TRANSFORMING THE EDUCATION SYSTEMS FOR CHILDREN WITH DISABILITY IN PAPUA NEW GUINEA AND TIMOR-LESTE

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Thesis presented for the degree of Doctor of Philosophy in Education (Ph.D. Education)

Submitted: February, 2012
This thesis is dedicated to my parents, Joe and Jane Gracey, who resolved all life’s challenges with a dose of Irish humour washed down with cups of tea and kindness.
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Candidate's Statement

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

Frances I. Gentle
Acknowledgements

I wish to acknowledge my family, supervisors, and colleagues who have encouraged and assisted me during this research study. First and foremost is my daughter Simone, who has been my inspiration from the journey’s beginning. My son Joseph, has offered creative ideas and alternative ways of thinking about issues and David my husband, has provided a loving home environment during the many years of distraction.

I am grateful to my employer, the Royal Institute for Deaf and Blind Children (RIDBC) and my friends and colleagues at RIDBC Renwick Centre. Particularly thanks are extended to Drs Mike Steer and Rod Beattie, who have held an unwavering belief in my ability to complete this study and, as research supervisors, have encouraged me to pursue innovative approaches to the research problem. I wish to acknowledge with gratitude Mrs Lenore Buckle and her family for supporting the study through the Frank Buckle Family Trust Post-Graduate Scholarship Fund. The scholarship has enabled me to invest the large amount of time and effort required to undertake this study.

The study would not have been possible without the goodwill and generous support of many people in Papua New Guinea and Timor-Leste. Ms Kirsty Sword-Gusmao and Br Graeme Leach breathed life into the study as role models and mentors in education of children with disability in Papua New Guinea and Timor-Leste. The hospitality and support of Callan Services for Disabled Persons, Fuan Nabilan Ba Matan Aat, Comunidade Edmund Rice, and Alola Foundation are memorable, especially in the harsh living conditions of both countries. My travel companions since the first projects in Papua New Guinea and Timor-Leste in 2002 included Amanda Hurst, Patricia Woodcroft-Lee, Br Cyril Bosco, Sr Helen Merrin, Ben Clare, and David Rice. These compatriots have contributed their expertise and “good cheer” during the many journeys of discovery in both countries.
**TABLE OF CONTENTS**

Author Notes .................................................................................................................... iii

Candidate’s Statement ...................................................................................................... iv

Acknowledgements ........................................................................................................... v

List of Tables ..................................................................................................................... xiii

List of Figures .................................................................................................................... xiv

List of abbreviations ........................................................................................................... xvi

Abstract ........................................................................................................................... xviii

CHAPTER 1 INTRODUCTION ........................................................................................... 1

1.1 Introduction to the study .............................................................................................. 1

1.2 Impetus for the study ................................................................................................... 2

1.3 Research problem, purpose, and questions ................................................................. 3

1.4 Research design ........................................................................................................... 7

1.5 Significance of the research ........................................................................................ 9

1.6 Researcher’s assumptions .......................................................................................... 11

1.7 Biography of the researcher ....................................................................................... 12

1.8 Thesis organisation .................................................................................................... 14

1.9 Definitions ............................................................................................................... 15

1.10 Conclusion .............................................................................................................. 21

CHAPTER 2 LITERATURE REVIEW .............................................................................. 23

2.1 Introduction .............................................................................................................. 23
2.2 Key issues of human development ............................................................................. 24

2.2.1 Introduction ........................................................................................................ 24

2.2.2 Dimensions of national human development ....................................................... 28

2.3 Philosophical and Conceptual foundation of the study ............................................ 45

2.3.1 Selection of a qualitative research approach ........................................................ 45

2.3.2 Selection of a transformational research paradigm .............................................. 46

2.3.3 Development of the study’s analysis model ......................................................... 48

2.4 Conclusion ................................................................................................................ 55

CHAPTER 3 METHODOLOGY ........................................................................................ 59

3.1 Introduction ............................................................................................................... 59

3.2 Rationale for the study’s research approaches ............................................................ 61

3.2.1 Introduction ........................................................................................................ 61

3.2.2 Rationale for selection of the Papua New Guinea case study approach .............. 61

3.2.3 Rationale for selection of the Timor-Leste reference group approach .......... 63

3.2.4 Rationale for selection of the documentary research approach ......................... 64

3.2.5 Rationale for the Timor-Leste strategic model for inclusive education of children with special needs ................................................................. 65

3.3 Design phases ............................................................................................................ 67

3.3.1 Introduction ........................................................................................................ 67

3.3.2 Description of the five design phases ................................................................. 70

3.4 Participants ................................................................................................................ 73
3.4.1 Introduction ........................................................................................................ 73
3.4.2 Papua New Guinea case study participants (n = 19) ............................................ 75
3.4.3 Timor-Leste reference group participants (n = 13) .............................................. 79
3.5 Data collection, analysis, and display......................................................................... 81
  3.5.1 Introduction ........................................................................................................ 81
  3.5.2 Data collection methods and instruments ............................................................ 83
  3.5.3 Data analysis and display methods and techniques .............................................. 86
3.6 Ethics and trustworthiness ......................................................................................... 90
  3.6.1 Introduction ........................................................................................................ 90
  3.6.2 Ethical considerations ......................................................................................... 91
  3.6.3 Issues of trustworthiness ..................................................................................... 92
3.7 Potential limitations of the study ................................................................................ 97
  3.7.1 Researcher’s philosophical beliefs ...................................................................... 97
  3.7.2 Researcher’s and research participants’ backgrounds .......................................... 98
3.8 Conclusion ................................................................................................................ 99

CHAPTER 4 RESULTS: PAPUA NEW GUINEA ........................................................... 101
4.1 Introduction ............................................................................................................. 101
4.2 Research question 1: National educational goal and key beneficiaries and stakeholders ........................................................................................................ 103
  4.2.1 Introduction ...................................................................................................... 103
  4.2.2 National goal for the education system for children with disability .................. 104
5.2.2 National goal for the education system for children with disability ................. 181
5.2.3 Government’s mission and vision for the national education system ............... 181
5.2.4 Key beneficiaries and stakeholders with a vested interest in the national education system for children with disability ............................................................... 184
5.3 Research question 2: Governance perspectives ...................................................... 186
5.3.1 Introduction ...................................................................................................... 186
5.3.2 Governance of the national education system .................................................... 186
5.3.3 Legislation and policies supporting education of children with disability ............ 187
5.4 Research question 3: Teaching and learning perspectives ........................................ 190
5.4.1 Introduction ...................................................................................................... 190
5.4.2 Educational needs of children with disability .................................................... 190
5.4.3 Teaching and learning infrastructure (services, staffing, programs) ................. 191
5.4.4 Education enrolment rates for children with disability ....................................... 194
5.5 Research question 4: Priorities for future growth ..................................................... 197
5.5.1 Introduction ...................................................................................................... 197
5.5.2 Education priorities in the area of disability ...................................................... 198
5.6 Conclusion .............................................................................................................. 204

CHAPTER 6 DISCUSSION ............................................................................................. 209
6.1 Introduction ............................................................................................................. 209
6.2 National educational goal setting ............................................................................ 212
6.2.1 Introduction ...................................................................................................... 212
6.2.2 National goal setting features supporting the goal’s achievement ...................... 213
6.2.3 National educational goal setting features constraining the goal’s achievement. 215
6.3 Educational governance and enrolment rates of children with disability ............... 216
6.3.1 Introduction ...................................................................................................... 216
6.3.2 Educational governance features supporting growth in enrolment rates .......... 218
6.3.3 Educational governance features constraining growth in enrolment rates ....... 220
6.4 Teaching and learning infrastructure and enrolment rates for children with disability ....................................................................................................................................................... 224
6.4.1 Introduction ...................................................................................................... 224
6.4.2 Educational infrastructure features supporting growth in enrolment rates ....... 225
6.4.3 Educational infrastructure features constraining growth in enrolment rates ....... 229
6.5 Directions for further research in Papua New Guinea ........................................... 239
6.6 Conclusion .............................................................................................................. 241

CHAPTER 7 RECOMMENDATIONS AND REFLECTIONS ......................................... 245

7.1 Introduction ............................................................................................................. 245

7.2 Recommendations for national educational goal setting ....................................... 246
7.2.1 Recommendation 1: Consultation and partnerships in national educational goal
setting .................................................................................................................... 246

7.3 Recommendations for educational leadership and governance ............................. 247
7.3.1 Recommendation 2: Development of an inclusive education policy and
implementation plan in the area of disability ......................................................... 247
LIST OF TABLES

Table 1. Demographic and interview attributes of the Papua New Guinea multicase study participants................................................................. 75

Table 2. Demographic attributes of the Timor-Leste reference group members ............... 80

Table 3. Key stakeholders and beneficiaries with a vested interest in achievement of the national goal for the education system for children with disability................................. 109

Table 4. Key beneficiaries and stakeholders with a vested interest in Timor-Leste’s national education system for children with disability................................................................. 185
LIST OF FIGURES

*Figure 1.* Links between the present study’s research problem and purpose ................. 5

*Figure 2.* Overview of the five research design phases of the study ............................... 7

*Figure 3.* Human Development Index (HDI) and Human Poverty Index (HPI) rankings for countries classified with medium and low human development in the East-Asia and Pacific region (UNDP, 2009b; 2011) ........................................................................................................... 29

*Figure 4.* Gross national income (GNI) per capita for East-Asia and Pacific countries with medium to low human development included in the 2011 Human Development Report .................................................. 30

*Figure 5.* Comparison of human development indicators of a “long and healthy life” for East-Asia and Pacific countries with medium to low human development included in the UNDP 2011 UNDP human development report ........................................................................................................... 33

*Figure 6.* Comparison of human development indicators of “access to knowledge” for East Asia and Pacific countries with medium to low human development included in the UNDP 2011 human development report ........................................................................................................... 38

*Figure 7.* Refinements made to the four-perspective model of the Balanced Scorecard (BSC) Management System to support transformative educational research in the area of disability in Papua New Guinea and Timor-Leste (Kaplan & Norton, 1991; 1996a; 2008) ............... 51

*Figure 8.* The study's analysis model of educational perspectives linked with the four research questions ........................................................................................................................................ 53

*Figure 9.* Research methodology and philosophical foundation of the present study .......... 60

*Figure 10.* Design phases of the present study .................................................................. 69

*Figure 11.* Participant selection procedures ...................................................................... 74

*Figure 12.* Map of Papua New Guinea, indicating the five locations of the nine multicasse study groups ......................................................................................................................... 77
Figure 13. Overview of data collection, analysis, and display methods and techniques used in this study................................................................. 82

Figure 14. The study's analysis model of educational perspectives linked with the four research questions ........................................................... 102

Figure 15. National and provincial governance authorities of the Papua New Guinea national education system, 2008 ............................................................... 112

Figure 16. Educational governance authorities responsible for education of children with disability in Papua New Guinea........................................... 115

Figure 17. General organisational structure of the four SERCs that participated in this study ......................................................................................... 134

Figure 18. SERC client enrolments as a % of the province population, 2009 ................. 148

Figure 19. Types of disability of 12957 people surveyed by the Timor-Leste Ministry of Social Solidarity in 2001 ............................................................................. 195

Figure 20. Balance of features of national goal setting features the area of disability interpreted in this study as supporting and constraining the goal’s achievement to date ..... 213

Figure 21. Balance of educational governance features interpreted in this study as supporting and constraining growth to date in national education enrolment rates for children with disability............................................................ 217

Figure 22. Balance of features of teaching and learning infrastructure interpreted in this study as supporting and constraining growth to date in national education enrolment rates for children with disability............................................................ 225
LIST OF ABBREVIATIONS

ABA    Australian Braille Authority
ADL    Activities of daily living
BoG    Board of Governors
BSC    Balanced Scorecard Management System
CBR    Community-based education
CNU    Callan National Unit
CRPD   Convention on the Rights of Persons with Disabilities
DPO    Organisation of people with disabilities
DWG    UN Disability Working Group in Timor-Leste
ECCE   Early childhood care and education
EFA    Education for all
EI     Early intervention
FODE   Flexible open distance education
GER    Gross enrolment ratio
GNI    Gross national income
HDI    Human Development Index
HPI    Human Poverty Index
ICEVI  International Council for Education of People with Visual Impairment
IERC   Inclusive education resource centre
IEU    Inclusive education unit
ILO    International Labor Organisation
IRO    Internal resource officer
LRE    Least restrictive environment
MDG    Millennium development goals
MoE    Ministry of Education
NCD    National Capital District
NDoE   National Department of Education
NEB    National Education Board
NIEC   National inclusive education coordinator
NOIE   National Office of Inclusive Education
NSEC   National Special Education Committee
PNG    Papua New Guinea
RIDBC  Royal Institute for Deaf and Blind Children
SERC   Special education resource centre
TSC    Teaching Service Commission
UN     United Nations
UNDP   United Nations Development Programme
UNESCAP United Nations Economic and Social Commission for Asia and the Pacific
UNESCO United Nations Economic and Social Commission
UNICEF United Nations Children’s’ Fund
UPNG   University of Papua New Guinea
WHO    World Health Organization
ABSTRACT

A great deal of research indicates that over 100 million children worldwide are marginalised from education, including about 40 million with some form of disability living in the Asia Pacific region. In countries with high levels of human poverty and low national human development, education is an important vehicle to employment, independence, and social and political empowerment. For children with disability, education holds the potential to transform experiences of deprivation into opportunities for greater personal freedom and family and community respect and belonging.

East Asia and Pacific studies have linked low school attendance rates for children with disability in such island nations as Papua New Guinea and Timor-Leste with traditional beliefs about the causes of disability and family shame. This study sought to reveal and understand the complexities of education provision in Papua New Guinea and Timor-Leste, with a view to offering recommendations for growth in Timor-Leste’s system of education for children with disability. In both countries, approximately 99% of children with disability are excluded from the education system. Prior studies have shed light on the impact of such diseases as malaria, chronic malnutrition, and an inadequate health system on survival rates for young children. Many of these studies also highlight the challenges of providing quality education in overcrowded classrooms with limited educational resources and professional training in disability-inclusive teaching methods.

Papua New Guinea’s education system was chosen for intensive study as, despite the complex human development challenges facing the country, the government had transformed its segregated education system for children with disability into an inclusive system for all children. The researcher sought to gain historical and current perspectives on the
transformation process, and identify features of the inclusive education system that may have relevance and application for children with disability in Timor-Leste. The research approach employed in this study included collection and analysis of the professional and personal perspectives of 32 education and rehabilitation leaders and practitioners working in Papua New Guinea and Timor-Leste, and has been supported by analysis of documentary data in related fields of study. Research methods included case study interviews in Papua New Guinea, establishment of a Timor-Leste reference group of educational leaders, and development of an analysis model to guide data coding, analysis, interpretation, and display.

One of the most important discoveries made during the course of this study was the limited impact of the 20 years of educational reform in Papua New Guinea on enrolment rates for children with disability. This discovery resulted in an emphasis on transformative human rights and empowerment perspectives in the study’s conclusions and recommendations. The recommendations offered promote transformation of educational marginalisation and disadvantage for Timor-Leste’s children with disability through government and civil society partnerships that promote and support equitable participation of people with disability in educational leadership, governance, and infrastructure development at all levels of the education system.
CHAPTER 1 INTRODUCTION

1.1 Introduction to the study

This doctoral dissertation presents and discusses results of a six-year transformative educational research study in the area of disability in Papua New Guinea and Timor-Leste (East Timor), two developing countries in the Asia-Pacific region. Its purpose was to offer recommendations for national educational planning and priority setting in the area of disability in Timor-Leste that were drawn from research into the Papua New Guinea and Timor-Leste education systems for children with disability.

The study explored the complex relationship between growth and reform of the education systems for children with disability in the two focal countries, and key issues of national human development and human poverty that influence levels of educational access and participation of children with disability. It included intensive analysis and interpretation of the two decades of educational reforms implemented by the Papua New Guinea government that were intended to achieve an inclusive national education system that promotes and supports equality of education participation for children with disability.

The rich and diverse contributions made to this study by 32 leaders and practitioners in the related fields of education, rehabilitation, and disability helped to galvanise the study’s direction and emphasis on issues of human rights and empowerment of people with disability. The lengthy and intense process of conducting the study has stimulated debate and discussion among government, civil society, and international decision-makers and stakeholders in both countries, and it is anticipated that the study will contribute to a broader international
discourse on transformative educational principles and approaches that promote the rights of children and adults with disability.

This chapter introduces the study by providing the context and background to the important research problem of educational marginalisation, disadvantage, and disempowerment of children with disabilities and their families in Papua New Guinea and Timor-Leste. The chapter commences with a discussion of the origins and impetus for the research project, followed by a description of the links between the research problem, the study’s purpose, and the research questions. The chapter then proceeds with an introduction to the research design established to address the study’s purpose and questions, followed by the study’s significance and the researcher’s assumptions. It concludes with a brief biography of the researcher, an overview of the general organisation of the thesis, a succinct list of definitions and explanations of key terms used in the study, and a chapter conclusion.

1.2 Impetus for the study

The major impetus for the present study was a request to the researcher by Ms Sword-Gusmao for assistance in national educational planning and priority setting in the area of disability. At the commencement of this study, Ms Sword-Gusmao was the wife of the Prime Minister of Timor-Leste, the former First Lady of Timor-Leste, the Co-President of the Timor-Leste National Education Commission, and the “Goodwill Ambassador for Education”. Her request signalled high-level involvement within Timor-Leste’s government for growth and reform of the education system for children with disability. This was an exciting prospect for the researcher, who had been involved since 2002 in international efforts to improve educational access for children with disabilities in Timor-Leste. These efforts had been thwarted by the desperately impoverished conditions of life for people with
disability. Children and adults with disability lived on the margins of society in impoverished conditions. Timor-Leste’s status as a least developed country reflected its severely limited provision of education, health, and rehabilitation services which led to high death rates among babies and children under the age of five years. The researcher was offered a unique opportunity to contribute to the human rights and empowerment of children and adults with disability by offering research-based recommendations for education system growth and reform in the area of disability. Such an opportunity is rare and perhaps comes only once in a lifetime.

The following section presents an overview of the research problem, purpose, and questions that were devised to support and promote transformation of the meagre education system for children with disability in Timor-Leste at the commencement of the study.

