, PRI (2007). The findings showed that community service improves the professional skills of offenders and fight against illiteracy and innumeracy. In Cyanika Labor camp, there are offenders who are learning how to write, count and read. In developing interpersonal skills, in labor camp offenders have theatre group, Abadahigwa dancing troop, football and volleyball teams. They have visited their family members and received different visitors on Saturdays and Sundays. They also joined their religious confession with other people who are not performing community service.

The professional skills gained from community service help ex-offender to be integrated in society in practices of what they have learned. The offenders explained the benefits they see in this vocational training. They have gained some knowledge and hoped that they would have the possibility of finding work on construction sites after finishing their sentence, PRI (2007). The findings showed that ex-offenders of Nyamagabe district participate in masonry, carpentry, farming, commerce and weaving. Affirmatively, it is great to meet with the offenders who have finished performing their sentence of community service put into practice what they have learned in labor camp. The offenders and ex-offenders do not perceive that performing the community service as enslaving.

However, in prison, many offenders may have lost their livelihood, personal belongings, ability to maintain housing for themselves and their family, Borzycki and Makkai (2007). They also lost important personal relationships and incarceration has damaged their social networks. In this regards, the community service has the same effects as prison when the period of sentence is more than three years. The study showed that the period of community service is too long and exceeded 3 years for some offenders. In cyanika labor camp, the maximum of this period is 13 years that is why some of offenders became deserted or recidivists during the period of performing community service.

In this particular way, the period of performing community service in Rwanda depends upon the period of incarceration condemned to genocide perpetrators because the alternative punishment to custody replaces half of the prison sentence. Normally, the period of 3 years is not applicable. Its applicability is on voluntary basis or on minor crimes. Besides to that the work camp is not adapted to people sentenced to this penalty for weak people, the elderly or the sick, because the work would be harmful, PRI (2007). In Cyanika labor camp, the weak and elderly offenders did not do the hard work like terracing, constructions, etc. They did easy tasks such as making beds, cleaning the camp, handcrafts while sick offenders got permission for suspension, returned to home and came back after recovering. In other words the vulnerable offenders performed the activities which are convenient with their health situation.

Conventionally, there is a legal crisis in the applicability of community service in Rwanda and in other countries. In the world, community service exists, and is applied only to minor offences where imprisonment is too high a penalty for the crime, Rugira (2003). Contrary to the context of minor offences, TIG is applied to the major offence in Rwanda – that is, genocide. Additionally, in some cases, people perform community service on voluntary basis. In this regards, it is not a punishment. But in Rwanda it is not the case, competent courts, the Gacaca court, impose it. Therefore community service is mandatory, Linda (2006).



As alternative option to custody, community service should take into account victims' rights. Sumithra et al. (2009) stressed that in sentencing community service, the victim's opinion in matters regarding the kind of suitable punishment to particular cases is theoretically preserved. In this study, the victim did not decide the kind of activity for punishment. The local leaders and institutions expressed their interest to Rwanda Correctional Service (RCS). The role of implementing labor camps in Nyamagabe district resulted from the memorandum of understanding signed between the leaders of Nyamagabe district and the General Commissioner of RCS. In this written document, the local authorities chose activities which had to be performed by offenders in order to help the district to achieve the performance contract signed with the President of the Republic of Rwanda. The victims did not have anything to claim.

To promote offender's rights, the community has a role to play in ensuring that offenders are not treated as misfits but as people, who are still productive and constructive in their societies, Birungi (2005). In this regards, the human rights of offenders from Cyanika labor camp is ensured. After work, from 4 p.m to 6 p.m, they get different trainings and basic education in writing, reading. They do sports and entertainment in different groups. The health care is assured by 100% by the RSC. They receive their visitors every Saturday afternoon and Sunday the whole day. They also join their respective religious confessions at Sunday. That is why the alternative punishment to incarceration is aligned with constructive theory, which advocate providing social rehabilitation programmes to inmates, such as vocational training and sports, which help inmates develop and acquire new skills so that when they finish the sentence they are able to be self-reliant and productive to their communities and their families, Feldman (1996). Furthermore, genocide convicts were able to acquire vocational skills. This investment focused on capacity building of offenders- that is personal infrastructure. This contributes to the economic welfare.

### ***Community service and economic development***

The personal infrastructure qualified as the number and the qualities of people in the market economy characterized by the division of labor with reference to their capabilities to contribute to the increase of the level and the degree of integration of economic activities, Gianpiero

(2010). The study satisfied with the offenders' capacity of learning during the process of sentencing alternative punishment to custody. In this regard, the offenders are considered as capable personal infrastructure. In addition, a general way to refer to personal infrastructure is represented by human capital referred to as the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being, OECD (2001).

As a result of the research, genocide convicts were able to acquire vocational skills, while building several houses for vulnerable people, schools, health centers, memorial sites and promote the standards of living in Nyamagabe district. The organic solidarity based on the professionalism of offenders comes up to confirm how education, health care, cultural and recreational facilities, power generation and water supply are improved in this district through this alternative punishment. The social welfare is also manifested in ensuring food security, PRI (2010). The genocide perpetrators play a great role in land use consolidation, terracing, chemical fertilizers use, cultivating food and cash crops. Consequently, there is a change from once to twice in taking meals per day. When people have the food they are able to work and develop their community. The role of infrastructure development is not ignored in the development of living conditions in Nyamagabe community.

From the perspective of community development, Ndatbaye (2003) supported that the basic infrastructures are those of community infrastructures which present the general interest to local community. Infrastructures are assets that the population needs in daily life – that is electricity, schools, and health centers. However, the findings showed that community service has poorly contributed to economic infrastructures meant to ease commodity exchange and communication like roads, bridges and local streets. The community service did not contribute on providing electricity and energy system, water, information and technology services, airports infrastructures as the basic economic infrastructures.

To connect to official stands, rehabilitation and development of infrastructure is a crucial aspect to lower down the costs that doing business attracts domestic and foreign investment in Rwanda, Republic of Rwanda (2000). The findings supported that there is an improvement in attracting foreign investors. Some specific areas were most privileged; they include tea and coffee plantation, Mushubi Tea project, coffee washing stations in different sectors, honey factories at Kitabi and Gasaka sectors. Equally, there are South Korean development projects like fishing project, harvest collection sites in Gasaka and Kamegeri sectors, marshland developed for agriculture use and wetlands management in Gasaka sector. The activities of rehabilitating and constructing the roads facilitate investors to reach different areas of Nyamagabe district and incite them to invest in. The production from agriculture is taken as the raw material and processed in agro-business factories. In addition, the activities performed in sentencing alternative sentence to incarceration contribute to government sponsorship.

In this regards, Community Service aims at contributing to the development of Rwandan nation through the production gained from community service. The activities carried out in alternative punishment to incarceration are agriculture activities, building houses, rehabilitation and construction of roads and bridges, making bricks and protecting environment, the Republic of Rwanda (2006). These activities support the Rwandan government budget. Regarding the support of community service to Government budget, for instance, the production from alternative punishment to incarceration from 2008 to 2011 at national level is estimated at more than 38.9 billions of Rwandan francs. The amount spent in running those activities is evaluated at 9.6 billions of Rwandan francs, and the benefit from community service in this period is about 29.6 billions. The alternative punishment to the imprisonment does not only support the government budget but also the local budget of Nyamagabe district.

As the study highlights, the support of community service activities to Nyamagabe district budget is enormous. Alone, from 2008 to 2012 the production was 1 billion and 182.1 millions, and where the cost of those activities is estimated to 367.6 millions and the benefits from those activities is 814.5 millions of Rwandan francs. During the period of 2008-2012, the production

was estimated at 1 billion and 182.1 millions Rwandan francs. Compared to the production gained at national level from 2008-2011(38965005701Rwf), this production equals to 3.03% ( $11820833856 \cdot 100 / 38965005701$ ) of the national production. Whereas the average production of each district<sup>31</sup> in the same period is 1 billion and 298.8 millions ( $38965005701 / 30$ ).

During this period, authorities of Nyamagabe district emphasized on achieving their performance contracts signed with the President of the Republic of Rwanda. The local leaders mobilized many offenders in different activities for getting more production and achieving their performance contract through community service. The research findings also showed that the production from community service in Nyamagabe district has decreased at the rate of 50% [ $210231080(2012) \cdot 100 / 408008000(2008)$ ] from 2008 to 2012. That came from the decrease in number of labor camps and of the offenders who, on the one hand, performed their sentence in this district and, on the other hand, the big number of offenders who completed their sentences.

### ***Community service and environmental development***

The protection of environment is at the core of different areas of community service – that is anti-erosion, conservation of rivers and lakes, forest maintenance, and the construction or maintenance of public interest areas, PRI (2007). The findings showed that the professional skills from alternative punishment to imprisonment help in preserving environment in Nyamagabe district in various areas and at different levels. It more contributes to anti-erosion and forests maintenance. To some extent, it also contributes to conservation of rivers, terracing and to improvement of hygienic conditions. However, community service alone does not ensure the preservation of environment because there are different aspects of environmental management which community service does not intervene in. That is why there is public institution namely Rwanda Environmental Management Authority (REMA) in charge of environmental management and preservation.

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<sup>31</sup> The country of Rwanda has administrative entities of 30 districts.

Besides, the region of Nyamagabe district is also a mountainous and a rainfall area that requires special intervention of different actors or stakeholders in ensuring environmental sustainability. The findings proved that community service helps in reforestation and caring for existing forests, digging ditches against erosion, radical terraces establishment, grass planting for soil protection, rivers protection, building and rehabilitation of roads and bridges.

### *Community service and infrastructure sustainability*

The development of infrastructure should include economic infrastructure, human capital infrastructure, and infrastructure, Gianpiero (2010). The findings showed that the human capital infrastructure is developed through alternative punishment. The offenders gained training and professional skills which help them to build social and economic infrastructure in Nyamagabe district. The sustainability of infrastructures built by the offenders is at high and middle levels. The observation made in the course of this study shows that the durability of some infrastructure is critical. For example there are many unexploited hectares of terraces due to the lack of agricultural fertilizers and selected seeds; the maintenance of roads, radical terraces, anti-erosion dumps is not assured by the population and local leaders seem to be unconcerned. Some time there is a lack of markets for agricultural production mainly for cassava and maize production.

The sustainability and the quality of infrastructure development are interconnected or interrelated. Referring to the empirical grounds, the sustainability and quality of infrastructure development, where the Lord and Skinner (2010) set out the capacity and quality of infrastructure development constitute significant asset. In this study, those assets include houses for vulnerable groups, schools, terraces, health centers and the roads. It means that the quality of transport, human capital, social infrastructure, manufacturing infrastructure, agriculture, and forestry infrastructures through community service is guaranteed. However, it is not the case for energy supply, waste management, water supply and bridges. The study revealed that, the former Gikongoro province people lived in Nyakatsi (roof thatched houses), when people saw offenders building houses with bricks, cements, iron sheets, and tiles, they attributed them the highly durable and qualified sustainable.