1.3 Research problem, purpose, and questions

It might successfully be argued that the Western nations know very little about educational provision for children with disabilities in such island nations as Timor-Leste and Papua New Guinea. A preliminary review of the professional literature at the commencement of this study highlighted the challenges of social and educational discrimination, marginalisation, and impoverishment experienced by many children and adults with disability living in East Asia and Pacific countries with low national human development. In island nations such as Papua New Guinea and Timor-Leste, efforts to promote equitable access to education for children with disability require a broad understanding of the key issues of national human development that constrain education system growth and reform. National economic issues include for example, a narrow range of natural resources, susceptibility to natural disasters, excessive dependence on international trade, and vulnerability to global

The research problem identified at the commencement of the study was related to the challenges of developing a high quality, affordable, and relevant education system for children with disability in Timor-Leste, a “least developed country” facing a broad range of political, economic, cultural, and environmental constraints in improving national human development. Preliminary review of the professional literature revealed limited prior studies of the education systems for children with disability in East Asia and Pacific island nations such as Papua New Guinea and Timor-Leste. Research by UNICEF highlighted that children and adults with disability were among the poorest and most socially disadvantaged of Timor-Leste’s citizens (UNICEF, 2003; UNICEF Timor-Leste, 2003). However, there were limited studies on the prevalence and causes of childhood disabilities, education enrolment rates for children with disability, and children’s and families’ educational needs.

Following identification of the research problem, the researcher undertook discussions with her supervisors in order to frame the study’s purpose, its research questions, and the research design. The researcher has added the following diagram (Figure 1) as an additional support to the reader. The figure is followed by a description of the study’s purpose and the research questions.
As indicated in Figure 1, the purpose of the present study was to offer recommendations for national planning and priority setting in the area of disability in Timor-Leste that were drawn from the study of the Papua New Guinea and Timor-Leste education systems for children with disability. Papua New Guinea was selected for intensive multi-case interview and documentary research because of its similarities with Timor-Leste in terms of educational provision for its small, geographically dispersed population of children and adults with disability.

Papua New Guinea and Timor-Leste share similar key issues of national human development. The two countries were ranked in the UN Human Poverty Index for 2009 in the 121st and 122nd positions out of 135 developing countries (UNDP, 2009b). The researcher had extensive empirical knowledge of educational provision for children with disability in Papua New Guinea and Timor-Leste at the commencement of the study. This included
knowledge of Papua New Guinea’s bold educational reforms to the education system for children with disability that have been implemented since the early 1990s. These reforms have prioritised the dismantling of the country’s former special school system and its replacement with a unified inclusive national education system for all children, including those with disability. Papua New Guinea’s national approach to education transformation in the area of disability was deemed highly worthy of study. It was anticipated that valuable knowledge would be gained from the Papua New Guinea study that have potential relevance and application to the Timor-Leste education system for children with disability.

The following four research questions attempt to address the problem of devising a set of recommendations for disability-inclusive education system growth in Timor-Leste that can be drawn from the study of the Papua New Guinea and Timor-Leste education systems for children with disability:

1. What is the national goal or vision underpinning the education system for children with disability, and who are the key beneficiaries and stakeholders with a vested interest in achievement of the goal?
2. What system of governance underpins the education system for children with disability, and the acquittal of fiduciary duties to financial stakeholders?
3. What teaching and learning infrastructure characterises the education system for children with disability, and how responsive is this infrastructure to child and family educational needs?
4. What do current leaders and practitioners declare are the national priorities for the education system for children with disability?
Definitions of some of the key terms used in the research questions are included in Section 1.9 of Chapter 1. The next section of this chapter presents an overview of the research design selected to explore the study’s purpose and research questions.

1.4 Research design

A qualitative educational research design using case study, reference group, and documentary research methods was selected as an effective means of conducting the investigation of the Papua New Guinea and Timor-Leste education systems for children with disability. The study consists of the five research design phases presented in Figure 2. These, were undertaken over a six year period between 2006 and 2012.

![Figure 2. Overview of the five research design phases](image)

The figure suggests a linear time sequence; however, as is common in qualitative research (Mertens, 2010), the phases were iterative and circular in nature. Successive rounds of data analysis, synthesis, and interpretation were supported by progressive reviews of the
professional literature throughout the study. Chapter 3 presents a detailed discussion of the research design summarised in Figure 2.

A total of 32 leaders and practitioners working in the fields of education, rehabilitation, and disability in Papua New Guinea, Timor-Leste, Australia, and New Zealand participated in this study. Participants contributed their personal and professional understanding and perspectives on the Papua New Guinea and Timor-Leste education systems for children with disability. They were selected using the purposeful participant selection procedures of criterion and snowball sampling described by Mertens (2010) and Punch (2009), with key informants in Papua New Guinea and Timor-Leste providing valuable input into the participant selection process.

The first group of 19 participants comprised the Papua New Guinea Case Study Interview Group. This group consisted of educational and rehabilitation leaders, practitioners, and persons with disability with a vested interest in the Papua New Guinea education system for children with disability and their families (termed key stakeholders). Participants were organised into nine case study groups, as described in Table 1, Section 3.4.2.

The second group of participants was nominated the Timor-Leste Reference Group. It consisted of 13 stakeholders with a vested interest in education and rehabilitation services and programs for people with disability in Timor-Leste. Members of the Timor-Leste Reference Group included senior leaders and decision-makers in the Timor-Leste Ministry of Education and other government ministries; organisations providing services for people with disability; international advisors to the Timor-Leste Ministry of Education; and the UN’s Timor-Leste Disability Working Group (DWG). At the time, DWG membership included national organisations and associations of people with disabilities, several UN agencies, and international development organisations working in the area of disability in Timor-Leste.
The following section relates the significance of this study to its two focal countries and to the international community.

1.5 Significance of the research

Human rights and empowerment

The present study gives visibility to disability issues in education in Timor-Leste and Papua New Guinea, and the need to implement education system growth and reforms that address educational, social, economic, and political marginalisation and disadvantage experienced by children and adults with disabilities and their families. The study explores the relationship between educational enrolment and retention rates for children with disability in Papua New Guinea and Timor-Leste and the key issues of human development that impact upon learner and family access and participation in education and the broader society in both countries. The UNDP emphasised that “central to the human development approach is empowerment” (2007b, p. 1), in particular empowerment through access to education and health care, freedom of expression, the rule of law, respect for diversity, and protection from violence. Research for example by UNESCAP (2002) found that poverty and educational disadvantage and marginalisation are experienced by more than 90% of children with disabilities and their families living in developing countries in the Asia-Pacific region (p. 1). UNICEF (2005) highlighted the links between educational marginalisation and economic and social exclusion, prejudice, and rejection, noting that children with disability “live with the reality of exclusion” from community life, formal education, and rehabilitative health care and support services (p. 28).

This study supports international research on promoting education as a means of breaking the cycle of poverty, ill-health, and illiteracy in Papua New Guinea and Timor-
Leste. The study’s emphasis on human rights supports the efforts of people with disability to achieve greater political and civic freedoms and to influence decisions that affect their lives (UNDP, 2007b, p. 24; Zubrick, et al., 2008, p. 59). The study has aroused the interest of national leaders in education, rehabilitation, and disability in both countries since its formulation. The Timor-Leste Education Minister and Director General, for example, have expressed their support for the study since its commencement.

National and international efforts to promote effective and sustainable education systems for children with disability in Papua New Guinea and Timor-Leste

The study makes an important contribution to the body of knowledge about the education systems for children with disability in Papua New Guinea and Timor-Leste, and the national human development challenges that are unique to each country in implementing disability-inclusive education reforms. The study supports the efforts of the Papua New Guinea and Timor-Leste governments, UN agencies, and international development organisations to establish effective and sustainable education systems that produce improvements in the quality of life of children and adults with disability.


The study supports the World Health Organisation’s (WHO) multisectoral development strategy and CBR (community-based rehabilitation) guidelines to address “the broader needs of people with disabilities, ensuring their participation and inclusion in society and enhancing
their quality of life” (World Health Organization, 2010, p. 1). The emphasis on multisectoral and CBR approaches to service delivery for people with disability reflects WHO’s collaboration with UNESCO and ILO (International Labour Organization) and adoption of the general principles of the Convention on the Rights of Persons with Disabilities (Article 3, United Nations, 2006), and emphasises the human rights and empowerment of people with disabilities, their families, and communities through “facilitation of their inclusion and participation in development and decision-making processes” (p. 14).

The following section presents the researcher’s assumptions at the commencement of the study. This is followed by a biography of the researcher and organisation of this thesis.

1.6 Researcher’s assumptions

Qualitative research is associated with a complex, interconnected family of terms, concepts, and assumptions (Denzin, 1994, p. 1). The researcher’s assumptions at the commencement of this study were linked with her ontological and epistemological beliefs about the nature of reality and the pursuit of knowledge (Mertens, 2010, p. 32). Ontological assumptions held by the researcher included the belief that the causes of, and potential solutions to, education marginalisation and disadvantage experienced by children and youth with disability in Papua New Guinea and Timor-Leste were associated with political, social, cultural, economic, and environmental issues of human development, and that improvements in education access and participation of children with disability would have positive benefits for the individuals, their communities, and the broader society. It has been assumed by the researcher that the causes of education marginalisation and disadvantage experienced by children with disabilities and their families could be ameliorated through implementation of education reforms, such as those implemented in Papua New Guinea since the 1990s.
Research by the United Nations Department of Economic and Social Affairs Population Division (2003) emphasised that “illiteracy is a powerful predictor of poverty”, and that primary education plays a “catalytic role” in improving the economic and social conditions of the poorest members of society, including girls, rural dwellers, and people with disabilities (p. 48).

The epistemological assumptions held by the researcher in relation to the nature and meaning of knowledge included the assumption that education marginalisation and disadvantage experienced by children with disability in Papua New Guinea and Timor-Leste were linked with discriminatory and disempowering traditional beliefs and superstitions about the nature and causes of disability. The researcher considered it important that the study examine the educational needs of children with disability and their families, together with the education priorities of the research participants, in order to promote the democratic, constitutional rights of children and adults and their families to equality of social, academic, and vocational participation in their local communities and the broader society.

1.7 Biography of the researcher

While conducting the study, the researcher has been employed as a lecturer in vision impairment at the RIDBC Renwick Centre, Royal Institute for Deaf and Blind Children, New South Wales, Australia. The Renwick Centre is affiliated with the University of Newcastle NSW, and offers doctoral, Master’s, and Graduate Certificate degree programs in sensory impairment and disability, as well as continuing professional education programs for practising specialists.

The researcher has worked in the area of education of children with disability for 25 years, and over the past decade has provided professional training programs in the related
fields of disability and inclusive education in Timor-Leste, Papua New Guinea, the Fiji
Islands, and other Pacific Island countries. In 2006, she was nominated to the position of
Pacific Regional Chairperson, *International Council for Education of People with Visual
Impairment* (ICEVI), and ICEVI representative on the executive board of the *South Pacific
Educators in Vision Impairment*. Other community activities have included membership on
National and NSW executive committees of the Australian Braille Authority (ABA) and the
ABA Examinations Board.

The researcher’s involvement in education provision for children with disability in
Timor-Leste and Papua New Guinea commenced in 2002 with a needs analysis of
educational services for children with vision impairments in Timor-Leste, undertaken on
behalf of ICEVI (Gentle, 2002). The Timor-Leste projects undertaken in July and December
of 2002 were followed in 2003 with the researcher’s participation in a strategic review of the
Mount Sion Centre for Disabled Persons in Goroka, Papua New Guinea, which was
undertaken on behalf of the Congregation of Christian Brothers (Bosco & Gentle, 2003). The
2002-2003 projects in Papua New Guinea and Timor-Leste raised the researcher’s awareness
of the challenges facing both countries in providing quality educational provision for children
with disability. The projects led to her ongoing involvement in professional training programs
in the areas of inclusive education and special education in island nations in the East Asia and
Pacific region.

Of importance to the present study was the researcher’s development of the *Forward
Strategy for the development of inclusive education in Timor-Leste, Phase 1* (Gentle &
Leach, 2004). The Forward Strategy, co-authored by the former Director of Callan Services
for Disabled Persons at Wewak in Papua New Guinea, was identified by Ms Sword-Gusmao
as a potentially suitable foundation for education system growth and development in
education access and provision for children with disability. The aim of writing the Forward

1.8 Thesis organisation

This thesis is presented in seven chapters. The first chapter provides an introduction to the topic and purpose of this study. It presents the background context of the study and the research problem addressed. The chapter includes the research questions posed and research design selected to address the research problem, as well as the study’s potential significance in relation to the education systems for children with disability in Timor-Leste and Papua New Guinea. Definitions of terms used in this study, together with a brief biography of the researcher are included.

Chapter Two presents a review of the literature related to the study and pertaining to the relationship between the education systems for children with disability, and key issues of national human development in Papua New Guinea and Timor-Leste. The chapter includes a review of the professional literature underpinning the philosophical and conceptual foundation of the present study, and development of an analysis model that was used to support data collection, analysis, and interpretation.

Chapter Three presents the methodology used in the planning and execution of this study. It includes the information needed to address the study’s purpose, a description of the research design and rationale, participant selection procedures, and data collection and
management methods. Ethical considerations, issues of research trustworthiness and authenticity, and the study’s potential limitations are discussed.

Chapter Four describes the results of the study of the Papua New Guinea system of educational provision for children with disability. The chapter includes a description, supported by tables and graphs, of the results of analysis of case study interview and documentary research compiled to address the study’s four research questions.

Chapter Five describes the results of the study of the Timor-Leste education system for children with disability. The results are grouped under the study’s four research questions and include synthesis of the Timor-Leste reference group input into the Timor-Leste strategic model for inclusive education of children with special needs.

Chapter Six discusses the results and conclusions drawn from interpretive analysis of the Papua New Guinea results. The discussion is organised using the study’s four research questions, aided by the development of qualitative educational scales depicting education system strengths and areas of improvement identified in the study.

Chapter Seven offers recommendations for national educational planning and priority setting in the area of disability in Timor-Leste, together with recommendations for further study of the Papua New Guinea national education system for children with disability. The chapter concludes with reflections on the researcher’s assumptions about the value of national educational planning and priority setting in the area of disability.

1.9 Definitions

This section, which precedes the chapter’s conclusion, presents a number of important definitions and explanations of terms used in this study in order to ensure clarity of understanding of their use. These are as follows:
Case and case studies: The investigation of a single or limited number of individuals, groups, or phenomena (termed “cases”) in naturally occurring settings using qualitative and/or quantitative approaches and techniques (Silverman, 2010, p. 432; Wiersma, 2000, p. 455).

Criterion sampling: The non-random selection of individuals who are considered representative because they meet certain pre-determined criteria for the study (Bui, 2009, p. 143).

Education management: A process that calls for planning and budgeting, organising and staffing, controlling and problem solving, and producing a degree of predictability (Caldwell, 2006, p. 6).

Fiduciary duty/obligation: A legal obligation of one party to act in the best interest of another. The obligated party is typically a fiduciary, that is, someone entrusted with the care of money or property obligation (BNET, 2011).

Formal education: Learning activities that are typically organised within the formal, institutionalised education system (Rogers, 2004; UNESCO, 2008d).

Governance (public sector): The set of responsibilities and practices, policies and procedures, exercised by public sector leaders and executive in order to provide strategic direction, ensure objectives are achieved, manage risks and use resources responsibly and with accountability (Australian Public Service Commission, 2007).

Guiding principles: Principles or precepts that guide an organisation throughout its life in all circumstances, irrespective of changes in its goals, strategies, type of work, or senior management (University of Adelaide, 2011).

Human development: The human capabilities, quality of life, and choices in social, cultural, economic, and civic participation (Zubrick, et al., 2008, p. 59). The term human development used in this study includes the quality of life dimensions of human development
used by the United Nations Development Programme to determine the Human Development Index and the Human Poverty Index (UNDP, 2007b, 2009b, 2011b).

*Human Development Index (HDI):* A relative measure of the human development in United Nations member states, which consists of the following three equally weighted dimensions: (i) longevity, measured as life expectancy at birth; (ii) knowledge, measured by adult literacy and school enrolment rates; and (iii) decent standard of living, measured by levels of access to the basic needs of survival, in particular nutrition, shelter, clean drinking water, and income generation (UNDP, 2008a).

*Human Poverty Index (HPI):* A relative measure of the standard of living in 145 UN member states, as measured by the proportion of people below a threshold level in each of the three Human Development Index dimensions (UNDP, 2008a).

*Human rights:* The fundamental interests, shared ideals, and basic rights of all humans. Human rights include the right to life; economic, social and cultural equality; health, education, and income generation; adequate standard of living (food, clean water, sanitation, and housing); and environmental health (United Nations Office of the High Commissioner for Human Rights, 2008, p. 3).

*Inclusion:* A process of addressing and responding to the diversity of needs of all children and adults by increasing their participation in learning, cultures, and communities; and by reducing their exclusion within and from education (UNESCO, 2005a, p. 13).

*Inclusive education:* The concept that schools should provide for the needs of all children in their communities, whatever the level of their ability or disability (Foreman, 2008, pp. 502-503). UNESCO (2005a) states that “it is the responsibility of the regular system to educate all children”, with changes and modifications made to curriculum content, teaching approaches, and school structures and strategies (p. 13). *Inclusive schools* respond to the
diverse learning needs of all students by ensuring equality of access and participation in learning, the school culture, and school communities (Foreman & Arthur-Kelly, 2008).

Integration: A broad term used for a child’s attendance at a regular school. The term may refer to the process of transferring a student to a less segregated setting, or to a child who is enrolled in a special unit or class within a regular school setting (Foreman, 2008, p. 503).

Intellectual disabilities: Significant problems in reasoning and thinking. Intellectual disability is generally measured using intelligence tests which result in “intelligence quotients” (IQ scores) ranging from mild, to moderate and severe intellectual disability (Foreman, 2008, p. 4).

Key stakeholder: Individuals, groups, and organisations that have a vested interest (direct or indirect) in the education system’s actions, objectives, and policies for children with disability (University of Adelaide, 2011b).

Least developed countries: Countries which share the human development attributes of “extreme poverty, structural weakness of their economies and the lack of capacities related to growth and development” (UNESCAP; ADB; & UNDP, 2006, p. 3).

Least restrictive environment (LRE): The placement of people with disability in environments that maximise their range of choices and minimise any restrictions (Foreman, 2008, p. 504). Reynolds and Fletcher-Janzen (2002) noted that the LRE principle was adopted in the US Public Law 106-17 (the IDEA Amendments of 1997), which instructs local education agencies in the US to ensure that to the maximum extent appropriate, children with disability are educated in general education classrooms (p. 585).