The infrastructure development enables people, goods, energy, information, water and waste to move efficiently around the region or country, and, in some cases, across its borders. The capacity and quality of these networks has a direct bearing on the economy of the region, the environment and the quality of life of everyone who lives in or visits that region, The Office of Fair Trading (2010). Against this theoretical stand, the research findings showed that the infrastructures built by offenders constitute a means of production. This mostly concerned roads and bridges in that they facilitate not only the production of goods and services, but also the distribution of finished products to markets, as well as basic social services such as schools and hospitals. For example, roads enable the transport of raw materials to a factory.

The main factor of production is power generation and water supply but the community service does not intervene actively in these domains. However, power generation and water supply remains a necessary input into many production processes for both goods and services. Hence, unreliable power supplies render these processes either more expensive or entirely impossible, The Office of Fair Trading (2010). The findings from this research revealed that the infrastructure development may be considered as the supplementary factor in the process of economic development. Then, the productivity of offenders and ex-offenders in building infrastructures is highly appreciated so that the good education and health-care infrastructure produce a well-educated and healthy workforce.

In line with Fedderke and Garlick (2008) who views infrastructure development as influencing the industry development, the identified infrastructure facilities also strengthen the industrial capacity in Nyamagabe. Referring to empirical stand, a road construction project in a rural area may be intended to facilitate integration of that area into the regional economy and hence promote private sector investments and economic growth. The sustainability of regional economy consolidates in turn the investments in basic infrastructures. To ascertain the sustainability, there is also much larger issues of infrastructure sustainability. The sustainable infrastructure is most commonly discussed in terms of its characteristics – longevity, scale,

inflexibility, and higher investment costs, Button (2002). The study showed that the last characteristic is not applied to the infrastructure built by the offenders. In other words, the costs of infrastructures pertaining to community service are lower than the cost of the same infrastructures built by private entrepreneurs.

There is a number of challenges in developing infrastructure in Zimbabwe such as: the sustained deterioration in the quality of infrastructure assets, lack of progress in building institutional capacities for management and regulation of the basic services, and the destruction of basic infrastructure, the Republic of Zimbabwe (2010). In Nyamagabe district, there is a lack of adequate means and strategies for routine and periodic maintenance of roads, terraces, radical terraces, anti-erosion ditches. The private sector seems not concerned in rehabilitating and maintaining infrastructure built by offenders. The lack of public awareness in safeguarding the infrastructure built through community service. The lack of maximum exploitation and utilization of those infrastructures pertaining to community service is a serious problem.

Briefly, in terms of sustainable development one of the major challenges the infrastructure built by the offenders is faced with is the rehabilitation of the existing social and economic infrastructure and the addition of new capacity to meet existing and future demand in both urban and rural areas. The improvement of social and economic living conditions is supported by infrastructure assets. Through community service, this infrastructure assets helped offenders to acquire new skills utilized in preserving environment. The integration of environment in social and economic considerations ensure the satisfaction of basic needs of both the current and coming generations in Nyamagabe district.

### ***Infrastructure development Vs subsistence of both current and coming generations***

Social and economic infrastructures are the main categories of infrastructures assets. The development of economic infrastructure are (e.g. transportation, energy, information and energy systems), and social infrastructure (e.g. educational, healthcare, water supply, waste

management, recreation and environmental protection) promote the subsistence of present and future generations, Moavenzadeh and Kyle (2010). To sustain the development, the infrastructure development is organized into various supports that reflect some of the key enablers of economic, social and environmental sustainability in Nyamagabe district. In this regards, community service has mostly contributed to social infrastructure. This finds a historical explanation in the fact that backwardness in social and economic infrastructures characterized the former Gikongoro province.

This backwardness of former Gikongoro province helped the researcher to analyze how community service intervenes in developing infrastructures as assigned to Vision 2020. In this regards, infrastructures are categorized into nine categories such as land use management, urban development, transport facilities, communications and ICT facilities, energy supply, water supply, waste management, environmental protection and agriculture transformation, the Republic of Rwanda (2000). The research findings showed that the community service did not intervene in developing all those categories efficiently in Nyamagabe district. To sustain the development, infrastructures (e.g., agriculture transformation, environmental protection, land use management, and transport facilities) have relatively contributed to the promotion of the living conditions of the population and to preserving the resources required for future generations.

In addition, the sustainable development aims at maintaining the standards of living of the largest number of people with equity and justice. The changes are made consistent with future as well as present needs, (Ingabire 2011, Todaro 2009, and Aronson 2006). Referring to the empirical stands, the construction of classroom for 9 and 12 Years Basic Education ensures the education for all; houses for vulnerable groups, health centers, cultural and recreational facilities improve the living standards of the population in Nyamagabe district. This improvement of the living conditions of people is related to the conservation and protection of environmental resources activities for ensuring the satisfaction of basic needs for both current and coming generations of this district. The targeted development is fitting the magnitude of sustainable development.



The dimensions of sustainable development are social, economic, environmental, institutional, information and communication technologies (ICT), The World Bank (2009). The study showed that the alternative punishment to custody activities intervene in achieving social justice via equitable resource allocation, eradicating poverty, providing social services, such as education, health, food security, houses for vulnerable groups and others to all members of the society, especially the neediest ones.

Then, this alternative sentence to imprisonment helps in promoting economic welfare in supporting commodity and communication facilities; in getting production from construction of houses, agricultural activities, construction of roads and bridges, mining and tailoring the stones, making bricks, carpentry, protecting environment, weaving. The community service activities ensure economic growth and supplement the government budget. The total production from 2008 to 2012 in Nyamagabe district was estimated to more than 1 billion and 182.1 millions of Rwandan francs. In addition, community service activities intervene in preserving environment. The serious environmental problems are tree-cutting for fire wood, timber and charcoal as the main source of revenue in Nyamagabe district; soil erosion, floods and land slide. Dealing with these problems, offenders reforest, and maintain the existing forests. They channelize marshlands protect the rivers and dig the anti-erosion dumps.

Lastly, findings did not correspond to the fifth dimensions; community service does not contribute to the development of information and communication technologies (ICT) infrastructures. However, community service is not a suitable methodological framework on how to make use of ICT in achieving sustainable development.

Sustainable development might through infrastructure development contribute to improve the awareness of the people who assume their responsibilities, sharing their skills for leading to better quality of live. In this regards, offenders and ex-offenders are considered as social capital for sustaining development, Terry and Wernke (2011). In this regards, community service helps

offenders to assume the responsibility in reconstructing the social fabric and economy of Nyamagabe district in developing infrastructures. The offenders also maximize economic results and minimize environmental impact. The improvement of the quality of life for Nyamagabe community is a precious solution for the future of our civilization. In accepting the responsibility, offenders share profession skills gained from community service with other members of the society. The ex-offenders confirmed that they share knowledge gained from community service with others on specific projects.

In the context of systems analysis of sustainable development, the individual, social, infrastructure environmental development assets are developed systems, Bossel (1999:17). Concerning Individual development, through community service, genocide prisoners receive different training, produce goods and services and are integrated in society. They are specialized in different activities regarding what they do as punishment. Regarding social development, offenders and victims of 1994 genocide, and the other population are interdependent in their daily social life. The development of infrastructure rebuilds the social ties of all members of Nyamagabe community. This maintains the social system and help to live with harmony and stability. The rapprochement and coexistence of the different groups in conflict reinforce social security and health care management in Nyamagebe District.

In the context of Infrastructure system, this is the core of our research and targeted subsystem of sustainable development. The offenders in Nyamagabe district rehabilitate and construct infrastructures. The specificity regards the social capital development, providing public service, supporting private sector activities and improving industrial capacity in Nyamagabe district. So, community service facilitates the process of production, consumption and distribution of services and goods in Nyamagabe district. This helped in ensuring the satisfaction of basic needs without damaging environment and its resources.

In our study, the development of infrastructure should ensure the sustainability of environmental resources. The ex-offenders contribute to environment protection, natural resources management, combination of social life and development. As a result, infrastructure development through alternative punishment to the imprisonment is one of the instruments of ensuring subsistence of both and future generations in Nyamagabe District.

## **Chapter Six: General Conclusions and Recommendations**

Chapter Six provides general conclusion, recommendations made to improve the development of infrastructure through community service, and new research topics.

### **6.1. General Conclusions**

This study entitled '*Understand community service as a tool for sustainable development in Rwanda: A case study of Nyamagabe district*' intended to understand the effect of community service on sustainable development, with emphasis on infrastructure development at the same time answering the following questions: In which ways does infrastructure development ensure subsistence of both present and future generations in Nyamagabe? How does infrastructure development contribute to social services in Nyamagabe district? In which ways does infrastructure development promote economic welfare in Nyamagabe district? How does infrastructure development ensure environmental sustainability in Nyamagabe district?

It highlighted that community service is a non-custodial punishment reserved for people who committed non-serious criminal offences like theft or minor damage to property. Community service involves self discipline and respect to others and can make the offender make a constructive rather than destructive contribution to the community. It is also a reconstructive measure that has been adopted for offenders who committed genocide crimes in Rwanda to serve as an instrument of reconstruction and rehabilitation development infrastructure, as an instrument of social rehabilitation for people who confessed to the crime of genocide, accused and convicted and reduces prison population. The period of community service sentenced to genocide perpetrators is very crucial because the more they spend much time at labor camp, the more their become recidivists, and deserters. In addition, when the period of community service exceeds three years, it is a long period which cannot facilitate the process of reintegration.

The alternative punishment to custody mainly contributes to the improvement of social living conditions in education, health, recreational and cultural facilities. The illiterate offenders learn how to read, write and count. Offenders in labor camp gain professional skills from community service which are masonry, joinery, excavation work, hydraform machine use and weaving.

These professional skills will help offender to contribute to the subsistence of their family after getting back to the society.

Nyamagabe district benefits from these professional skills in the fact that offenders build various public offices, establish terraces, build schools and markets, add value to human and natural resources, protect infrastructures, self development and their families, keep unity and reconciliation in their cooperatives and protect the environment. They participate in increasing agriculture production, land use consolidation, terracing for cultivating food (cassava, maize,) and cash (coffee and tea) crops.

The social sustainability should not exist without the abundance of food. The study showed that there were a decreasing number of people who take meal once per day after the introduction of alternative punishment to custody. It also confirmed that there is an increase in number of people who take meals twice per day after the introduction of alternative sentence to prison. The study guarantees the levels of food satisfaction in Nyamagabe district. As Nyamagabe district is landlocked and backward in transport and communication infrastructures, the intensive internal roads is the key factor for commodity and communication facilities. The alternative punishment played a good role of intensification of roads within the district. The offenders constructed new roads for sustaining the flux of goods and services.

The study emphasized on productive activities in ensuring growth and supporting government budget. Activities related to construction of house and roads, agriculture, preserving environment are at the core source of getting production. There are other activities which are not considered as productive like monthly community work commonly known as umuganda. The involvement of offenders sentenced to community service reduces the amount of money that might be spent in development activities comparing to entrepreneurs prices.