Mainstream education or mainstreaming: Student enrolment in, or participation in, a regular class for all or part of the school day. The term is also used to describe standard community-based services (Foreman, 2011, p. 16).
Mainstreaming: The term used for the doctrine of least restrictive environment (LRE) that emerged during the US civil rights movement in the 1950s and 1960s (Reynolds & Fletcher-Janzen, 2002). Mainstreaming was extended in the 1970s to include the placement of students with disability in regular education classrooms, with special education support when deemed necessary (p. 604).

Management: The formal and informal management and administration system, including priority setting and the allocation and monitoring of human, physical, and financial resources (UNESCO, 2007b, p. 129).

Mental disabilities: Psycho-social disabilities/disorders or intellectual disabilities, depending upon the classification used in the country of origin. Psycho-social disorders include psychiatric disorders and mental health problems (United Nations Economic and Social Commission for Asia and the Pacific, 2006, p. 11).

Mission: In the present study, the term refers to the long-term purpose, goals, and objectives established by the governments of Papua New Guinea and Timor-Leste for the national education system (Kaplan & Norton, 2008, pp. 37-40).

Multidisciplinary team: A functioning unit composed in individuals with varied and specialised training who coordinate their activities to provide services to children (Golin & Ducanis, 1981, cited in Reynolds & Fletcher-Janzen, 2002, p. 649).

Multiple disabilities: Limitations in educational development as a result of two or more disabilities (Reynolds & Fletcher-Janzen, 2002, p. 651).

Non-formal and informal education: Purposeful, assisted, participatory, and contextualised learning that takes place outside the formal, institutionalised school system (Rogers, 2004; UNESCO, 2008d).

Persons with disabilities: All persons with disabilities including those who have long-term physical, mental, intellectual or sensory impairments which, in interaction with various
attitudinal and environmental barriers, hinders their full and effective participation in society on an equal basis with others (Convention on the Rights of Persons with Disabilities, United Nations, 2006).

**Physical disabilities:** Difficulties in mobility or movement, including difficulties in walking and/or the use of hands or arms. Physical disabilities may be congenital, for example spina bifida and cerebral palsy; or late onset, for example caused by disease or trauma involving the limbs or brain (Foreman, 2008, p. 5).

**Probity:** Integrity, uprightness and honesty, including due diligence and evidence of ethical behaviour in all processes, procedures, systems, and financial management (Terra Firma, 2009, p. 5).

**Resource teacher:** Trained special educators who demonstrate good human interaction skills, and are prepared professionally in the diagnosis and remediation of single or multiple groups of children with disability (Reynolds & Fletcher-Janzen, 2002, p. 821).

**Reverse integration or reverse mainstreaming:** Special education learning environments that include non-disabled and disabled children. The purpose of reverse integration is to provide opportunities for social and academic interaction between the children (Reynolds & Fletcher-Janzen, 2002, pp. 825-826).

**Sensory disabilities:** Impairment of vision and/or hearing, ranging from mild to profound or total vision or hearing loss. *Deafblindness* refers to dual sensory loss in hearing and vision (Foreman, 2008, p. 5; Kelley & Gale, 1998, p. 255).

**Snowball (or chain) sampling procedures:** The identification of individuals of interest to the study through referrals by a small number of targeted, knowledgeable individuals, called “key informants”. The “snowball” effect refers to the progressive growth in the number of research participants through the process of referral by key informants (Mertens, 2010, p. 323; Punch, 2009, p. 163).
Small Island Developing States (SIDS): Island nations that face disadvantages associated with small population, a narrow range of resources, susceptibility to natural disasters, excessive dependence on international trade and vulnerability to global developments (UNESCAP, 2008a).

Social systems research: Research that explores the relationships, interactions, and interconnectedness between the “human activity systems” that form the social system being studied at family, community, or societal levels (Checkland, 1981, cited in Banathy, 1996, p. 14; Checkland, 1999, p. 19).


1.10 Conclusion

The purpose of this introductory chapter has been to present and discuss the context and background of the research problem selected for doctoral research. The chapter includes a discussion of the origins and impetus of the study, and the challenges identified by the researcher during a decade of involvement with education services for children with disability in Papua New Guinea and Timor-Leste. In this chapter, the researcher explores the links between the research problem, purpose, and research questions, and the positioning of the study within a transformative educational research paradigm (Bloomberg & Volpe, 2008). This research paradigm promotes human rights and empowerment of people who experience social exclusion or marginalisation due to such factors as gender, cultural and linguistic background, socio-economic status, sexual preference, or disability. This transformative educational research study promotes the rights of children and families in the developing
countries of Papua New Guinea and Timor-Leste to equitable access and inclusion in their local communities, schools, and work environments.

The social justice, empowerment, and advocacy principles contained within the transformative educational research paradigm, together with the study’s purpose and research questions, underpin the potential significance of the study results to government, non-government, and civil society leaders, stakeholders, and beneficiaries with a vested interest in the education systems for children with disability in Timor-Leste and Papua New Guinea. The results promote education system growth in Timor-Leste that is effective, sustainable, and inclusive of children with disability.

The chapter that follows presents a review of the professional literature undertaken to gain an understanding of prior research in the focal area.
CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

The professional literature was reviewed to gain an understanding of the systems of education for children with disability in Papua New Guinea and Timor-Leste. Prior studies of the relationship between national human development and the education systems in both countries were investigated. Furthermore, the literature review informs the development of a philosophical and conceptual foundation upon which to develop the research methods underpinning the study of Papua New Guinea and Timor-Leste’s education systems for children with disability.

The chapter commences with a critical review of the professional literature on Papua New Guinea, Timor-Leste, and other countries in the East Asia and Pacific region that have been classified by the UN as “low human development” countries. The review focuses upon three human development dimensions used by the UN and international agencies to measure progress in improving the quality of life of children and adults in the two focal countries of this study. Statistical data published by UN agencies and international development organisations were critically reviewed, including Papua New Guinea’s and Timor-Leste’s progress in achieving national targets for the UN Millennium Development Goals and the Education for All by 2015 goals (UNESCO Bangkok, 2006, 2008a, 2008b; UNICEF, 2003; UNICEF East Asia and Pacific Regional Office, 2006; United Nations Department of Economic and Social Affairs Population Division, 2003).
The second major focus of the literature review was the selection of a suitable philosophical and conceptual foundation for the study of the education systems for children with disability in Papua New Guinea and Timor-Leste. The review explores the literature on approaches to educational research in the area of disability used in related prior studies. The discussion includes professional literature that informed the selection of a qualitative, transformational research philosophy as the foundation for the present educational study in the area of disability.

The chapter commences with the key issues of human development in Papua New Guinea, Timor-Leste, and other East Asia and Pacific countries with medium and low national human development.

### 2.2 Key issues of human development

#### 2.2.1 Introduction

Papua New Guinea and Timor-Leste are two island nations in East Asia and the Pacific region. Approximately 2 billion people or 28% of the world’s population live in the region’s 28 countries and their diverse economic, political, cultural, religious, and linguistic heritage reflects centuries of global migration, colonisation, and trade (Central Intelligence Agency, 2010; UNDP, 2008c, 2011b; UNESCAP, 2011). At the time of the present study, Timor-Leste and Papua New Guinea were classified by the UN as countries with low human development. Timor-Leste was also classified as a least developed country (UNDP, 2011b; UNESCO, 2008a). The human development characteristics of island nations in the Asia-Pacific region with low human development include economic stagnation and high economic vulnerability to changes in global markets; limited capacity for growth and development of
education, health, and other social sector services; susceptibility to natural disasters and communicable diseases; and limited information and communication technologies (UNESCAP, ADB, & UNDP, 2006). Several UN agencies and international development organisations monitor the quality of life indicators of national human development in UN member states (UNDP, 2009a, 2011b). Areas of concern reported by UN agencies include the negative impact of high levels of human poverty on the standard of living and survival rates for children and families (UNDP, 2008a, 2008b; UNESCAP, ADB, & UNDP, 2007a; UNESCO, 2010; UNESCO Bangkok, 2008a; World Health Organization, 2003)

2.2.1.2 Papua New Guinea

Papua New Guinea (PNG) is the largest island nation in the East Asia-Pacific region and consists of the eastern part of the island of New Guinea and approximately 600 small islands that span a sea area of 3.12 million square kilometres (Central Intelligence Agency, 2011). The country’s population of 6.4 million is grouped into a clan system consisting of several thousand tribal communities. Each clan system or wantok is distinguished by its bloodline, languages, customs, tribal rituals, and beliefs (UNDP, 2009b; UNESCAP, UNDP, & ADB, 2007b). The country’s rich biodiversity includes around 860 indigenous languages and dialects (termed tok ples, or native tongue), 9000 plant species, 700 bird species, and 180 mammal species (Lipscomb, McKinnon, & Murray, 1998, pp. 22-31).

The professional literature includes references to the links between national human development and the country’s post-colonial political and legal systems. Papua New Guinea’s history includes colonisation by Germany from 1880 to 1914; British colonisation from 1914 to 1948; and joint British-Australian administration under the auspices of the United Nations following the Second World War (1949) until 1975 (Central Intelligence Agency, 2011).
Papua New Guinea gained independence in 1975 and adopted a Westminster-style parliamentary system of political and bureaucratic governance, with the British sovereign as Head of State (Central Intelligence Agency, 2011; UNDP, 2007b). Concerns, however, about the legitimacy, relevancy, and authority of the country’s Westminster-style parliamentary system were raised by Morris and Stewart (2005) in an analytical report for the white paper on Australia’s aid program. The authors asserted that national cohesion had been eroded by Papua New Guinea’s long history of violent tribal conflict, lawlessness, and the spread of guns. Furthermore, the authors raised concerns about the weakness of national and provincial governments to maintain law and order and to deliver basic education, health, and other social services (pp. 22-23).

2.2.1.3 Timor-Leste

Timor-Leste is situated at the eastern end of the Malay Archipelago and forms one of the Lesser Sunda Islands. It has a total land mass of 15,000 square kilometres, consisting of half of the island of Timor and the islands of Pulau Atauro and Fulau Jaco (Central Intelligence Agency, 2009, 2010; Democratic Republic of Timor-Leste, 2010a). Timor-Leste has a population of approximately one million, consisting of Austronesian (Malayo-Polynesian), Papuan, and a small minority of Chinese (UNESCAP, 2010). Languages spoken include the two national languages of Portuguese and Tetum, as well as Bahasa Indonesian, English, and 16 indigenous languages (Democratic Republic of Timor-Leste, 2010b, p. 2).

The professional literature highlighted the links between Timor-Leste’s international status as a “least developed country” and its history of foreign rule since the early 16th Century (UNESCAP, 2011). Timor-Leste’s history includes colonisation by Portugal from 1515 to 1975; a short period of independence in 1975; Indonesian rule from 1975 to 1999; and national independence in 2002 (Asian Development Bank, 2005; Beck, 2008;
Government of the Democratic Republic of Timor-Leste, 2011). During this 500-year period, development of a national education system for all Timor-Leste citizens was severely neglected (Beck, 2008, p. 4). Moreover, the punitive “scorched-earth” campaign of anti-independence Timorese militias and the Indonesian military during August 1999 resulted in the destruction of over 90% of the country’s national infrastructure. Approximately 1400 people were murdered and 300,000 people were forcefully resettled in refugee camps in West Timor (Democratic Republic of Timor-Leste - Ministry of Finance, 2010, p. 15; Government of the Democratic Republic of Timor-Leste, 2011; Jones, 2000; Mendonca, 1999; Supit, 2008).

In the years following the dramatic events of 1999, improvements in the quality of life for Timorese people have been erratic. Periods of progress have been interspersed with periods of political instability, civic unrest, and violence (UNESCAP, 2008a). Educational reforms implemented since independence have also suffered from political instability, changes in government, and the internal displacement of large numbers of the population (Beck, 2008, pp. 3-6). The Timor-Leste Ministry of Finance in its 2004 Census of Population and Housing, highlighted that “the size of the population, its distribution and its profile would have been very different had history followed an alternative course” (Democratic Republic of Timor-Leste - Ministry of Finance, 2006, p. 29).

The “snap-shots” of Papua New Guinea and Timor-Leste presented above provide an overview of the geographical, political, and social attributes of the two island nations within the Asia-Pacific context. The professional literature was further explored to develop a greater understanding of the quality of life of people with disability in both countries. The review uncovered limited studies that specifically addressed people with disability in Papua New Guinea and Timor-Leste and as a result, the review was broadened to shed light on the quality of life of all citizens in the two countries. The following section introduces the three
dimensions of human development that are used by the UN to measure the quality of life of citizens in UN member states.

2.2.2 Dimensions of national human development

2.2.2.1 Introduction

National human development in UN member states is measured annually by the United Nations Development Programme (UNDP) using the *Human Development Index* (HDI) and the *Human Poverty Index* (UNDP, 2007b, 2009b). The HDI is a composite index that measures achievement in the following three quality of life dimensions of human development: (a) decent standard of living, (b) long and healthy life, and (c) access to knowledge. The human development (HDI) ranking position of 1 indicates the UN member state with the highest level of human development. This contrasts with the human poverty (HPI) ranking position of 1, which indicates the state with the lowest level of human poverty. Definitions of the HDI and HPI are included in Section 1.9 of Chapter 1.

Of the 28 countries in the East Asia and Pacific region included in the HDI for 2011, the 16 countries presented in Figure 3 were classified as “medium” and “low” human development countries (UNDP, 2009b, p. 179, 2011b, pp. 27-30).
As evidenced in Figure 3, Timor-Leste and Papua New Guinea, together with Myanmar, had the lowest HDI rankings of all East-Asia and Pacific countries included in UNDP’s 2011 report. Of particular concern is Papua New Guinea’s downgrading from a medium to low human development country since 2009 (UNDP, 2009b, 2010, 2011b). Figure 3 also illustrates that Papua New Guinea and Timor-Leste had the highest levels of human poverty among the East-Asia and Pacific countries included in the most recent HPI (UNDP, 2009b). In the following sections of this chapter, the professional literature describing the status of Papua New Guinea and Timor-Leste in relation to the three quality of life
dimensions of human development is discussed. It is important to consider the relationship between the three dimensions.

### 2.2.2.2 Human development dimension 1: A decent standard of living

The first human development dimension explored in the professional literature was “a decent standard of living”, as measured by the Gross National Income (GNI) per capita. GNI per capita is defined by the UNDP (2011b, p. 30) as an aggregate income of an economy converted to international dollars using “purchasing power parity” (PPP or PPP$) rates (p. 30). A more detailed definition is included in Section 1.9 of the first chapter. Figure 4 presents the GNI per capita PPP$ for the East-Asia and Pacific countries with medium and low human development, as constructed using statistics included in the 2011 human development report (UNDP, 2011b).

![GNI per capita, 2011](chart)

**Figure 4.** Gross national income (GNI) per capita for East-Asia and Pacific countries with medium to low human development

Comparative analysis of the data presented in Figures 3 and 4 indicates that although Papua New Guinea and Timor-Leste have the highest levels of human poverty of the four East-Asia and Pacific countries classified as low human development countries in 2011, their
GNI per capita (PPP$) is higher than several of the medium development countries. This is an important consideration, as much of the political and civil unrest in both countries relates to the inequity of income distribution and the severe deprivation of people living below the poverty line of US $1.00 per day.

Papua New Guinea

In Papua New Guinea during 2010, approximately 57.4% of the population were earning less than US $2.00 a day (Government of Papua New Guinea & United Nations in Papua New Guinea, 2004). Further, the country’s informal agriculturally-based economy supported around 87% of the country’s population, the majority of whom lived in underdeveloped rural villages and isolated communities (Central Intelligence Agency, 2011; Clegg, Kornberger, & Pitsis, 2006; Morris & Stewart, 2005). The Papua New Guinea government attributed the country’s low economic performance in the first half of the current decade to internal and external factors, such as the worldwide global financial crisis, negative development in commodity prices, unfavourable trade conditions, and a series of inappropriate government policy regimes and fiscal failures. Additional internal factors have been the ten-year civil war in Bougainville (1989-1999) and a series of devastating natural disasters (Government of Papua New Guinea & United Nations in Papua New Guinea, 2004, p. 6).

The professional literature indicated that upon completion of secondary and/or vocational education, approximately 15% of school-leavers entered formal employment and tertiary education, while 85% of school-leavers were employed in subsistence and small-scale community-based commercial enterprises (Australian Government AusAID, 2008; Papua New Guinea Department of Education, 1993, 2003b).
Timor-Leste

The economic health of Timor-Leste has fluctuated since independence in 2002, due to such factors as high levels of poverty, a high annual population growth rate, and intermittent periods of political instability and civil unrest (Asian Development Bank, 2007; Timor-Leste Ministry of Education and Culture, 2005; UNDP, 2007b; UNICEF, 2008; UNICEF Timor-Leste, 2003). In recent years, the national economy has been boosted by income from gas and oil reserves. However, the standard of living of the general population has not improved as a result. Approximately 90% of the country’s population are engaged in subsistence agricultural occupations in 2011, and approximately 50% of the population live below US $1.25 a day (Central Intelligence Agency, 2012, p. 13; UNDP, 2011b). The Timor-Leste government’s survey of living standards published in 2010 found that approximately 50% of the country’s population were living below US $0.88 a day (Democratic Republic of Timor-Leste, 2010b, p. 2).

The following section presents a review of the professional literature relating to the second human development dimension of “a long and healthy life”.

2.2.2.2 Human development dimension 2: A long and healthy life

The human development dimension of “a long and healthy life” is measured using the following national indicators: life expectancy at birth (in years); nutrition, as reflected in the population under the age of five years suffering from stunting and wasting; and mortality rates for children under the age of five years (UNDP, 2011b). Figure 5 presents a comparison of the four national indicators of a long and healthy life for East-Asia and Pacific countries with medium to low human development, as constructed using information included in UNDP’s 2011 human development report. “Stunting” refers to children who fall two standard deviations or more below the median height-for-age of the population of 0-5 year olds, and
“wasting” refers to children who fall two standard deviations or more below the median weight-for-height for 0-5 year-olds (p. 15).