In preserving environment, the researcher found out that the professional skills gained from alternative punishment to the custody preserve environment in terms of radical terracing establishment, forest maintenance, anti-erosion activities and conservation of rivers. It was remarkable that the community service does not contribute to waste management in Nyamagabe

district. The low rate came from the waste management system in Nyamagabe town where people need the intervention of community service in evacuating the waste around the bus station. The development of infrastructure in Nyamagabe district has an impact on the subsistence of current and future generations in terms of providing shelter, food, water, sanitation, transport and communication facilities etc.

## **6.2. Recommendations**

These recommendations are based on the findings of this study and if considered by the implementers of community service sentence, community service as a tool for sustainable development could experience a big improvement in developing infrastructures. These are addressed to:

### **The Government of Rwanda:**

- Sensitizing the population about their role in protecting infrastructures and establishing and strengthening education for environmental protection
- Regarding to the activities which performed in alternative punishment to incarceration and their production, the community service should be applied to prisoners of crimes of common law.

### **The Rwanda correctional service:**

- Involving the population and local leaders of Nyamagabe in the study tour to get knowledge from other districts' experience where the activities from community service are developed.
- The RCS should adopt both the two options of implementing community service; alternatively the Neighborhood community service and Community service in Labor Camp for offenders who have been sentenced to community service for long time. This will avoid considering the community service as the second prison.

### **Nyamagabe district authorities:**

- Sensitizing the population about the management of the infrastructures rehabilitated and constructed by offenders through community service punishment and their importance in sustaining the subsistence of the population of Nyamagabe district.
- Sensitizing population by emphasizing on the role played by infrastructures in sustaining social and economic living conditions for both current and future generations of Nyamagabe district.
- Establishing the continuous monitoring and evaluation program on how these infrastructures are managed and exploited to satisfy the basic needs of Nyamagabe district.
- Setting mechanisms for repairing the infrastructures as soon as possible when they become damaged.
- Rehabilitating the road Gasaka-Kaduha to support the commodity exchange, communication and transport of good and service between Kaduha center and Nyamagabe city center.
- Increasing the number of literacy centers or adult training center for fighting against illiteracy and innumeracy at adulthood
- Increasing sensitization of beneficiaries of terraces to exploit them in order to get production from community service. The private entrepreneurs should set up factories to process crop and animal production.
- Increase capacity building of the population about getting production from infrastructures based on joining cooperatives, collaborating with banks and microfinance institutions in order to get agricultural loan easily.

### **The population of Nyamagabe district:**

- The population of Nyamagabe district has to be aware of the existence of infrastructure maintenance and their role in safeguarding them because these infrastructures are theirs before being the governmental one.

- Managing well land by establishing terraces and radical terracing, regular maintenance of forests and assure the reforestation in order to fight against the erosion in mountainous hills of Nyamagabe district. The serious environmental problems are tree-cutting for fire wood, timber and charcoal as the main source of revenue in Nyamagabe district. To avoid anarchic exploitation in putting in place a collection center for forest products is needed in each sector of Nyamagabe district.

### **6.3. New research topics for further studies**

This study has focused on infrastructure development through community service for sustainable development. This research activity has generated interesting findings and has led the researcher to identify new research topics related to the present one and which further researchers could tackle. Those are the following:

1. Local leaders as a key factor for infrastructure protection in Nyamagabe district.
2. Public awareness and infrastructure management in Nyamagabe District.
3. Consequences of the unexploited infrastructure built by the offenders on socioeconomic welfare of the people in Nyamagabe District.
4. Impact of Community service on the development of Information and Communication Technology in Nyamagabe District.
5. Alternative punishment to incarceration as a tool for social and economic reintegration of prisoners of crimes of common law.
6. Environmental education for sustainable development in Nyamagabe District.
7. The impact of community service infrastructures on agro-processing factories development in Nyamagabe district.



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# Appendices

## Appendix 1: Request permission for data collection

National University of Rwanda  
Faculty of AMSS  
Department of Social Sciences  
TEL: +250 (0)788416349  
E-mail: [emurwanashyaka@nur.ac.rw](mailto:emurwanashyaka@nur.ac.rw)

Date: 3<sup>rd</sup> August, 2012

To the Mayor of Nyamagabe District,  
Southern Province

**RE: Request permission for data collection**

Dear Sir,

I would like to request for permission of collecting data in Nyamagabe District. I am a Postgraduate student in Master Programme of Development Studies, Faculty of Arts, Media and Social Sciences at National University of Rwanda.

I ma carrying out the research for final thesis entitled: **“Community Service as a tool for Sustainable Development in Rwanda. The case study of Nyamagabe District.”** The purpose of this study is to understand the effect of community service on sustainable development with emphasis on infrastructure development in Nyamagabe District. You will find enclose the attached copy of Recommendation letter for research.

I look forward to receiving a favorable reply

Yours faithfully,



**Emmanuel MURWANASHYAKA**

Cc: Commissioner General of Rwanda Correctional Service

*Req le 6/8/2012*  
*Administr*  
*Pow accord*  
*le 21/8/2012*



## Appendix 2: Recommendation for research

**National University of Rwanda**  
**Université Nationale du Rwanda**  
Faculty of Arts, Media & Social Sciences  
Faculté des Arts, Media et Sciences Sociales

**nur**  
www.nur.ac.rw

University Avenue  
B.P 117, Butare  
Rwanda  
Tel: +250 (0)252 530 160  
Fax: +250 (0)252 530 210  
Email: famss@nur.ac.rw  
Website: www.nur.ac.rw

### RECOMMENDATION FOR RESEARCH

This is to testify that **Mr. Emmanuel MURWANASHYAKA** is a postgraduate student in Master programme of Development Studies, Faculty of Arts, Media and Social Sciences at National University of Rwanda during the period of 2010-2012 academic years. The student is doing research for final thesis entitled :

*« Community Service as a tool for Sustainable Development in Rwanda. The case study of Nyamagabe District. »*

Any assistance rendered to him is highly appreciated.

Yours sincerely,



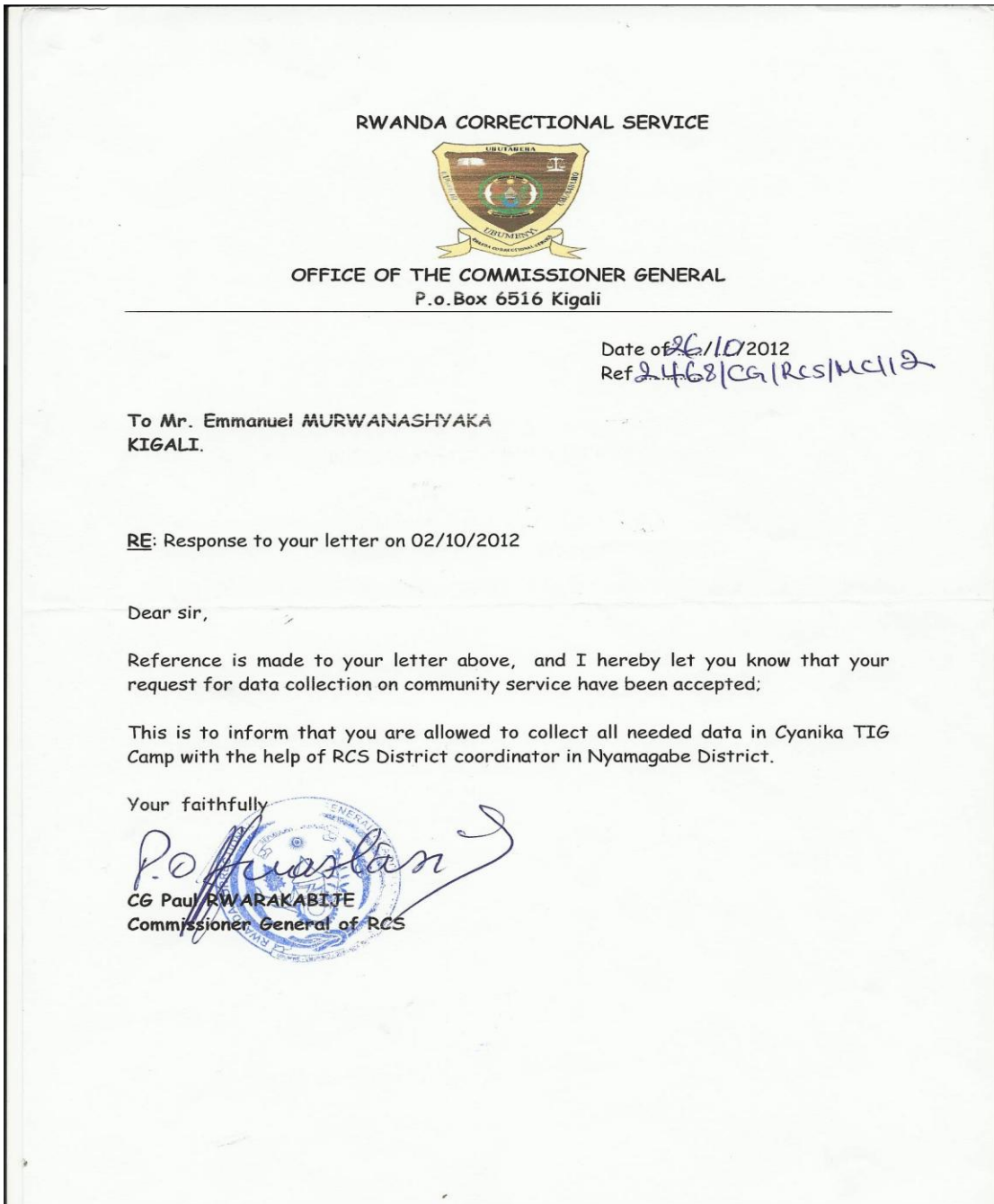
**Dr. Jean de la Croix NKURAYIJA**



**Dean/Faculty of Arts, Media and Social Sciences**  
**Coordinator of MA in Development Studies**  
**National University of Rwanda (NUR)**  
**PO Box: 56/ Butare-Huye**  
**E-mail: [inkurayija@nur.ac.rw](mailto:inkurayija@nur.ac.rw)**  
**Mobile Phone: +250/788483022**