![Life expectancy at birth (years)](image1)

![Child mortality under 5 years](image2)

![Stunting in children aged 0-5 years](image3)

![Wasting in children aged 0-5 years](image4)

*Figure 5.* Comparison of human development indicators of a “long and healthy life” for East-Asia and Pacific countries with medium to low human development

As illustrated in Figure 5, Papua New Guinea and Timor-Leste have the lowest life expectancy rates (in years) of East Asia and Pacific countries classified as medium and low
human development countries (UNDP, 2011b). The UN report includes life expectancy rates for Timor-Leste and Papua New Guinea of 62.5 years and 62.8 years respectively (pp. 27-30). These rates are approximately 20 years less than those of developed countries in the East Asia and Pacific region, reflecting the sharp contrast between countries ranked with high and very high levels of national human development. Of importance to the present study are the life expectancy and health rates for children and mothers and children, including children with disability in Papua New Guinea and Timor-Leste. Unfortunately specific data relating to children with disability were not identified in the professional literature.

**Papua New Guinea**

Life expectancy at birth in 2011 in Papua New Guinea was 62.8 years, and mortality rates for children aged 0-5 years accounted for 6.8% of all live births (UNDP, 2011b). UNICEF (2008) reported that maternal mortality rates in Papua New Guinea were 177 times greater than for Australian women, and less than half (41%) of all births in Papua New Guinea were attended by a skilled health professional. Further, UNDP reported that 44% of children aged 0-5 years suffered from stunting and 18% suffered from wasting, with malaria and malnutrition reported as the main causes of health problems and premature death among young children (Government of Papua New Guinea & United Nations in Papua New Guinea, 2004; UNDP, 2005, 2007b, 2011b; UNICEF, 2006; United Nations General Assembly, 2001).

**Timor-Leste**

Life expectancy at birth in Timor-Leste in 2011 was 62.5 years, with mortality rates among children aged 0-5 years accounting for 5.6% of all live births (UNDP, 2011b). These rates were the highest of all East Asia and Pacific countries with medium to low human
development included in the UNDP’s human development report for 2011. These data were confirmed in the Timor-Leste government’s demographic and health survey for 2009-2010 (Democratic Republic of Timor-Leste, 2010b, p. xxv). The national survey found that of the total population of children aged 0-5 years, 45% were underweight, 15% were severely underweight, 58% were stunted, and 33% were severely stunted (p. xxvii). The survey also found that stunting among children aged 0-5 years had increased from 49.4% in 2003, to 58% in 2010 (p. xxvii). High mortality rates among women of child-bearing age (aged 15-45 years) were also identified in the national survey, with 42% of all deaths among women in this age group associated with child-birth (p. xxv). The UN linked maternal mortality with the high incidence of village births that were not supported by access to health care facilities, skilled health personnel (doctor, nurse, assistant nurse, or mid-wife), medicines, and emergency care (UNDP, 2007b; UNESCAP & UNDP, 2005; UNICEF, 2008; United Nations General Assembly, 2001).

Research undertaken by Banskota (2008) into health service provision for the predominantly rural population of Timor-Leste, identified “geographical remoteness, ignorance, and limited capacity” (p. 72) as the major challenges facing the national government. Banskota emphasised that the health sector in Timor-Leste was in a developmental stage and the government of Timor-Leste has been committed to addressing health indicators through the establishment of universal access to basic health services.

The human development dimension of “a long and healthy life” described above highlights the challenges facing parents and families in supporting the health and survival of their children with disability. Families face enormous challenges in developing countries such as Papua New Guinea and Timor-Leste, where the low survival rate for mothers and young children is the result of such preventable causes as low levels of prenatal care, poor nutrition and malnutrition, deprivations in essential goods and services, and low levels of access to
preventive and curative medicines to fight water- and mosquito-born endemic communicable
diseases (UNICEF, 2005, p. 29; World Health Organization, 2002). The consequences of
these preventable causes include unacceptably high levels of stunting and wasting in young
children. Equivalent childhood stunting rates of around 60% of children aged 0-5 years in
developed countries would produce a global outcry and extraordinary efforts to address the
preventable causes of children’s suffering. Research in the Pacific region undertaken by
Stubbs and Tawake (2009) further emphasised the links between poverty, disability, and
discrimination. The authors highlighted the need for government action in the Pacific region
to address the human survival needs impacting upon the quality of life of children and adults
with disability. These basic needs included access to adequate nutrition, clean drinking water
and shelter, and adequate income.

Links between poverty and disability in Timor-Leste were researched by Abe-Nagata
(2001). In the author’s report to UN Transitional Authority for Timor-Leste, the causes of
disability were linked with poor nutrition, insufficient preventive and early intervention
measures, substandard medical care, and poverty that are also indirectly related to the 25
years of civil conflict during Indonesian rule (p. 1).

In the following section, the professional literature relating to the third and final human
development indicator of “access to knowledge” is reviewed.

2.2.2.3 Human development dimension 3: Access to knowledge

The human development dimension of “access to knowledge” is measured by United
Nations Development Programme (UNDP) using a range of indices and measures. These
include the Education Index, which consists of the Gross Enrolment Ratio (GER) Index and
the Adult Literacy Index (UNDP, 2009b, p. 208). The Gross Enrolment Ratio (GER) Index is
a measure of the total number of students enrolled in primary, secondary, and/or tertiary
education, as expressed in terms of the percentage of the total population of children in any
given country (p. 226). The UNDP emphasises that the GER Index does not include data on
the quality of educational opportunities or outcomes, and may be distorted by grade repetition
and dropout rates in individual countries (p. 366). The Adult Literacy Index is measured
using the Adult Literacy Rate, which measures the proportion of the adult population aged
over 15 who can both read and write a short simple statement about their everyday life

In recent UNDP human development reports, measures of access to knowledge have
included “mean years of schooling” and “expected years of schooling” (UNDP, 2010,
2011b). “Mean years of schooling” refers to the average number of years of education
received by people aged 25 and older; whereas “expected years of schooling” refers to the
number of years of schooling that a child of school entrance age can expect to receive if
prevailing patterns of age-specific enrolment rates persist throughout the child’s life (UNDP,
2011b, p. 30).

Figure 6 presents a comparison of three human development indicators measuring
“access to knowledge” in East Asia and Pacific countries with medium to low human
development, as constructed using data included in the UNDP 2011 report. The three
indicators are as follows: mean years of schooling (school retention), expected years of
schooling, and adult illiteracy rates.
Figure 6. Comparison of human development indicators of “access to knowledge” for East Asia and Pacific countries with medium to low human development

Figure 6 highlights the substantial variation in the three human development measures of “access to knowledge” (UNDP, 2011b). Timor-Leste and Papua New Guinea, together with Myanmar, have the lowest school retention rates in the East Asia and Pacific region. It is noteworthy that the “expected years of schooling” varies substantially across the East Asia and Pacific countries, ranging from 5.8 years in Papua New Guinea to 14.1 years of schooling in Mongolia. Timor-Leste’s “expected years of schooling” is 11.2 years, suggesting
improvements in education in Timor-Leste since independence in 2002. The present study includes an emphasis on identifying the factors influencing school attendance and retention rates for children with disability in Papua New Guinea and Timor-Leste. Figure 6 indicates that Papua New Guinea and Timor-Leste have the lowest adult literacy rates across the East Asia and Pacific region, with only half of Timor-Leste’s adult population able to read and write a short simple statement about their everyday life in 2011.

The professional literature indicated that national school enrolment rates were generally low in countries with low human development. The United Nations Development Programme (UNDP) linked national enrolment rates in individual countries with the value placed on education by families and communities (UNDP, 2007a). The authors emphasised that poor households tended to prioritise child labour over education in order to support the family’s food production and income. Such factors as the low quality of teaching, the high cost of schooling (fees, uniforms, books), and the long distances to travel between home and school, deterred poor and marginalised families from educating their children (p. 21).

Birdsall, Levine, and Ibrahim (2005) emphasised the importance of identifying and addressing the “demand factors” influencing the propensity of poor and socially marginalised parents to not send their children to school. The research literature, however, provided limited information on the demand factors of families with children with disabilities.

**Timor-Leste**

A review of the professional literature was undertaken to develop an understanding of Timor-Leste’s national education system. The results highlighted the impact of colonisation and recent political events on the current status of Timor-Leste’s educational infrastructure and annual variability in enrolment rates. During the period of colonisation by Portugal (1500s-1975), the system of education consisted mostly of Catholic schools that provided

During the 25 years of Indonesian rule (1975-1999), the Indonesian curriculum and language were implemented in schools across Timor-Leste, with improvements to school infrastructure and increased student enrolments. Still, Beck (2008) reported that teaching quality was low, teaching resources were scarce, and rote learning for examinations was common (p. 4). Further, the author highlighted the limited number of Timorese nationals in educational management, administration, and teaching positions prior to 2002 (pp. 39-40). Timorese nationals accounted for only 10% of teaching positions, and their professional qualifications generally consisted of a three-year training program during secondary school that equipped them with rudimentary teaching skills (p. 41). As a result, the majority of teachers recruited in the post-independence period had limited teaching knowledge and skills. To address this issue, several UN agencies were provided with short-term in-service training programs (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007, p. 1).

In 1999, the year Timor’s citizens voted for independence from Indonesia, the adult literacy rate was 41% and fewer than 0.5% of the population had received any form of post-primary education (Asian Development Bank, 2005). Total primary school enrolments between 2002 and 2005, however, have dropped from 184,000 students in 2002 to 178,000 students in 2005. Surveys undertaken by the Timor-Leste government and UNESCO in 2003 found 150,000 children aged 6-11 years were “out-of-school”, and approximately 50% of the out-of-school cohort had never enrolled in school (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007; UNESCO Institute for Statistics, 2008).
In 2002 following national independence, the Timor-Leste government implemented an education reform agenda to develop educational structures and processes that enabled achievement of the national education vision by 2020. The reforms included the development of a reform curriculum that was aligned with the government’s education philosophy and vision. The *National Curriculum for Primary Schools* was the first school curriculum framework adopted, and in 2005 professional training in its implementation was provided for teachers in Grades 1 and 2 (Beck, 2008). It was emphasised by Beck that the new primary curriculum was a dramatic shift from the former Indonesian curriculum model, and that an extensive period of professional support will be required “before a philosophical change in pedagogy can occur” (p. 6).

There are 16 indigenous languages in Timor-Leste, with Tetum, Galole, Mambae, and Kamak spoken by a large portion of the population (Central Intelligence Agency, 2009). Since independence in 2002, Portuguese has been adopted as the national language (Beck, 2008). The language reforms promote national identity, as noted by Quinn (2008), who stated that “one significant element of national identity is the language citizens are prepared to speak” (p. 24). Research by Beck into the implementation of the Portuguese language policy in schools since 2002 had resulted in variability in language usage across the education system (p. 6). Beck found, for example, that teachers were simultaneously learning Portuguese and teaching students using textbooks published in the Portuguese language. The teachers relied upon spoken Tetum to support student understanding of the written and spoken Portuguese curriculum (p. 27).

*Education provision for children with disability*

A review of the professional literature was undertaken in order to gain an understanding of current international trends in educational provision for students with disability. The
review identified links between educational segregation and marginalisation experienced by children with disability, and such factors as low socio-economic status of children and families, in particular in rural and remote communities; and minority social group status associated with cultural, linguistic, and other child and family attributes (Spedding, 2008, p. 394; UNDP, 2007a; U. A. UNDP, 2008). UNESCO (2010) emphasised that social disadvantage and marginalisation experienced by families with children with disability were linked with “the deep and persistent negative stereotypes and prejudices against persons with certain conditions and differences” (p. 1).

Seligman and Darling (2007) found that culturally-based beliefs and stereotypes affected the manner in which individual families adapted to the presence of childhood disabilities and accounted for “many of the stigmatizing attitudes that continue to exist and add to evasion, exclusion, and limited opportunities for persons with disability” (p. 189). The birth of a child with a disability (congenital disability) or the acquisition of a disability during childhood (adventitious disability) in developing countries such as Papua New Guinea, has social ramifications for the family and the child with a disability, and in many instances results in social isolation of the family and the life-long dependency of the child.

In studies of educational provision for children with disability in the Pacific region, Macanawai (2007) found that although many Pacific Island countries had implemented inclusive education policies during the past three decades, special schools had continued to flourish. Macanawai reported that people with disability in Pacific Island countries such as Papua New Guinea experienced social isolation, dependency, and poverty as a result of cultural beliefs and taboos that led to family shame and fear. The author emphasised that, although most Pacific island countries have strong extended family systems, “the association of a disabling condition with ancestral curse, parental misdeeds, witchcraft, shame and fear keeps persons with disability isolated, dependent and poor” (p. 1).
Gender-related issues in education

The professional literature identified issues of educational marginalisation associated with gender and disability. Pacific Island research by Stubbs and Tawake (2009) found that girls with disability were frequently “hidden away” by their families and precluded from early intervention services and school education. Stubbs and Tawake noted that as a result, many girls and women with disability experienced unemployment, poverty, social marginalisation, disempowerment, and life-long dependency on their families (pp. 18-19). In research on gender-related issues in Papua New Guinea, VSO PNG (n.d.) reported that parents were ambivalent about sending their daughters to school, noting “they may need their daughters to care for younger siblings at home, they often have early marriage customs and they may have fears of sexual harassment of their daughters by male students and teachers” (p. 8).

The 2005 UN millennium project task force on education and gender equality highlighted the importance of educational attainment and adult literacy, in particular improved literacy rates for women and mothers, in breaking the inter-generational cycle of poverty, marginalisation, and disadvantage (Birdsall, et al., 2005, p. 62). The authors cited international studies that found educated mothers generally have a greater long-term earning capacity and are in a stronger bargaining position to secure resources needed to send their children to school. In addition, Birdsall et al. reported that educated mothers generally provided more cognitively stimulating home environments, and “play a more pedagogical role, encouraging, monitoring, or helping their children do their homework or prepare for examinations” (p. 62).
**Education placement options for children with disability**

The literature indicated variability in education placement options provided by national governments for children with disability, including segregated residential and day schools, learning support units and classes within mainstream school settings, and placement in mainstream classrooms (Forlin, 2006, p. 267; McCullough, 2005, p. 4; UNESCO, 2000, p. 8). The results suggested that the special school model has been traditionally perceived by national governments as an effective model of service delivery, reflecting societal views about the value of separating children and adults with disability from the broader society (Eigner, 1995, p. 2; Hornby, 2001, p. 11).

Research by UNESCO (2000) into education placement options in developing countries in the Asia-Pacific region found that in many instances, educational enrolment was determined through consultation between education authorities and families, with consideration given to the needs and capabilities of children with disability (p. 8). Several studies indicated that decisions regarding the education placement options provided for children with disability were determined by a combination of local and international influences, such as national education policies, family and community perspectives on appropriate placement, resource capacity of school systems, and UN and international educational treaties and campaigns (Hornby, 2001, p. 3; Macanawai, 2007; UNESCAP, 2002, p. 4).

Foreman (2008) recommended flexible forms of education provision for children with disability within “least restrictive environments” that is, environments that support the wide range of children’s “knowledge, skills, talents, values, attitudes and practical experiences” (pp. 9-12). Yet, the author noted that segregation of children with disability is sometimes perceived by governments and communities as a positive action, with benefits to the children, their families, and the general community (p. 4).
The chapter proceeds with a discussion of the professional literature underpinning the philosophical and conceptual foundation of this study.

2.3 Philosophical and Conceptual foundation of the study

2.3.1 Selection of a qualitative research approach

Qualitative research has been described by Creswell (2008) as a method that generally involves the study of a small number of individuals or groups using “reflexive and biased” approaches and the collection and analysis of text or image data (pp. 35-36). The professional literature recommended the selection of qualitative research approaches to address research problems that require an understanding of the complex, interrelated, and interlinked networks of structures and processes that comprise education systems, and the relationship between education and other social systems that form the broader society (Banathy, 1996, p. 16; Satzinger, Jackson, & Burd, 2004; Stumpf & Teague, 2005, p. 421).

Sumner and Tribe (2008) recommended qualitative research approaches in situations where difficulties exist in locating and substantiating reliable sources of accurate statistical and numerical data, such as disability prevalence data and educational enrolment and retention data for students with disabilities (pp. 130-131). This was the situation at the commencement of the present study. A preliminary review of the professional literature identified limited information about the educational and demographic characteristics of Papua New Guinea and Timor-Leste children with disability, and the nature of educational provision.
The philosophical and ethical perspectives underpinning this study promote the human rights of children with disability through education. Studies of this nature that explore human rights issues of disempowerment and marginalisation of individuals or groups are described in the professional literature as associated with a transformational or critical theory paradigm (Bloomberg & Volpe, 2008; Merriam, 2009; Mertens, 2010). Merriam (2009) has suggested that transformational or critical research in the area of education “queries the context where learning takes place, including the larger systems of society, the culture and institutions that shape educational practice, and the structural and historical conditions framing practice” (p. 35).

In the area of disability, human rights research may be traced to such notable researchers as Bank-Mikkelsen, Wolfensberger, and Nirje during the 1960s-1980s, who raised international awareness of the low social roles and values assigned to people with disabilities (Foreman, 2008). The development of the Principle of Normalisation and the theory of Social Role Valorisation during this period challenged government and civil society perspectives regarding the validity of legal statutes and policies that sanctioned segregated living, education, and employment options for people with disabilities (Forlin, 2006; Save the Children, 2002).

The selection of a qualitative transformational educational research paradigm as the philosophical foundation of this study has been guided by the researcher’s ontological and epistemological beliefs and assumptions about the nature of reality and the acquisition of knowledge through research (Creswell, 2008; Merriam, 2009). This world view includes the belief that children with disability have the right to equality of access and participation in education, employment, and the broader society. The decade of involvement in education training programs in the area of disability in Papua New Guinea and Timor-Leste discussed
in the first chapter, raised the researcher’s awareness of the vital importance of education in improving the quality of life of children with disability. The researcher discovered that the causes of childhood disability were frequently linked in both countries with culturally-based beliefs, superstitions, and prejudice which resulted in social stigma and inequality, and child and family marginalisation and disadvantage in education. The conclusions and recommendations offered from the study are viewed from a transformative educational research perspective, and promote growth of the education systems of Timor-Leste and Papua New Guinea to increase equality of education and social participation for children with disability.

*Inclusive education philosophy*

The philosophy of *inclusive education* is promoted in the present study, in accordance with the professional literature on rights-based approaches to educational provision for children with disability (Birdsall, et al., 2005; Foreman, 2008, 2011; Friend & Bursuck, 1999; Goldstein, 2006; Grenot-Scheyer, Fisher, & Staub, 2001; Mittler, 2003; UNESCO, 2001b, 2007a, 2008d; United Nations, 2006). UNESCO (2010) described *inclusive education* as “an approach that looks into how to transform education systems and other learning environments in order to respond to the diversity of children” (p. 13). UNESCO emphasised that inclusive thinking “is a reminder that education must be concerned with the sustenance of communities as with personal achievement and national economic performance” (UNESCO, 2001, cited in Foreman, 2008, p. 39).

The human rights and empowerment principles underpinning the present study are closely aligned with the United Nations (UN) human rights instruments and human development initiatives of the UN, World Health Organisation, World Bank and other international development organisations. Several key UN agencies have emphasised that

The UN and international community have implemented a range of international treaties and global initiatives during the past three decades that have influenced legislative and policy decisions of UN member states such as Papua New Guinea and Timor-Leste. State signatories of UN treaties are bound by international law to establish annual targets that address the goals and principles of each treaty. The Convention on the Rights of Persons with Disabilities (CRPD), for example, promotes the rights of children and adults with disability to educational provision that is founded upon the principles of inclusion, equality, and non-discrimination (Article 24, United Nations, 2006, pp. 10-11). Further, government ministers of the Pacific Islands Forum have endorsed the philosophy of inclusive education in their recently released Pacific Education Development Framework 2009-2015 and the Pacific Regional Strategy on Disability 2010-2015 (Pacific Islands Forum Secretariat, 2009a, 2009b).

The following section presents a discussion of the development and refinement of the present study’s analysis model. The introduction is followed by a description of the model’s development.

2.3.3 Development of the study’s analysis model

2.3.3.1 Introduction

A review of qualitative research publications at the commencement of this study highlighted the merit of developing an analysis model (or conceptual framework) to support the management of data analysis and interpretation, and presentation of the study’s
conclusions and recommendations (Bloomberg & Volpe, 2008, p. 102; Miles & Hubermann, 1994, p. 18; Silverman, 2010, p. 436). Analysis models were described in the professional literature as representations of the key themes, factors, constructs, or variables being studied, and the presumed relationships between these representations (McCormick & Waters, 1996, p. 596). Burton, Brundrett, and Jones (2008) highlighted the merit of using an analysis model in qualitative research studies. The authors emphasised that “qualitative data, by its very nature, is more open to ambiguity and requires the identification of emergent key themes for it to be organised and collated and interpreted” (p. 147).

The following attributes of high quality analysis models were identified in the professional literature and applied to the present study: (i) relevance and appropriateness to the system being studied; (ii) credibility and transparency of the model’s underlying assumptions and logic; and (iii) design simplicity, adaptability, and responsiveness to the iterative nature of qualitative research (Banathy, 1996; Stumpf & Teague, 2005, p. 12). Further, the use of an analysis model was considered in the professional literature as an effective means of supporting coherency between the study’s purpose, research questions, and research methodology (Bloomberg & Volpe, 2008, p. 102; McCormick & Waters, 1996, p. 594; Miles & Hubermann, 1994, p. 18).

### 2.3.3.2 Analysis model development

During the research formulation phase of this study, the researcher established an analysis model through a review of the professional literature, supported by discussions with her research supervisors. A range of conceptual foundations was considered, including strategic planning and management theories and research approaches. The conceptual foundation selected was the “four-perspective model” of Kaplan and Norton’s *Balanced Scorecard Management System* (Kaplan & Norton, 1992, 1996a, 2004; Kaplan & Norton,
The Balanced Scorecard Management System (BSC) was defined by Kaplan and Norton as “a self-contained and comprehensive management and performance system that links strategy and operations” (2008, p. ix). The authors considered the four-perspective model of operational and performance perspectives as critical to achieving the vision or purpose of public, private, and social sector organisations (1992, pp. 71-73).

Kaplan and Norton emphasised that the ultimate goal of any organisation is to create long-term value for stakeholders, and in social sector organisations success is generally measured in terms of the social impact of service delivery (2008). The BSC has been effectively applied to educational organisations in a range of countries (Kaplan & Norton, 2008; Olsen, 2007), and it was concluded by the researcher and her supervisors that it would serve as a suitable conceptual foundation for development of an analysis model for educational research in the area of disability in the study’s two focus countries.

Figure 7 presents refinements made by the researcher to Kaplan and Norton’s four-perspective model to support the study of the education systems for children with disability in Papua New Guinea and Timor-Leste (Kaplan & Norton, 1992, 1996b, 2004).
Four-perspective model of the Balanced Scorecard (BSC) Management System for social sector (public and non-profit) organisations

Organisational mission & vision

Fiduciary perspectives: If we succeed, how will we look to our financial stakeholders (taxpayers, donors)?

Customer/beneficiary perspectives: To achieve our vision, how must we look to our customers?

Learning & growth perspectives: To achieve our vision, how must our organisation learn & improve?

Internal perspectives: To satisfy our customers & financial donors, which business processes must we excel at?

Refinements to the four-perspective model to support the study of the PNG and Timor-Leste’s education systems for children with disability

National educational goal setting in the area of disability

Governance & fiduciary perspectives: If we succeed, how will we look to our stakeholders

Beneficiary perspectives: To achieve our national goal, how must we look to learners with disability & their families?

Growth & reform perspectives: To achieve our national goal, how must the educational system grow & improve?

Teaching & learning perspectives: To satisfy beneficiaries & stakeholders, which educational structures & processes must we excel at?

**Figure 7.** Refinements made to the four-perspective model of the Balanced Scorecard (BSC) Management System to support the study of the education systems for children with disability in Papua New Guinea and Timor-Leste.
As indicated in Figure 7, the four perspectives of the BSC were modified to support educational research in the area of disability. The modifications were based upon the researcher’s empirical knowledge of the education systems for children with disability in both countries, together with a review of the professional literature relating to research in the area of education (Balnaves, 1996; Banathy, 1996; Bassey, 1999; Caldwell, 2006; Kaplan, 2001; Kaplan & Norton, 2004, 2008; Olsen, 2007; Sangster & Venti, 2006). The BSC’s emphasis on establishing a national vision or goal was retained as it was aligned with the present study’s emphasis on national educational planning and priority setting.

Figure 8 presents the analysis model devised by the researcher to support data analysis, synthesis, and interpretation. The analysis model links the study’s purpose and research questions with a series of analytic educational themes. These themes were used in data coding, aggregation, classification, and interpretation. The third chapter includes a detailed description of the data analysis methods and techniques used in this study.
As illustrated in Figure 8, the study’s four research questions were linked with the following educational perspectives that were drawn from the professional literature in related fields of study:

- **National educational goal**: The national goal/vision for the education system for children with disability and key stakeholders and beneficiaries with a vested interest in the goal’s achievement (research question 1).

- **Governance and leadership perspectives**: Governance and coordination authorities/bodies with responsibility for overseeing the education system for children with disability, and for the acquittal of the fiduciary duties to financial stakeholders (research question 2).
• **Teaching and learning perspectives:** Education system infrastructure supporting achievement of the national goal for the education system for children with disability, and its responsiveness to child and family educational needs (research question 3).

• **Educational system growth and reform perspectives:** National priorities of education and rehabilitation leaders and practitioners regarding future growth and reform of the education system for children with disability (research question 4).

The analysis model presented in Figure 8 underwent validity testing and iterative refinement through its application to the analysis and interpretation of the research data collected during the study. Miles and Huberman (1994, p. 262) emphasised that in qualitative research studies, analysis models were generally first developed as literature-based, “top-down” formulations. Over time, these formulations gradually evolved into successive “bottom-up” formulations through application to the area of study. This was the case in the present study. Refinements were made to the study’s analysis model as knowledge and understanding of the complex relationships between education and the broader social, political, cultural, economic, and environmental variables in the two focal countries emerged (Bloomberg & Volpe, 2008, p. 8).

The conclusion section that follows presents a summary of the key ideas drawn from the literature review. These ideas informed the development of the research methodology presented in the ensuing chapter.
2.4 Conclusion

This chapter has described the results of the ongoing professional literature review undertaken as an important part of the present study. The first part of the chapter has presented a discussion of the published research on the key issues of human development in Papua New Guinea and Timor-Leste. This is followed by a discussion of professional literature that informed the selection of a suitable philosophical and conceptual foundation for the study.

The literature reviewed included UN and international publications describing the quality of life indicators shaping and influencing their education systems for children with disability. Essentially, the review highlighted the wealth of annual and biennial publications produced by UN agencies, international development organisations, national governments, non-government and civil society organisations, as well as a variety of other researchers. The review uncovered the important concept that a country’s national education system and issues of education inequality, marginalisation, and disadvantage cannot be disassociated from broader human development issues influencing the quality of life of citizens and their democratic freedoms. The life-long consequences of hunger, thirst, and malnutrition reported in the research literature included increased deaths in early childhood, greater risk of childhood infections and life-long chronic diseases, stunting of growth during adolescence, and increased rates of preventable disabilities.

Major conclusions drawn from the literature review regarding the three quality of life indicators of human development in Papua New Guinea and Timor-Leste included the following:
\( (a) \) Quality of life indicator of “a decent standard of living”

The literature review highlighted the challenges faced by the governments of Papua New Guinea and Timor-Leste in providing to their citizens a decent standard of living due to the susceptibility of the economies of both countries to local and international forces. The professional literature identified the relationship between alertness, concentration, cognitive functioning, and engagement in learning activities; and levels of health, nutrition, and access to clean drinking water. All children, including children with disabilities, require healthy bodies and minds to survive, thrive, and to reach their full potential and learning capabilities. The implications of the literature review to the present study included the importance of identifying sustainable and innovative approaches to education system growth in the area of disability that are not limited by the status of the country’s economy and the instability of annual growth in Gross Domestic Product.

\( (b) \) Quality of life indicator of “a long and healthy life”

The professional literature indicated that Papua New Guinea and Timor-Leste had the highest fertility rates in the Asia-Pacific region, and that approximately 50% of the population in both countries were aged less than 18 years. The relatively low life expectancy and high maternal and childhood mortality rates in both countries were associated with poverty, poor nutrition and malnutrition and deprivations in essential goods, services, and health care. The implications of the literature review to the present study included a realisation that in order to circumvent the cycle of poverty, malnutrition, and childhood mortality, the studies of the Papua New Guinea and Timor-Leste education systems should include the study of existing collaborative partnerships between education, health, and rehabilitation professionals and service providers in the related areas of disability identification, prevention, treatment, referral, and intervention.
(c) Quality of life indicator of “knowledge”

The professional literature highlighted the relationship between the health of the economy; national prosperity and income distribution; and educational enrolment and retention rates for children with disability. The literature contained little information relating to the monitoring of education reforms implemented in Papua New Guinea and Timor-Leste, including the PNG’s disability-inclusive reforms implemented since the 1990s. The implications of literature review results for the present study included the merit of studying the inclusive education structures and processes implemented in Papua New Guinea in order to transform its former urban-based special school model into the present unified, inclusive education model that promotes and supports the inclusion of children with disability.

In its first report on human development, the UNDP stated that “people are the real wealth of a nation … The basic objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives” (UNDP, 1990, cited in Alkire, 2010, p. 9). The professional literature, while important, revealed limited information about education system structures and processes supporting children with disability in Papua New Guinea and Timor-Leste, and the educational needs and priorities of children and families that influence their levels of access and participation in education services and programs. The literature review results confirmed the merit of drawing upon the knowledge, experience, and expertise of education leaders and practitioners in both countries, supported by documentary research, as a means of developing an understanding of potential areas for education system growth in Timor-Leste. The UNDP (2007b) emphasised that human development research is about “expanding people’s real choices and substantive freedoms—the capabilities—that enable them to lead lives that they value” (p. 24).
The chapter concludes with the professional literature reviewed during the establishment of a suitable philosophical and conceptual foundation for this study. In summary, a qualitative, transformational research philosophy was identified in the research literature as a suitable foundation for educational study in the area of disability in Papua New Guinea and Timor-Leste. The literature underpinning this decision was discussed, together with the process of developing a literature-based analysis model to support the study’s research methods and techniques.

The next chapter presents a detailed description of the research methodology developed to address the study’s purpose and research questions.
CHAPTER 3 METHODOLOGY

3.1 Introduction

The previous chapter discussed the results of the literature review undertaken during the present study in order to develop an understanding of the relationships between the education systems for children with disability in Papua New Guinea and Timor-Leste and key issues of human development. In addition, the discussion included the review of literature underpinning development of the analysis model used to support the study’s research methods. This chapter describes the research methodology selected to address the study’s purpose and research questions posed at the commencement of the study, together with a discussion of the researcher’s decision to position the study within a transformational research paradigm.

The chapter commences with a pictorial summary of the methodology (Figure 9), which includes the study’s philosophical foundation, research approaches, data collection and analysis methods and techniques. The chapter then proceeds with discussion of the study’s design and research methods, including a rationale for the qualitative research approaches selected and the study’s five design phases. This is followed by a discussion of the research participant selection procedures and their demographic attributes; methods and procedures used in data collection, analysis, synthesis, and display, and issues and considerations relating to ethics, trustworthiness, and potential limitations of the study.
Philosophical foundation
• Qualitative, transformative educational research in the area of disability

Research approaches
• PNG multicase study research
• Timor-Leste research reference group
• Documentary research in PNG & Timor-Leste

Data methods & techniques
• Analysis model of educational themes to support data coding, analysis, interpretation, & display

  Data collection (sources)
• Pilot-testing of PNG multicase study interview schedule
• PNG mult case study interviews & documentary data
• Timor-Leste documentary data & research reference group input

  Data analysis, synthesis, & interpretation
• Data coding, organising, & analysis using NVivo 8.0, Microsoft Office suite, & Inspiration 8.0 software
• Multicase-oriented, variable-oriented, document, & interpretative & transformative
• Data aggregation, reduction, classification, patterning, checking, verifying, & critiquing

  Data display
• Timor-Leste model for inclusive education for children with disability
• Figures, tables, & charts linked with PNG & Timor-Leste educational studies
• Thesis dissertation

Figure 9. The study’s research methodology
3.2 Rationale for the study’s research approaches

3.2.1 Introduction

Drawing upon the professional literature discussed in the preceding chapter, the present study’s research methodology included the following qualitative characteristics:

- Use of qualitative sampling methods of criterion and snowball sampling to select the research participants;
- Use of a range of written and verbal information sources, including interviews, questionnaires, documents, and observational and empirical knowledge;
- Development of an analysis model of key themes to support the analysis, synthesis, and display of data collected; and
- Progressive and iterative development of the study’s conclusions and recommendations as the larger meaning of the research results emerged (Bloomberg & Volpe, 2008, p. 102; N. Burton, et al., 2008, p. 147; Creswell, 2008, p. 36; Merriam, 2009, pp. 78-80).

The research methodology included case study, reference group, and documentary research approaches. A rationale for each of these approaches follows, commencing with a rationale for selection of a case study approach in the study of the Papua New Guinea education system for children with disability.

3.2.2 Rationale for selection of the Papua New Guinea case study approach

A case study research approach has been selected as a potentially effective means of addressing the research questions posed at the commencement of the study, which required
collection of information relating to the system of educational provision for children with
disability in Papua New Guinea. A case study research approach was identified by the
researcher, in consultation with her supervisors, as a potentially effective means of addressing
the limited published research and general information about the Papua New Guinea system
of educational provision for children with disability. The researcher’s regular visits to Papua
New Guinea since 2003 had resulted in the establishment of links with local education and
rehabilitation leaders and practitioners working in the area of disability. Their participation in
individual and group study interviews was considered a potentially effective means of
collecting perceptual and documentary information about the Papua New Guinea system of
educational provision for children with disability. It was believed that the interview data
would provide valuable insights of leaders and practitioners into the practicalities, challenges,
and priorities of education provision for children with disabilities and their families in Papua
New Guinea and Timor-Leste.

The selection of a research approach using case study interviews to address the study’s
purpose and research questions was supported by the professional literature (Gall, Borg, &
Gall, 1996; Miles & Hubermann, 1994; Wiersma, 2000). Punch (2009) for example,
recommended case and case studies in situations where knowledge is “shallow, fragmentary,
incomplete or non-existent” (p. 123). Miles and Huberman (1994) defined “case study” as
the study of small samples of people who are “nested in their context and studied in-depth”
(p. 27), and recommended such studies as a means of developing “more sophisticated
descriptions and more powerful explanations” (p. 173) through identification of similarities
and differences between individual cases, and through consideration of how the research
results are qualified by local conditions. In the Papua New Guinea case study, participants
were employed by government and non-government education agencies, special education
resource centres, and organisations for people with disabilities in the focus country. It was
assumed at the commencement of the study that the view of the case study participants would reflect their diverse backgrounds, including their nationality, and ethnic, linguistic, and socio-economic backgrounds.

The ensuing section presents a rationale for the second research approach included in the study’s design, namely establishment of the Timor-Leste reference group.

### 3.2.3 Rationale for selection of the Timor-Leste reference group approach

The present study’s research methodology, as summarised in Figure 9, included establishment of the *Timor-Leste reference group*. The group consisted of identified education and rehabilitation leaders and practitioners from Timor-Leste, Australia, and New Zealand, with knowledge and experience in the area of disability in Timor-Leste. The primary purpose of the reference group was to serve as a source of professional information and critical input into the Timor-Leste strategic model for inclusive education of children with special needs. The reference group input was a valuable source of data used in the inferences and conclusions drawn from the study. The size of the reference group progressively grew during the study, due in part to the criterion sampling procedures used (see Section 3.5), and to the recursive nature of data collection, analysis, and re-analysis.

*Focus group meetings.* Two impromptu meetings were called by the Timor-Leste Education Minister and Director General in Dili during 2008. The purpose of the meetings was to critically discuss and provide input into development of the Timor-Leste strategic model. These meetings have been designated “focus group” meetings in this study, as they consisted of group discussions based upon stimuli provided by the researcher (N. Burton, et al., 2008, pp. 172-173; Silverman, 2010, p. 434). The meetings enabled input into the present study by “critical audiences” of authoritative education leaders, decision-makers, and advisors in Timor-Leste. Although several members of the Timor-Leste reference group were
in attendance, the meetings were not a component of the study’s ethics approval process. As a result, the meeting minutes have been incorporated in general terms into the data analysis and interpretation processes.