**Excellence in Education and Service to the People**

**Appendix 3: Data collection permission approval by RCS**





#### Appendix 4: Research questionnaire design for data collection

Hypothesis	Independent variable	Dependent variable	Indicators to the dependent variable	Questions	Targeted information
Infrastructure development contributes to the subsistence of both present and future generations in Nyamagabe district.	the infrastructure development	<p><b>the subsistence of both present and future generations</b></p> <p><b>Social development</b></p> <p><b>Institutional development</b></p> <p><b>Economic development</b></p>	<ol style="list-style-type: none"> <li>1. Improved living conditions (health, leisure and recreation, employment, education)</li> <li>2. Professional skills (know-how)</li> <li>3. Food crops, cash crops</li> <li>4. Public and private institutions</li> <li>5. Transport and communication</li> </ol>	<ol style="list-style-type: none"> <li>1. How does alternative punishment to incarceration contribute to improved standards of living in Nyamagabe district?</li> <li>2. Which professional skills are gained from alternative penalty to custody in Nyamagabe district?</li> <li>3. How does society benefit from these professional skills?</li> <li>4. How does the work for common interest better/improved the level of food satisfaction in Nyamagabe district?</li> <li>5. How does alternative punishment to incarceration lead to livelihood of Nyamagabe population?</li> <li>6. What is the linkage of public and private institutional improve the level food satisfaction in Nymagabe district?</li> <li>7. A) What infrastructure facilities those support commodity facilities, if any? B) if there is none, why? C) if yes at which level?</li> </ol>	<ol style="list-style-type: none"> <li>1. Importance of CS</li> <li>2. Practical skills gained from CS</li> <li>3. Times to take meal/day and dietetic composition</li> <li>4. Types of infrastructure in transport and</li> </ol>

			6. Wealth	8. Which of the activities Community service carries out to ensure growth?	communication
			7. Budget support	9. 1) To what extent do these activities feed the government budget? 2) To what extent does popular participation in supporting government budget?	5. Productive activities
		<b>Environment development</b>	8. Settlements, Terraces, forests maintenance, trees planted	10. In which ways putting these professional skills (settlements, terraces, tree planting...) have preserved environment of Nyamagabe district?	6. Amount of money gained from CS activities
		<b>Infrastructure development</b>	9. Quality	11. How do you perceive the quality/standards of infrastructure facilities pertaining to TIG?	7. Level of environmental protection
		<b>Subsistence of both current and future generations</b>	10. -Settlements -supply system (energy, water, goods, services) -Waste disposal	12. what does TIG contribute in the following areas: Available of shelter, clothing, food, water, sanitation	8. To know the lifetime of infrastructure capital
					9. Impact of infrastructure on the subsistence of current and future generation.

Source: Designed by the author

## Appendix 5: Questionnaire for data collection

Dear respondents,

I am **Emmanuel MURWANASHYAKA**, a Postgraduate student in Master Programme of Development Studies, Faculty of Arts, Media and Social Sciences at National University of Rwanda.

I am carrying out the research for final thesis entitled: **“Community Service as a tool for Sustainable Development in Rwanda. The case study of Nyamagabe District.”** The purpose of this study is to understand the effect of community service on sustainable development with emphasis on infrastructure development in Nyamagabe District. I would like to request you assistance in responding this questionnaire. The information attained will only be used for the purpose of this research study and therefore will be confidential. Please tick the appropriate answer in the provided boxes with a × and where applicable write the required response in the spaces provided.

Thanks for your kind participation.

### Section 1: Respondent identification

1. Sex: Female  Male
2. Date of birth or age: .....
3. Educational level:
  - a) No level
  - b) Primary
  - c) Secondary
  - d) TVT
  - e) CERAI
  - f) University
4. a) Employment before 1994.....  
Employment currently.....
5. Are you genocide survivor? Yes  No
6. a) Are you currently serving a community service? Yes  No 
  - b) If yes, for how long? .....
  - c) What is your district of origin? .....
7. If you are currently doing community service what kind of work are you involved in? .....
8. If you have finished your sentence, what is your profession? .....

**Section 2: Questions related to the research topic**

1. How does alternative punishment to incarceration contribute to improved standards of living in Nyamagabe district?

- Education facilities
- Health care facilities
- Cultural facilities
- Recreational facilities
- Power generation
- Water supply and sanitation

2. Which professional skills are gained from alternative penalty to custody in Nyamagabe district?

- Carpentry
- Masonry
- Excavation work
- Joinery
- Hydraform machine use
- Weaving
- Others.....

3. How does society benefit from these professional skills?

- 1.....
- 2.....
- 3.....
- 4.....

4. (A) How does Community service ensure food security in Nyamagabe district?

- Land use consolidation
- Radical terracing
- Chemical fertilizers
- Increasing agriculture productivity
- Cultivating food crops
- Cultivating cash crops
- Others.....

B) How many times does this food security allow you meals per day?

- 1..... 2..... 3.....

C) How many times did you take the meals per day before the introduction of community service in Nyamagabe district? 1..... 2..... 3.....

D) What is the composition of that meal? 1..... 2..... 3.....

5. What is the linkage of public and private institutions to improve the level of food satisfaction in Nymagabe district?

Institution \ Level	Very highly level	High level	Middle level	Low level	Very Low level
TIG					
Ubudehe					
Girinka					
VUP(Umurenge)2020					
Amakoprarative					
Umurenge SACCO					
MIG					
SDA-IRIBA					
UNICOOPAGI					

6. A) What are infrastructure facilities those support commodity facilities and communication in Nyamagabe district, if any?

- good roads
- bridges
- local streets
- others.....

B) If there is none, why? .....

7. From which activities does Community service get production and ensure growth in Nyamagabe district?

- Agriculture activities
- Constructions of house
- Constructions of roads and bridges
- Mining and tailoring the stones
- Making bricks
- Carpentry
- protecting environment
- Weaving
- Others.....

8. 1) To what extent do these activities feed the government budget?

2) To what extent does popular participation in supporting government budget?

9. In which ways putting these professional skills (settlements, terraces, tree planting...) have preserved environment of Nyamagabe district?

- Anti-erosion
- Conservation of rivers and lakes
- Building and rehabilitation of bridges

- Radical terraces establishment
- Forests maintenance
- Waste management
- Others.....