The following section presents a rationale for the inclusion a documentary research approach to data collection in this study.

### 3.2.4 Rationale for selection of the documentary research approach

A documentary research approach was included in the research design because it complemented the other research approaches used in this study, and was a valuable means of checking and verifying the accuracy of the case interview data. Butin (2010) referred to documentary research when discussing case study research approaches, as a “powerful yet oftentimes underused research strategy” (p. 99). In the present study, the term documentary data refers to the formal and informal documents relating to the education systems for children with disability in Papua New Guinea and Timor-Leste that were collected over the course of the study. In distinguishing between documentary research and the literature review process, Burton et al. (2008) described documentary data as the literature sources “which inform the direction and content of the research and sources which are the research” (p. 110). Burton et al. (2008) and Slavin (2007) recommended the use of documentary data as a means of enhancing the accuracy, dependability, and reliability of research results and conclusions that are based upon perceptual information collected through case study interviews.

Presented below is a rationale for the development of the Timor-Leste strategic model for inclusive education of children with special needs, which was developed by the researcher during 2008.
3.2.5 Rationale for the Timor-Leste strategic model for inclusive education of children with special needs

The study’s research methodology presented in Figure 9 includes the researcher’s development of the Timor-Leste strategic model for inclusive education of children with special needs during 2008 (see Appendix G). The purpose of this document was to stimulate discussion with Timor-Leste reference group on national educational planning and priority setting in the area of disability. Production and distribution of the strategic model among reference group members also led to input from the senior education leaders and international advisors who attended the two focus group meetings held in Timor-Leste during 2008.

Guidelines for model development. The following guidelines were established to guide development of the Timor-Leste strategic model for inclusive education of children with special needs. The guidelines were based upon the researcher’s empirical knowledge of Timor-Leste’s education system for children with disability, and refined through the review of related professional literature. The purpose of the guidelines was to strengthen the model’s relevance to key national and international priorities in education of children with disability (special needs).

The content of the Timor-Leste strategic model for inclusive education of children with special needs will be:

- founded upon contemporary international principles and approaches to education of children with disability in inclusive educational settings;
- responsive to the national education reform priorities of education leaders and decision-makers in Timor-Leste;
- sensitive to the key issues of human development in Timor-Leste influencing and shaping the system of education and its potential for future growth;
• solutions-focused, with recommendations that address the critical social issues limiting educational enrolment, retention, and achievement rates for children with disability;

• in accordance with strategic planning methods, comprehensive in its range of objectives, targets, activities, and performance indicators for a three-year implementation period;

• capable of implementation in a series of small steps or stages through collaborative partnerships between key stakeholders, including government, non-government, civil society, and international stakeholders; and

• concise, jargon-free, and suitable for translation from English to the Timor-Leste national languages of Portuguese and Tetum without substantive loss of meaning.

The major sources of information used to develop the Timor-Leste strategic model for inclusive education of children with special needs were as follows: (i) Papua New Guinea research results; (ii) Timor-Leste documentary data, provided by members of the Timor-Leste reference group and drawn from academic libraries, research databases, UN websites; and (iii) professional literature relating to the area of study. Professional literature included strategic planning theories and research approaches (Balnaves, 1996; R. M. Burton, DeSanctis, & Obel, 2006; Caldwell, 2006; French, 2009; Herring, 2004; Mintzberg, 2000), and annual strategic plans and organisational models of public sector organisations (Australian Research Council, 2006; Loughran, Berry, Clemans, Lancaster, & Long, 2008; NSW Attorney General’s Department, 2006).

Timor-Leste strategic model included vision, goals, and guiding principles for growth in the Timor-Leste education system for children with special needs. The model also included
objectives and associated rationale, strategies, actions, projected outcomes, and general performance indicators for a three-year implementation period. A full description of the model is not included in the body of this dissertation, due to the model’s function as an intermediate stimulus document for reference group input and feedback. The reader is referred to the copy included as Appendix G.

The model underwent changes following input from the Timor-Leste reference group and focus group meetings. The most significant change related to a shift in emphasis from church to government educational leadership and governance. This shift was associated with discussions with church leaders in Timor-Leste who indicated the limited capacity of the church to adopt a leadership position in education system growth in the area of disability. A second area of revision was associated with the substitution of the recommended inclusive education units (IEUs) with learning support personnel in mainstream schools. This adjustment was associated with concerns of several reference group members that the recommended IEUs may have become permanent “withdrawal” classes.

Input and feedback from the Timor-Leste reference group feedback became a valuable source of data used to develop the study’s recommendations offered for growth of Timor-Leste’s education system for children with disability (presented in Chapter 7). The following chapter section presents a description of the five design phases of the present study.

3.3 Design phases

3.3.1 Introduction

The present study was undertaken in five interconnected design phases conducted over a six-year period between July 2006 and January 2012. A flow chart of the five phases is
presented in Figure 10, followed by a description of each phase. The figure suggests a linear progression through each phase of the study; however, as is characteristic of qualitative research, the method underwent revisions and refinements as the study proceeded. Revisions and refinements were made, for example, to the study’s analysis model and as a deeper understanding of the complex nature of the research problem emerged. In addition, successive rounds of data collection, analysis, and reanalysis were linked with reviews and updates of the professional literature during design phases 2-5.
Figure 10. The study’s design phases
3.3.2 Description of the five design phases

3.3.2.1 Phase 1: Research formulation and university ethics approval

As shown in Figure 10, the first phase of the present study consisted of formulation of the research topic and the process of ethics approval from the University of Newcastle, Australia. Research formulation refers to identifying a research problem, developing a justification for studying it and specifying the study’s purpose (Creswell, 2012, p. 9). The present study commenced with the identification and formulation of a researchable problem and research questions, and judgements about the problem’s intellectual value and merit. A preliminary critical review of the professional research literature was undertaken to select a qualitative research approach that was congruent with the research problem, and supported the study’s purpose, research questions, and method. The initial broad research purpose was narrowed and refined through a series of discussions with the researcher’s supervisors and academic colleagues, and as a deeper understanding of the complex nature of the research problem emerged.

The research proposal was submitted to the University of Newcastle Human Research Ethics Committee (HREC) for approval in late 2006. The proposal consisted of the “Initial Application for Ethics Approval for Research Involving Humans” (Form HE1:1/06) (University of Newcastle, 2010), together with draft copies of the Information Statement, Consent Forms, and Interview Schedule (included in Appendices B and C). University of Newcastle HREC ethics approval was granted in August 2006, with approval of study variations in April and July 2008 (included in Appendix A).
3.3.2.2 Phase 2: Literature review and research preparation

Phase 2 of the study’s methodology consisted of an extensive review of the professional literature and preparation to undertake research in the area of education in Papua New Guinea and Timor-Leste, the study’s two focal countries. Punch (Punch, 2009, p. 38) emphasised the importance of the research literature as a valuable source of information and stimulus for thinking about potential approaches to addressing the research problem. The literature review explored the following two interrelated areas: (a) key issues of human development in Papua New Guinea and Timor-Leste, and (b) development of the philosophical and conceptual foundation of the present study. The results of the literature review will be presented in Chapter 2.

Research preparation undertaken during Phase 2 included selection of criterion and snowball sampling procedures to identify and recruit participants to the study (Mertens, 2010), and preparation of information packages to be sent to each potential research participant. The Papua New Guinea case study interview schedule was constructed and pilot tested with the support of a group of education leaders and practitioners in Western Australia.

3.3.2.3 Phase 3: Study of the Papua New Guinea education system

The third phase of the study consisted of case interview and documentary research study of the Papua New Guinea education system for children with disability. This phase of the study included collection, analysis, and display of interview and documentary research data collected during the case study interviews. The study’s analysis model guided the data analysis, synthesis, and display, with refinements made to the model as the study progressed. The study’s results will be presented in Chapter 4.
3.3.2.4 Phase 4: Study of the Timor-Leste education system

The research approach adopted in the Timor-Leste study consisted of the following three interconnected components: (1) establishment of a Timor-Leste reference group through criterion sampling procedures (Merriam, 2009), (2) collection and analysis of Timor-Leste documentary data provided by the reference group members and also collected through research database and internet searches, and (3) development of a strategic model for inclusive education of children with special needs to stimulate researcher and reference group discussion. A description of the Timor-Leste study’s results will be presented in Chapter 5.

3.3.2.5 Phase 5: Conclusions, recommendations, and thesis dissertation production

Interpretive and transformative analysis of the study’s results was undertaken during its fifth phase. The purpose of analysing the Papua New Guinea results was to devise perspectives and conclusions regarding the features of the education system that supported and constrained growth in enrolment rates for children with disability. A discussion of the results will be presented in Chapter 6. To achieve the study’s purpose, the overall results of this study were analysed to develop a set of recommendations for growth and reform of the Timor-Leste education system. Sources of analysis included the results of the Papua New Guinea and Timor-Leste studies, and the professional literature reviews undertaken throughout the study. The recommendations will be presented in Chapter 7. Also undertaken during the study’s fifth phase was the production of this thesis document.

In the following section, the process of selection and demographic attributes of the study’s research participants will be described. The description commences with an overview of the participant selection procedures.
3.4 Participants

3.4.1 Introduction

An important component of the present study was the contributions of 32 education and rehabilitation leaders, decision-makers, and practitioners situated in the study’s focus countries of Papua New Guinea and Timor-Leste, as well as in Australia and New Zealand. Their written and verbal contributions, together with the sharing of published and unpublished documentary data, enabled the collection and analysis of perceptual, contextual, and descriptive data that would otherwise have been unobtainable through a review of the professional literature.

The 32 participants were organised into two groups, namely the Papua New Guinea case study group and the Timor-Leste reference group. At the commencement of the study, potential participants for the two groups were identified through the establishment of selection procedures drawn from the qualitative research literature, and refined through discussions with the research supervisors and “key informants” in Papua New Guinea and Timor-Leste (Bloomberg & Volpe, 2008; Gall, et al., 1996; Miles & Hubermann, 1994; Woodhouse, 2007). Key informants were recognised education and rehabilitation leaders in the area of disability in the two focal countries, who had a broad understanding of the key stakeholder groups in both countries. Their support was a key ingredient in the success of the study, and their input was invaluable in the selection of suitable research participants.

A general overview of the selection procedures is presented in Figure 11. Definitions of the snowball and criterion sampling procedures used in this study are presented in Section 1.9 of Chapter 1.
Figure 11. Participant selection procedures

The process of selecting participants, as indicated in Figure 11, commenced with recommendations made by the key informants in Papua New Guinea and Timor-Leste regarding potential suitable participants. With the assistance of the key informants, email and/or telephone contact was made with potential participants. Individuals who expressed an interest in participating in the study were provided with an information package that was prepared by the researcher and the researcher’s principal supervisor, in accordance with the ethics procedures of the HREC of the University of Newcastle (2010). The information package consisted of an Information Statement, Consent Form, and draft Interview Schedule (see Appendices B and C). The Information Statement detailed the study’s purpose and procedures, and participant roles, expectations, and rights. Potential participants were requested to complete, sign, and return the Consent Form. They were also invited to review the draft Interview Schedule and suggest revisions. Following receipt of the completed Consent Form, the researcher contacted each participant to commence his/her engagement with the study.
The following section describes the process of selection of the Papua New Guinea case study participants.

### 3.4.2 Papua New Guinea case study participants (n = 19)

Criterion and snowball sampling methods were used to identify potential research participants for the Papua New Guinea study. The sampling methods were established by the researcher, in consultation with the key Papua New Guinea informants and research supervisors, and consisted of the selection criteria presented in Table 1.

Table 1. *Demographic and interview attributes of the Papua New Guinea case study participants*

<table>
<thead>
<tr>
<th>Participant selection criteria</th>
<th>Number persons (n)</th>
<th>Gender</th>
<th>Type of interview</th>
<th>Nationality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders &amp; managers of government &amp; non-government education agencies providing services &amp; programs for children with disability, their families, &amp; teachers</td>
<td>6</td>
<td>M 4</td>
<td>F 2</td>
<td>Individual (n) 2</td>
</tr>
<tr>
<td>Leaders &amp; managers of tertiary institutions providing academic &amp; professional training in the area of disability</td>
<td>1</td>
<td>M 1</td>
<td>F -</td>
<td>Individual - 1</td>
</tr>
<tr>
<td>Leaders of organisations/associations of people with disabilities</td>
<td>2</td>
<td>M 2</td>
<td>F -</td>
<td>Individual - 2</td>
</tr>
<tr>
<td>Managers of special education resource centres (SERCs)</td>
<td>1</td>
<td>M 1</td>
<td>F 1</td>
<td>Individual - 1</td>
</tr>
<tr>
<td>Education &amp; rehabilitation coordinators, teachers, &amp; officers providing direct services &amp; programs for children with disability</td>
<td>9</td>
<td>M 6</td>
<td>F 3</td>
<td>Individual - 4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>19</strong></td>
<td><strong>14</strong></td>
<td><strong>5</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>
On the basis of the selection criteria listed, a total of 19 education and rehabilitation leaders, managers, coordinators, and officers working in the area of disability in Papua New Guinea consented to participate in the Papua New Guinea case interviews. The participants were employed by the following government and non-government organisations: (a) Papua New Guinea National Department of Education (NDoE); (b) Callan Services for Disabled Persons; and (c) Papua New Guinea Blind Union (formerly titled the Port Moresby Blind Union). Of the total 19 participants, 17 (89%) were PNG nationals, and five (26%) were women (of whom four were PNG nationals). All 19 participants resided in Papua New Guinea at the time of the interviews and, as indicated in Table 1, participated in either individual or group interviews, in accordance with their location and availability. For ethical reasons, the individual attributes of the participants have been aggregated in order to safeguard participant confidentiality.

Figure 12 presents a map of Papua New Guinea indicating the five locations of the participants and constructed by Williamson (2009).
Study of the map reveals the following locations of the nine case study groups: (a) Port Moresby, the nation’s capital, in the Southern Region; (b) the coastal town of Wewak in the North Coast Mainland Region; and (c) the townships of Mount Hagen, Mingende, and
Goroka, situated in the Highlands Region. The characteristics of the four special education resource centres that participated in this study are briefly described below.

**Mount Sion Centre for Disabled Persons** was first established by the Congregation of Christian Brothers in 1982 as the Mount Sion School for the Blind. It was upgraded in 1991 to a special education resource centre providing services and programs for adults and children with a range of disabilities (Callan Services for Disabled Persons, 2006; Redding, 2002). Mount Sion Centre is situated in the township of Goroka in the Eastern Highlands Province, which spans 11,200 square kilometres of broad valleys and rugged mountain terrain, including the Kratke and Bismark mountain ranges (Embassy of Papua New Guinea to the Americas, 2010). The province’s population of 433,000 in 2009 represented 8.3% of Papua New Guinea’s total population (Papua New Guinea Statistics Office, 2010).

The **Wewak Special Education Resource Centre** was established by the Congregation of Christian Brothers in the East Sepik Province in 1994, with ownership by the Diocese of Wewak (Callan Services for Disabled Persons, 2006; Redding, 2002). The East Sepik Province consists of an area of 42,800 square kilometres and includes several offshore islands, the Hunstein Range and other densely rain-forested mountain ranges, and the Sepik River, one of the world’s largest rivers (Central Intelligence Agency, 2011). The population of the province in 2009 was 343,181, which represented approximately 6.6% of the total Papua New Guinea population (Papua New Guinea Statistics Office, 2010).

The **Mount Hagen Special Education Resource Centre** was established by the Congregation of Christian Brothers in the Western Highlands Province in 1996, with ownership by the Archdiocese of Mount Hagen (Callan Services for Disabled Persons, 2006; Redding, 2002). Mount Hagen is the capital of the Western Highlands Province, which consists of an area of 8,500 square kilometres of rugged mountains and deep gorges and
ravines. The population of the province is 440,025 people, representing 8.5% of the total Papua New Guinea population (Papua New Guinea Statistics Office, 2010).

The Mingende Special Education Resource Centre was established in the township of Kundiawa, the capital of the Chimbu Province by the Congregation of Christian Brothers in 2004, with ownership by the Diocese of Kundiawa (Callan Services for Disabled Persons, 2006; Redding, 2002). The Chimbu Province (also known as the Simbu Province) spans 6,100 square kilometres of very rugged mountainous terrain and its population of 260,000 represents 5% of the total Papua New Guinea population (Central Intelligence Agency, 2011; Papua New Guinea Statistics Office, 2010; PNG Tourism, 2010).

The following section presents a discussion of the process of selection of the second group of research participants, namely the Timor-Leste reference group.

3.4.3 Timor-Leste reference group participants (n = 13)

Criterion sampling was chosen as the most suitable selection procedure for member identification of the Timor-Leste reference group (Merriam, 2009). This decision was linked to the importance of inviting the recognised leaders and experts in the fields of education and rehabilitation in Timor-Leste to provide their input and feedback into the development of a model for education system learning and growth in the area of disability in Timor-Leste. On the basis of the selection criteria listed in Table 2, a total of 13 people consented to participate in the study as members of the reference group.
Table 2. *Demographic attributes of the Timor-Leste reference group members*

<table>
<thead>
<tr>
<th>Timor-Leste reference group members (selection criteria)</th>
<th>Number</th>
<th>Gender</th>
<th>Location</th>
<th>Nationality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior executive/leaders &amp; managers of government ministries &amp; organisations providing education &amp;/or rehabilitation services and programs in the area of disability</td>
<td>4</td>
<td>2 M</td>
<td>2 F</td>
<td>Timor-Leste (3) Australia (1)</td>
</tr>
<tr>
<td>Leaders &amp; managers of tertiary institutions providing academic &amp; professional training in education and/or disability</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>Timor-Leste</td>
</tr>
<tr>
<td>Leader/chairperson of the Timor-Leste Disability Working Group (DWG)</td>
<td>1</td>
<td>1 M</td>
<td>-</td>
<td>Timor-Leste</td>
</tr>
<tr>
<td>Education and rehabilitation personnel providing services &amp; programs for children with disability &amp; their families</td>
<td>4</td>
<td>1 M</td>
<td>3 F</td>
<td>Timor-Leste (2) Australia (2)</td>
</tr>
<tr>
<td>International advisors and consultants to the Timor-Leste Ministry of Education</td>
<td>2</td>
<td>1 M</td>
<td>1 F</td>
<td>Australia (1) New Zealand (1)</td>
</tr>
<tr>
<td>International consultant providing support in strategic planning and governance</td>
<td>1</td>
<td>1 M</td>
<td>-</td>
<td>Australia</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>13</strong></td>
<td><strong>6 M</strong></td>
<td><strong>7 F</strong></td>
<td><strong>Timor-Leste (7) Other (6)</strong></td>
</tr>
</tbody>
</table>

The 13 members of the Timor-Leste reference group listed in Table 2 were selected because of their recognised status as leaders and practitioners in education, rehabilitation, disability, and strategic planning. Membership included nationals of Timor-Leste, Australia, and New Zealand, including 10 people who resided in Timor-Leste at the time of the study. Seven members (55%) of the group were women. It is noted that membership of the reference group grew as the study progressed. The individual attributes of the reference group members have been aggregated for confidentiality and privacy purposes.

Presented below is a discussion of the methods, techniques, and instruments used in the collection and analysis of research data.
3.5 Data collection, analysis, and display

3.5.1 Introduction

The following three major sources of data were collected and analysed during the course of the present study: (a) Papua New Guinea case study interviews, (b) Papua New Guinea and Timor-Leste documentary research, and (c) Timor-Leste reference group input and feedback. As is common in qualitative research studies (Miles & Hubermann, 1994), the process of data collection, analysis, and display in this study was iterative and recursive, and involved clarification and refinement of data analysis and management procedures, and refinement of the research results and conclusions as the study progressed.

Figure 13 presents an overview of the links between the methods of data collection, analysis, and display used during the study. This is followed by a description of the data collection methods and instrumentation.
Figure 13. Overview of data collection, analysis, and display methods and techniques.
3.5.2 Data collection methods and instruments

3.5.2.1 Papua New Guinea case study interviews

Pilot testing of the interview schedule

Two interview schedules were developed to elicit perceptual and descriptive information about the Papua New Guinea system of educational provision for children with disability (Thomas & Mohan, 2007). The two interview schedules were piloted with educational professionals employed by a West Australian government agency providing education services for families and young children with sensory and other disabilities. The three main purposes of piloting the interview schedule were (i) to identify research questions that needed rewording, rephrasing, reordering, or removal from the schedule; (ii) to test the duration of the interview and recording methods; and (iii) to practise different approaches to opening the interview and to establishing interviewer-interviewee rapport and cooperation (Gall, et al., 1996, pp. 316-317; Wiersma, 2000, p. 72).

As a result of the piloting of the interview schedule, revisions were made to its content, language, and number of interview questions. The pilot group recommended a reduction in the number and scope of the questions, and the removal or rephrasing of several imprecise terms and unnecessary jargon that had the potential to impact negatively upon question interpretation by non-native English speakers in Papua New Guinea.

Papua New Guinea interviews

The Papua New Guinea case study interviews took place in mid-2007 and were conducted as either individual or small group interviews lasting approximately 45 minutes. The interviews were followed up with email, telephone, or face-to-face communication when further clarification was required. The interviews were conducted in a range of settings,
including special education resource centres situated in the highland regions of Papua New Guinea. The interview locations have been indicated in the map presented in Figure 12.

The nine case study groups were subdivided into the following two groups: (a) leaders and managers, and (b) coordinators and officers responsible for the delivery of learning support services and programs in formal, non-formal, and informal settings. The interviews commenced with preliminary “ice-breaker” questions that sought general background information and served to create a relaxed atmosphere. Interview questions addressed the study’s research questions, with 15 questions posed to the leader and manager groups and 11 questions posed to the coordinator and officer groups. Appendix D (Table D1) presents the links between the research questions and the interview questions included in the two interview schedules.

The following section presents the second source of research data collected in this study, which consisted of written and verbal input and feedback from the Timor-Leste reference group.

### 3.5.2.2 Timor-Leste reference group input and feedback

The Timor-Leste reference group input and feedback reflected their professional knowledge and expertise, personal experiences and perceptions, and philosophical perspectives on the current system of education in Timor-Leste for children with disability, and priority areas for future growth. Input and feedback took the form of emails, telephone discussions, face-to-face meetings, and responses to an evaluative questionnaire. The minutes of the two impromptu focus group meetings held at the Timor-Leste Ministry of Education in Dili during 2008 were also included in the research data.
Evaluative questionnaire

Written input was requested from eight of the 13 members of the Timor-Leste reference group in the form of an evaluative questionnaire (included in Appendix C), which was accompanied with English and Tetum versions of the model for education system growth in the area of disability. The questionnaire consisted of three sections. The first section was a simple set of instructions explaining the purpose of the questionnaire, confidentiality procedures, and methods of return to the researcher. The second section requested personal information (name, title, agency), and the questionnaire completion date, and the third section presented the four questions to be completed. Only three completed questionnaires were returned. Eight members of the reference group who did not return the questionnaire were then contacted by telephone and invited to provide input and feedback on the Timor-Leste education model, and their input has been incorporated into the discussion of the Timor-Leste research results presented in Chapter 5.

An important addition to the data collected from the Papua New Guinea and Timor-Leste research participants was documentary research data, as described in the following section.

3.5.2.3 Documentary research data

The Papua New Guinea and Timor-Leste participants were invited to provide documentary information that had relevance to the purposes of this study. The process of selection and inclusion of documentary data was based upon the following document evaluation criteria established by Punch (2009): (i) authenticity (originality and genuineness of documents), (ii) credibility (accuracy of content), (iii) representativeness of the total class of documents, and (iv) document meaning (p. 160).
A broad range of primary and secondary documents were collected and analysed during the third and fourth phases of the study. Research documents included print and electronic formats that were sourced from the Papua New Guinea and Timor-Leste research participants, academic libraries and databases, and the internet sites of UN agencies and international development organisations. Appendix E presents an overview of the documents collected, including a typology of document authorship and level of public access (Scott, 1990, cited in Punch, 2009, pp. 158-160). *Authorship* refers to the origin of the documents, and *access* refers to the level of public availability of documents (Mutch, 2005, pp. 50-51; Rose & Grosvenor, 2001, p. 50).

The following section presents the research methods and techniques used in this study to analyse and display the research data.

### 3.5.3 Data analysis and display methods and techniques

Data analysis in qualitative research refers to the process of making sense of the data through the application of dynamic, continuous, and concurrent processes of describing, storing, consolidating, reducing, and interpreting information (Merriam, 2009, p. 176; Punch, 2009, p. 172). Non-linear, iterative research methods and techniques were applied to data analysis and interpretation in this study. Such techniques were described by Merriam as the complex processes involving “moving back and forth between concrete bits of data and abstract concepts, between inductive and deductive reasoning, between description and interpretation” (2009, p. 176). The term, *inductive analysis* refers to subjective, perceptual viewpoints of the research participants, whereas *deductive analysis* refers to analysis that incorporates the researcher’s prior theoretical and/or conceptual understanding of the area of study (Bernard & Ryan, 2010, p. 55).
The data analysis methods and techniques summarised in Figure 13 included multicase oriented and variable-oriented analysis, interpretive and inferential analysis, and data aggregation, classification, and checking techniques. A description of the methods and techniques follows.

### 3.5.3.1 Data analysis methods and procedures

Four qualitative data analysis methods were selected from the research literature as relevant to the present study of the education systems for children with disability (Bloomberg & Volpe, 2008, pp. 98-102; Creswell, 2012; Gall, et al., 1996, p. 562; Punch, 2009, p. 174). These methods were (a) case-oriented analysis, (b) variable-oriented analysis, (c) document analysis, and (d) interpretive and inferential analysis. These are described in order as follows:

**Case-oriented analysis** was used to analyse the Papua New Guinea case study interview data. This included comparative “within-case” analysis of the responses of individual members of the case study groups, and “between-case” analysis of the responses across the case study groups as a means of identifying and analysing the underlying similarities and differences in participant responses. Miles and Huberman (1994) described case-oriented analysis as analysis of the configurations, associations, causes, and effects studied in order to explore the “empirical fit” between the results, the analysis model used to guide the analysis process, and the conclusions drawn (pp. 172-174).

**Variable-oriented analysis** was undertaken to analyse, interpret, and refine the key themes and sub-themes (variables) of the study’s analysis model and the core components of the study’s strategic model for inclusive education of children with special needs in Timor-Leste. Variable-oriented analysis techniques included successive rounds of descriptive and interpretive coding and coding refinements, as each round of input and feedback from the Timor-Leste reference group was coded and analysed.
Document analysis was undertaken as a means of contextualising, verifying, and enriching the perceptual and demographic information obtained from the research participants and through comparison and contrasting with the document research data. Document analysis was described by Butin (2010) as analysis of a range of “texts” or “public documents” which were linked to the research questions and the theoretical/research analysis model (p. 99).

Interpretive and inferential analysis was undertaken as a means of reviewing, reflecting upon, and interpreting the overall research results in order to draw inferences for education system learning and growth in the area of disability in Timor-Leste, and to develop the research conclusions. The professional literature identified the following four attributes of interpretive and inferential analysis: (a) reflection and interpretation of the dependability, reliability, and internal consistency of the analyses undertaken; (b) the internal logic, coherency, and credibility of the chain of evidence established; (c) the interrelationship between the observable and unobservable components of the system studied; and (d) the “goodness of fit” between the study’s recommendations and the realities of the situational context in which the study was undertaken (Gall, et al., 1996, p. 562; Punch, 2009, p. 174).

The following section describes the data analysis techniques used in the present study, as summarised in Figure 14.

3.5.3.2 Data analysis techniques

In addition to the four data analysis methods described above, the following five analysis techniques were included in the study’s research design: (a) Data aggregation and reduction, (b) data classification and patterning, (c) checking and verifying data analysis and interpretations, (d) checking and critiquing of data interpretations, and (e) data display. These are described in order as follows:
Data aggregation and reduction. Sorting, counting, grouping, and clustering of the research data using the following data analysis techniques: annotated bibliographies, memoing, descriptive and tabular summaries, and flow charts. Software programs used for data aggregation and reduction included Inspiration 8, and several of Microsoft Office programs, for example Word, Excel, and SmartTools.

Data classification and patterning. Techniques used to identify and classify patterns in the research data included open and axial coding, and memoing using the key themes and sub-themes of the study’s analysis model. Data classification and patterning techniques were used in conjunction with the case-oriented analysis methods to identify “within-case” and “across-case” patterns of similarities and discrepancies in the Papua New Guinea case interview and documentary data, the Timor-Leste documentary data, and the reference group data. The iterative process of data analysis resulted in a succession of revisions and refinements to the coding system (code merging, splitting, and elimination) and to the study’s analysis model. Software programs used during data coding, classification, and patterning included NVivo 8.0, Inspiration 9.0, and Microsoft Office 2007.

Checking and verifying data analysis and interpretations. The analysis techniques of cross-case checking and comparison of the data collected, combined with cross-checking against documentary data and research literature, enabled conflicting and supporting data patterns and constructs to be identified and explored. Miles and Huberman identified the iterative (or “rolling”) quality of case studies as the research progressed through successive “waves” of data collection, analysis, synthesis, and interpretation (1994, p. 29).

Checking and critiquing of data interpretations. The Timor-Leste reference group checked and critiqued the model for education system growth in the area of disability. In turn, their verbal and written input was checked, verified, and interpreted through comparative analysis using the Timor-Leste documentary research data and the researcher’s empirical
knowledge of the Papua New Guinea and Timor-Leste education contexts. Data analysis techniques used included annotated summaries and memoing, and checking and verifying of previous data coding categories and themes.

Data display. Data display techniques associated with the organisation, compression, assembly, and presentation of information were selected on the basis of their effectiveness as aids to the written content of the thesis. Wherever possible, simple and concise visual designs were used to summarise key points and the interrelationships between variables. Software programs used to support the research technique of data display included Inspiration 8.0, and Microsoft Word, Excel, and SmartTools.

The following section presents a discussion of the ethical considerations relating to human research that were addressed in this study, as well as the importance of trustworthiness and authenticity in the research design and methodology used.

3.6 Ethics and trustworthiness

3.6.1 Introduction

Ethical issues and trustworthiness in human research were considered during the various phases of this study, commencing with research planning and through to execution, reporting, and dissemination of the research results. Miles and Huberman (1994) emphasised that researchers using qualitative approaches and methods must consider the “rightness or wrongness” of their actions in relation to the lives of the people studied, and to colleagues and sponsors of the research (p. 288). Punch (2009) noted that ethical behaviour extended beyond the simple application of ethical rules, and often involved addressing ethical dilemmas, conflicts, and negotiated ethical “trade-offs” (p. 51).
Presented below is a discussion of the issues of ethics and trustworthiness considered important by the researcher and her supervisors. The discussion commences with the ethics considerations formulated at the commencement of the study (phase 1) and addressed during the study phases 2-5.

3.6.2 Ethical considerations

As this study involved the collection and reporting of information relating to humans, the ethics regulations for human research of the University of Newcastle’s Human Research Ethics Committee (HREC) were completed prior to commencement of the study (University of Newcastle, 2010). The following ethical issues were important considerations in the construction of the study’s research methodology (Miles & Hubermann, 1994, pp. 290-297; Punch, 2009, pp. 49-51; University of Newcastle, 2010).

Informed consent. Potential research participants were fully informed about the nature of the study and their right to participate voluntarily and without coercion. Prior to giving their written consent to participate in this study, each person was provided with a detailed information package explaining the purpose of the study, the voluntary nature of participation, confidentiality and right-to-withdraw procedures, and data collection and management procedures.

Privacy, confidentiality, and anonymity. Issues of privacy, confidentiality, and anonymity of research participants within the study’s two focal countries was an important consideration due to local knowledge of people working in the related fields of education, rehabilitation, and disability. The first research technique adopted to address these ethical issues was to aggregate and reduce data from multiple sources. The second technique was to secure all research data and information of a confidential nature in the locked RIDBC...
Renwick Centre archival storage area, in compliance with University of Newcastle ethics regulations (University of Newcastle, 2010).

*Data ownership and security.* The ethics of data security and the potential for data misappropriation and misuse were important considerations in this study. The researcher acknowledges her ethical obligation to ensure the accuracy of research conclusions and the safe-guarding of research participant confidentiality and non-identifiability when information and data relating to the study are made available electronically for auditing, reanalyses, and replications in further research. It is essential that research participants and the key beneficiaries of this study are protected from intentional or unintentional harm as a result of issues of data security and confidentiality.

The following issues of trustworthiness were addressed in the research methods used in the present study.

### 3.6.3 Issues of trustworthiness

The term, “issues of trustworthiness and authenticity” in qualitative research is linked in the professional literature with the data collection and analysis methods and procedures, and the trustworthiness of the researcher’s interpretation of the research results, conclusions, and recommendations (Bloomberg & Volpe, 2008; Merriam, 2009; Miles & Hubermann, 1994; Punch, 2009; Wiersma, 2000; Woodhouse, 2007). Qualities of trustworthiness and authenticity include believability, plausibility, accuracy, logic, clarity, consistency, and rigour (Bloomberg & Volpe, 2008; Butin, 2010). Butin described the application of these qualities as “being clear about what you did, why you did it, and the limits and value of your methods” (p. 103).

In the present study, issues of trustworthiness and authenticity have been addressed using the following ethical activities and behaviours: (i) objectivity, confirmability, and
auditability, (ii) dependability and reliability, (iii) internal validity, credibility and authenticity, and (iv) external validity and generalisability. A description of each follows.

3.6.3.1 Objectivity, confirmability, and auditability

Issues of objectivity, confirmability, and auditability are measured in qualitative research in terms of “neutrality” from biases, acknowledgment of assumptions, and provision of a detailed methodology that enables replication of the study by future researchers (Bloomberg & Volpe, 2008; Merriam, 2009; Miles & Hubermann, 1994). These issues were addressed in the present study through acknowledgement of the researcher’s assumptions in the first chapter and the detailed description of the study’s methodology in this chapter. Such measures serve as an “audit trail” for the study’s future replication or extension by others.

One of the challenges faced in the present study was the issue of “data reactivity” identified by Punch (2009). Data reactivity refers to the extent to which interaction between the researcher and the research participants leads to changes in the data collected (p. 313). In the present study, the distribution of the researcher’s Timor-Leste strategic model for discussion among members of the reference group led to the implementation of several of its key recommendations by the Timor-Leste Ministry of Education (MoE). These included establishment of the National Office of Inclusive Education (NOIE), recruitment of the National Inclusive Education Coordinator (NIEC), and development of a draft inclusive education policy. The issue of data reactivity was discussed by the researcher and her supervisors, and it was decided that information relating to these important initiatives of the Timor-Leste MoE should be compiled and included in data analysis and interpretation.
3.6.3.2 Dependability and reliability

The professional literature linked issues of dependability and reliability with the internal consistency, reliability, and dependability of measurement procedures and techniques used in research studies, and the stability of research data over time (Bloomberg & Volpe, 2008, p. 77; Miles & Hubermann, 1994, p. 278; Punch, 2009). In the present study, measures adopted to enhance the dependability and reliability of the research data and methods included the use of multiple sources of data, the cross-referencing of data collected, and establishment of internal links between data sources as a means of establishing and maintaining a “chain of evidence” throughout the study (Bassey, 1999; Gall, et al., 1996; Slavin, 2007, p. 133).

Specific measures implemented to enhance the dependability and reliability of the research data and methods included the use of a variety of measurement techniques; consistency of data collection procedures across the case study and reference groups; checking, verifying, and critiquing data coding themes and sub-themes; and checking and verifying the emerging results through input and feedback from the Timor-Leste reference group. Furthermore, in order to minimise potential cross-cultural and linguistic issues, the interview schedule was sent to each Papua New Guinea research participant prior to the interviews, and each participant was invited to contact the research supervisor or researcher for clarification and/or change in the questions posed. The shared discussion that was inherent to the group interviews minimised potential linguistic issues by enabling participants to discuss the nature of each question and to jointly develop responses. This process aided information recall among members and helped to minimise potential cultural and linguistic misunderstandings. Punch (2009) noted that group interviews enabled the production of “data and insights that would be less accessible without the interaction found in a group” (p. 147).
Data analysis included coding of interview responses according to the predetermined coding scheme that was linked to the key themes and sub-themes of the study’s analysis model. Refinements were made to the themes and coding scheme as the study progressed.