10. How do you perceive the quality/standards of infrastructure facilities pertaining to TIG?

Durability TIG activities	Extremely lower	lower	low	neutra l	High	Highly	Extremely high
Houses for vulnerable							
Schools							
Health centers							
Water supply							
Terraces							
Waste management							
Roads							
Bridges							
Energy supply							
Radical terraces							

11. In which ways does infrastructure development contribute to sustainable development in Nyamagabe district?

- Land use management
- Urban development
- Transport facilities
- Communications and ICT facilities
- Energy supply
- Water supply
- Waste management
- Environmental protection
- Agriculture transformation

12. What do you suggest on how infrastructure development should contribute to sustainable development in Nyamagabe district?

.....

**Thank you**

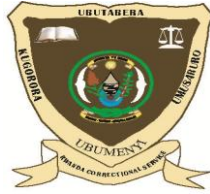
## Appendix 6: Indicators of sustainable development for the infrastructure system of a global region

Orienter	Subsystem performance	Contribution to total system
Existence	Rate of change of per capita service capacity (roads, schools, hospitals...) expansion or deterioration rate Security of fixed cost and upkeep financing for next 20 years.	% of population with access to clean water and sanitation. % of population within one hour of all essential services. Avoidable mortality and disability as fraction of total mortality and disability. Domestic food production rate vs. food demand. Food calorie supply per capita as % of minimum daily adult requirement, for poorest population. Rate of change in the number of persistent chemicals in the environment.
Effectiveness	Payback years of capital stock. Commercialization depth of transformation chain for essential products: price ratio. Powered vehicle kilometer per capita per year Walking and cycling distance per capita per day Expenditures for maintenance of capital stock/value of capital stock. Social service unit cost per capita. Resource throughput per capita Communication links per capita	Lifetime fraction required to reach essential services (transportation, waiting, way to work) Average transportation distance for key resources Cost of individual education (time and money) for given qualification vs. lifetime earnings. Creative products (patents, books...) per 100,000 people per year.
Freedom of action	Average lifetime of infrastructure capital. Diversity factor for essential food, transportation, education, health care. Potentially available uncommitted funds as fraction of total budget. % of population living in cities of more than 50,000 people	Average number of options for particular services (shopping, schools, hospitals). Ecosystem encroachment by infrastructure: road and traffic density. System need for transportation system: % of economy dependent on non-local transport. Life expectancy at birth Floor area per person Ratio of average house price to annual income Lifetime fraction required to reach essential services.
Security	Redundancy factor of essential infrastructure services Child mortality Avoidable mortality and disability as fraction of total mortality and disability	Avoidable mortality and disability as fraction of total mortality and disability Rate of change of key environmental indicators.
adaptability	Average time for institutional change Average skills and qualifications per person (years in education and training) Level of institutional bureaucracy (bureaucrats per work adult)	Spectrum of future societal options provided by infrastructural solutions (Net population growth rate)/(net infrastructure growth rate) Rate of change quality lifetime (education, health care, transport, communication) Rate of change of ecological diversity index
coexistence	Rate of change of key environmental indicators Ecological footprint vs. permissible sustainable footprint Rate of change of ecological footprint Rate of foreclosure of important option	Fraction of intact ecosystems Environmental footprint vs. permissible sustainable footprint Rate of change of environmental footprint Rate of foreclosure of important options Cross-border trade and communication vs. domestic Population density
Psychological needs	% of population within reach of all essential services Dominance of business interests over service ethic	Anxiety related to infrastructural problems (% of population seeing serious problems) % of population who would rather live elsewhere because of infrastructural shortcoming.

Source: Hartmut Bossel (1999:101)

## Appendix 7: Certificate of Community Service completion

### RWANDA CORRECTIONAL SERVICE



### OFFICE OF THE COMMISSIONER GENERAL

P.O BOX 6516 KIGALI

---

ICYEMEZO GIHABWA URANGIJE IGIHANO NSIMBURAGIFUNGO CY'IMIRIMO IFITIYE IGIHUGU AKAMARO (TIG)

Iyewe ....., Komiseri Mukuru w'Urwego rw'Igihugu ruhinzwe imfungwa n'abagororwa (RCS);

Nshingiyeye ku myanzuro y'urubanza rw'urukiko Gacaca rw'umurenge wa....., Akarere ka ....., Intara/Umuji wa Kigali....., rwabaye ku itariki ya ...../...../....., nshingiyeye no ku iteka rya Perezida n° 10/01 ryo ku wa 07/03/2005 rigena uburyo igihano cya TIG gishyirwa mu bikorwa nk'uko ryavugururwe kandi ryujijwe kugeza ubu, nemeje ko uyuhaye.....mwene.....na.....wavukiye mu Kagari ka....., Umurenge wa....., Akarere ka .....Intara/Umuji wa Kigali....., ku wa...../...../....., wari ufite dosiye y'urubanza n°..... arangije neza igihano nsimburagifungo cy'imirimo ifitiye igihugu akamaro TIG yakoreye..... guhera ku wa...../...../..... kugeza ku wa ...../...../.....

Bikorewe.....Ku wa...../...../.....

**Byemejwe na :**

.....,

**(Amazina n'umukono)**

**Umuhuzabikorwa wa RCS mu Karere ka .....**

.....

**(Amazina, umukono na kashyamba by'Umuyobozi w'Akarere k'ahakorewe TIG)**

.....  
**Komiseri Mukuru wa RCS**

**Cc:** - Ubuyobozi bw'Akarere

- Rwanda correctional Service
- Urukiko Gacaca rwamukatiye bwa nyuma