### 3.6.3.3 Internal validity, credibility, and authenticity

The third group of “issues of trustworthiness and authenticity” addressed in the study related to issues of internal validity, credibility, and authenticity. Miles and Huberman (1994) defined these issues in terms of the “truth value” and credibility of the research to the people studied and to the readers of the dissertation and related publications (p. 278). Confidence in the results and conclusions of qualitative research is linked with the internal logic and consistency of data collection, analysis, and interpretations, and perceptions of the researcher’s accuracy in representing and interpreting the thoughts, feelings, and actions of the research participants (Bloomberg & Volpe, 2008, p. 77; Punch, 2009, p. 316; Thomas & Mohan, 2007, p. 169; Wiersma, 2000, p. 4). The issue of *elite bias* was minimised by ensuring the case study groups included people with different levels of status within the education system (Miles & Hubermann, 1994, p. 263).

In this study, *triangulation* was used during data collection, analysis, and interpretation as a means of testing, confirming, and modifying the validity, credibility, and authenticity of the emerging research results, conclusions, and recommendations (N. Burton, et al., 2008; Miles & Hubermann, 1994, p. 266; Punch, 2009, p. 169). Methods of triangulation used in the study included data collection from a range of different sources by means of such different methods as case study interviews, reference group input and feedback, and the cross-checking of research participant data with documentary research data.

A mixture of individual and group interviews of education leaders and education/rehabilitation practitioners using two interview schedules were undertaken in order
to strengthen the study’s internal validity. Case-oriented comparisons were made between the responses of individual and small group cases, and between the education leaders and managers, and the education and rehabilitation coordinators and officers. Miles and Huberman (1994, p. 29) highlighted that case sampling procedures strengthen the precision, validity, and stability of research results by enabling an analysis of similar and contrasting data across different case study groups and/or locations.

Triangulation methods were applied to documentary data collected during the study, including evaluation of documents in terms of their authenticity, credibility, representativeness, and meaning (Denzin, 1970, cited Punch, 2009, p. 160). In addition to serving as a source of contextual information, the documentary research data was used to check and verify the accuracy and credibility of the research participants’ perceptions through comparative analysis and cross-referencing of the interview and documentary data.

It is noteworthy that Burton, Brundrett, and Jones (2008) highlighted the limitations of using triangulation alone as a means of determining rigorous and valid explanations or cases (p. 323). These authors emphasised the importance of the qualitative researcher’s professional judgement and knowledge as a key ingredient in establishing credible and plausible research results and conclusions.

3.6.3.4 External validity, generalisability, and fittingness

The fourth and final group of “issues of trustworthiness and authenticity” addressed in the study related to the external validity, generalisability, and fittingness (goodness of fit) of the research results to other similar settings or contexts (Miles & Hubermann, 1994, p. 173). Burton, Brundrett, and Jones (2008, pp. 172-173) recommended the use of “critical audiences” as a means of strengthening the external validity of qualitative research studies. Such an approach was adopted in this study through use of the following critical audiences:
• **Self-validation**: Evidence of a rigorous research approach, including triangulation and piloting of the case study interview schedule, and drawing upon the researcher’s empirical knowledge to evaluate the “goodness of fit” between the research results and education contexts of the two focal countries;

• **Peer-validation**: Feedback from practitioners in the fields of education and rehabilitation who were members of the Timor-Leste reference group;

• **Up-liner validation**: Evaluation of the research outcomes by persons in authority. In this study, persons of authority were education leaders and decision-makers in Papua New Guinea and Timor-Leste who participated in the study.

• **Academic validation**: Evaluation of the research formulation, method, results, and conclusions through the study’s comparison with related research published in the professional literature. (pp. 172-173)

Presented below are the identified potential limitations of this study that were addressed in the selection of the study’s research approaches and methods. These limitations are as follows: (a) researcher’s philosophical beliefs, and (b) researcher’s and research participants’ linguistic and cultural backgrounds.

### 3.7 Potential limitations of the study

#### 3.7.1 Researcher’s philosophical beliefs

The researcher’s philosophical beliefs and understandings about the nature of reality and knowledge are shaped by her ethnicity, social background, and life experiences. Mertens (2010) emphasised that every decision made during the research process is influenced by the
A potential limitation of this study is therefore the influence of the researcher’s philosophical beliefs on the study’s formulation and direction. This includes the potential for subjective bias in the formulation of the schedule of Papua New Guinea interview questions, and interpretations of the “causes, consequences, and relationships” within the Papua New Guinea and Timor-Leste data (Bloomberg & Volpe, 2008, p. 127).

In order to limit any potential research bias associated with the researcher’s philosophical beliefs and perspectives, an extensive review of the professional literature was undertaken during Phase 5 of the study as a means of academic validation of the study’s methodology, and emerging results and conclusions. The literature review included reflection upon the study’s outcomes in relation to recently published education policies, strategies, and frameworks of UN agencies and government and non-government development organisations. This included review and reflection on the Pacific Education Development Framework 2009-2015 (Pacific Islands Forum Secretariat, 2009a), the Pacific Regional Strategy on Disability 2010-2015 (Pacific Islands Forum Secretariat, 2009b), and background papers on education provision in the Asia-Pacific region (UNESCAP, 2002, 2003, 2006; UNESCO, 2000, 2005b, 2007a, 2008b).

3.7.2 Researcher’s and research participants’ backgrounds

The second potential limitation identified in this study relates to linguistic and cultural differences between the researcher and research participants in Papua New Guinea and Timor-Leste. Papua New Guinea has one of the world’s most heterogeneous populations, consisting of several thousand tribal groups (termed wantoks) who speak approximately 860 indigenous languages. The country’s official languages are Tok Pisin, a creole language spoken by the majority of the population, and Hiri Motu, spoken by 2% of the population.
Although English is the language of instruction in schools from Grade 3 upwards, Pidgin is commonly used for social and commercial communication across Papua New Guinea. In this study, 17 of the 19 Papua New Guinea research participants were PNG nationals and all participants were fluent speakers of English. In order to address any potential limitations associated with the diversity of language and cultural background of the research participants, the assistance of the key Papua New Guinea informant was sought during the selection of potential research participants to ensure all participants were proficient in the English language. Furthermore, the group interviews provided the participants with the opportunity to clarify the meaning of the interview questions. The researcher sought to clarify the accuracy of the recording and interpretation of the interview data when required through feedback from the key informant and individual participants. Implementation of these strategies helped to minimise any misunderstandings associated with language and culture.

In Timor-Leste at the time of the study, there were 16 indigenous languages and the national language of Portuguese. English was spoken by a small percentage of the indigenous population (Central Intelligence Agency, 2010). Seven of the 13 Timor-Leste reference group members were Timorese nationals, and their input into the study was supported when necessary by the use of interpreters during the focus group meetings in Timor-Leste, as well as the production of a Tetum translation of the Timor-Leste strategic model.

### 3.8 Conclusion

This chapter presented a detailed description of the qualitative, transformational research methodology used in this study to research the education systems for children with disability in Papua New Guinea and Timor-Leste. The chapter includes a description of the
study’s five design phases and a rationale for the selection of case study, reference group, and documentary research approaches. This is followed by an overview of the selection of research participants and their demographic attributes, and a description of the study’s methods of data collection, analysis, and display. These methods included development and pilot testing of two Papua New Guinea case study interview schedules, and development of an evaluative questionnaire for the Timor-Leste reference group. Inductive and deductive data analysis methods and techniques applied to the research data collected during the study are also described.

The chapter concluded with a discussion of issues of ethical behaviour and trustworthiness, and potential limitations of the study. These issues were considered within the context of the transformational research paradigm and the methodology selected to address the study’s purpose and research questions. Ethical considerations addressed the rights of research participants to informed consent; privacy, confidentiality, anonymity; and the safeguarding of their demographic and perceptual information from misappropriation or misuse. Issues of trustworthiness were linked with the research methodology, in particular the research methods and procedures associated with research believability, plausibility, accuracy, and rigour. Potential limitations to the study’s results and recommendations were linked with the social, cultural, and linguistic attributes of the researcher and research participants.

The following chapter presents the Papua New Guinea research results.
CHAPTER 4 RESULTS: PAPUA NEW GUINEA

4.1 Introduction

The purpose of this transformative educational study in the area of disability was to offer recommendations for national disability educational planning and priority setting in Timor-Leste. The recommendations are drawn from a study of the Papua New Guinea and Timor-Leste education systems for children with disability. This chapter describes the results of the Papua New Guinea study. These results were developed through analysis and synthesis of case study interview and documentary research data collected from 19 research participants who were organised into nine case study groups. Participants were acknowledged leaders, managers, and practitioners working for government, non-government, and civil society organisations in the related fields of education, rehabilitation, and disability. Participants included 17 Papua New Guinea nationals and the quality of the study’s results reflects their personal and professional knowledge and understanding of the Papua New Guinea education system for children with disability.

The research methods and techniques used to collect, analyse, and display the large quantity of Papua New Guinea data are described in the preceding chapter (Section 3.6). They included data aggregation, reduction, classification, and patterning; and multicas oriented and variable oriented analysis. The study’s analytic model of educational perspectives was used extensively in data analysis, synthesis, and display. The model is reproduced in Figure 14 to assist the reader in understanding the organisation of the results that follow. As is common in qualitative research studies, the model underwent refinement
and revision during its application to the study of Papua New Guinea’s education system for children with disability (Bloomberg & Volpe, 2008; N. Burton, et al., 2008).

<table>
<thead>
<tr>
<th>Research questions &amp; perspectives</th>
<th>Educational perspectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Q1: National goal setting perspectives</td>
<td>Research Q1: National goal/vision for the educational system for children with disability</td>
</tr>
<tr>
<td>Research Q2: Governance perspectives</td>
<td>Research Q2: Goal alignment with the mission/vision for the national educational system</td>
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<td></td>
<td>Research Q2: Key beneficiaries &amp; stakeholders with a vested interest in the goal's achievement</td>
</tr>
<tr>
<td>Research Q3: Teaching &amp; learning perspectives</td>
<td>Research Q3: Governance of the national educational system</td>
</tr>
<tr>
<td></td>
<td>Research Q3: Educational governance in the area of disability</td>
</tr>
<tr>
<td></td>
<td>Research Q3: Legislation, policies, &amp; education plans</td>
</tr>
<tr>
<td>Research Q4: Educational system growth &amp; reform perspectives</td>
<td>Research Q4: Teaching &amp; learning infrastructure (services, programs, &amp; staffing)</td>
</tr>
<tr>
<td></td>
<td>Research Q4: Educational needs of children with disability &amp; their families</td>
</tr>
<tr>
<td></td>
<td>Research Q4: Education enrolment rates for children with disability</td>
</tr>
<tr>
<td></td>
<td>Research Q4: Priorities in education services, programs, &amp; enrolments</td>
</tr>
</tbody>
</table>

**Figure 14. The study's analysis model**

As indicated in Figure 14, the four groups of educational perspectives used to organise the Papua New Guinea results are directly linked with the study’s four research questions as follows:

- Research question 1: National goal setting perspectives;
- Research question 2: Governance and leadership perspectives;
- Research question 3: Teaching and learning perspectives; and
- Research question 4: Educational system growth and reform perspectives, as reflected in the priorities of education and rehabilitation leaders and practitioners.
4.2 Research question 1: National educational goal and key beneficiaries and stakeholders

4.2.1 Introduction

The first research question devised for the study of the education system for children with disability is expressed as follows:

*What is the national goal or vision underpinning the education system for children with disability, and who are the key beneficiaries and stakeholders with a vested interest in achievement of the goal?*

To answer the first research question, case interview and documentary data were collected and analysed in order to develop a better understanding of the historical and current perspectives on national educational goal development in the area of disability and the key beneficiaries and stakeholders with a vested interest in its achievement. The four interview questions relating to the first research question are included in Appendix D.

Results of the analysis presented in this section are organised using the following three educational perspectives of the study’s analysis model: (i) national goal for the education system for children with disability; (ii) goal alignment with the mission and vision for the national education system; and (iii) key beneficiaries and stakeholders with a vested interest in the national goal’s achievement.
4.2.2 National goal for the education system for children with disability

The education leaders who participated in this study emphasised the importance of the national goal and related objectives published in initial and subsequent national special education plans and statements of policy and guidelines (Papua New Guinea Department of Education, 1993, 2003a). The Revised Policy and Guidelines for Special Education and Directions and Emphasis 2004-2013 (2003a) states the national goal for education of children with special needs (disability) as follows:

*The long-term goal of special education shall be the integration or inclusion of children with special needs into the regular school system and into the community* (Papua New Guinea Department of Education, 2003a).

The revised special education policy and guidelines linked the long-term goal with the specific objective of “the development of learning competencies and the nurturing of values, which will help children with special needs to become useful and effective members of society (Papua New Guinea Department of Education, 2003a). Further, the philosophical basis for the long-term goal was stated in the revised special education policy and guidelines in the following terms:

*The Constitution upholds the rights of every child to basic education. Therefore the State will promote equality of access to relevant quality education for all children. Children with specific needs have a right to an educational program suitable to their needs. Special education shall aim to develop the maximum potential of every child with special needs, enabling self-reliance and a full and happy life as far as possible in an integrated setting in the company of a normal range of children of the community* (Papua New Guinea Department of Education, 2003a, p. 2).
The terms “integrated education” and “integrated schools” were defined in the initial national education plan as follows: “The great majority of disabled children will be integrated into ordinary schools and pre-schools with necessary adaptations of teaching and learning approaches being made to accommodate the special needs of children in the learning environment” (Papua New Guinea Department of Education, 1993, p. 28).

4.2.3 Goal alignment with the education system mission and vision

The second area of analysis relating to the first research question sought to establish the links between the national goal for the education system for children with disability, and the mission (termed “objects and purposes”) and/or vision for the national education system for all Papua New Guinea citizens. Results indicated alignment between the national educational goal in the area of disability and the government’s mission and vision for the national education system. The terms “mission” and “vision” are defined in the first chapter (see Section 1.9).

Mission for the national education system

The government’s mission (termed “objects and purposes”) for the national education system is published in the National Plan for Education 2005-2014 (Papua New Guinea Department of Education, 2004a). The key components of the mission are expressed in the national plan in the following terms:

- Integral development of each person;
- To develop, and encourage the development of, a system of education fitted to the requirements of the country and its people;
To establish, preserve, and improve the standards of education throughout the country;

To make the benefits of education available as widely as possible; and

To make education accessible to people who are poor; people with physical, mental, and social disability/handicap; and to those who are educationally disadvantaged (Papua New Guinea Department of Education, 2004a, p. 8).

Legislation supporting and promoting implementation of the government’s mission for the national education system includes the *Education Act 1983, updated in 1995* (Independent State of Papua New Guinea, 2001a). The Act highlights the importance of the legislative and administrative measures supporting achievement of the mission and the need for “maximum utilisation of available resources” (p. 8). The Act also emphasises that methods used to implement the legal and administrative measures should be designed to promote a sense of common purpose, nationhood, and understanding of the value of education at all levels of the education system (p. 8). Further, the national reform curriculum and assessment policy developed during 2001-02 reflect the national educational mission’s emphasis on the relevance of education to Papua New Guinea’s citizens, “irrespective of their abilities, gender, geographic locations, cultural and language backgrounds” (Papua New Guinea Department of Education, 2001a, p. 16, 2001b, 2002b, p. 25).

**Vision for the national education system**

The government’s vision for the national education system for 2005-2014 is published in the *National Plan for Education 2005-2014* (Papua New Guinea Department of Education, 2004a) in the following terms:
Our vision is integral human development achieved through an affordable education system that appreciates Christian and traditional values, and that prepares literate, skilled and healthy citizens by concentrating on the growth and development of each individual’s personal viability and character formation, while ensuring all can contribute to the peace and prosperity of the nation (Papua New Guinea Department of Education, 2004a, p. 17).

Principles underpinning the national goal in the area of disability

The national goal and related policy documents for the educational inclusion for children with disability are aligned with the national directives of the Papua New Guinea Constitution (Independent State of Papua New Guinea, 1975; Papua New Guinea Department of Education, 1993, 2003a). The 1993 national special education plan emphasised that “all our children, the schooled and unschooled, have the right to quality of life … a right that is upheld by the goals of the National Constitution” (Papua New Guinea Department of Education, 1993, p. 6).

Of particular importance to this study are the following two constitutional directives, which emphasise the rights of all Papua New Guinea citizens to freedom, equality, and personal and social development.

- **Principle of integral human development**: We declare our first goal to be for every person to be dynamically involved in the process of freeing himself or herself from every form of domination or oppression so that each man or woman will have the opportunity to develop as a whole person in relationship with others.

- **Principle of equality of participation**: We declare our second goal to be for all citizens to have an equal opportunity to participate in, and benefit from, the development of our country (Independent State of Papua New Guinea, 1975).
4.2.4 Key beneficiaries and stakeholders

Results of the investigation showed that children and adults with disabilities and their parents, families, and guardians are the *key beneficiaries* with a vested interest in achievement of the national goal for the education system for children with disability. Table 3 summarises the key beneficiaries and stakeholders identified in this study. The two groups were defined in the first chapter (Section 1.9).
Table 3. Key stakeholders and beneficiaries with a vested interest in achievement of the national goal for the education system for children with disability

<table>
<thead>
<tr>
<th>Category</th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Key beneficiaries</td>
<td>Learners (children and adults) with disability, and their families, carers, and guardians</td>
</tr>
<tr>
<td>2. Government &amp; non-government education authorities</td>
<td>Including the National Department of Education, the 21 Provincial Divisions of Education, Catholic Schools Agency, Callan Services for Disabled Persons, Cheshire Homes, Red Cross Hohola, and St Johns Association</td>
</tr>
<tr>
<td></td>
<td>Including leaders and decision-makers in the ministries of Education, Health, and Youth and Home Affairs, and the Teaching Service Commission</td>
</tr>
<tr>
<td>3. Governance and management boards/bodies</td>
<td>Including the National, Provincial, and National Capital District (NCD) Education Boards, the National Board for Disabled Persons, boards of governors, and school governing councils</td>
</tr>
<tr>
<td>4. Education institutions: Registered public, private, &amp; faith-based schools</td>
<td>Including school principals, head teachers, and classroom teachers enrolling learners with disability (recipients of SERC support)</td>
</tr>
<tr>
<td>5. Tertiary institutions and teacher training colleges</td>
<td>Including the University of Papua New Guinea, Port Moresby; Goroka University; Divine Word University, Madang; St Benedict’s Teachers College, Wewak; Holy Trinity Teaches College, Mount Hagen; Kabaleo Teachers College, New Guinea Islands; and Callan Studies Institute, Wewak</td>
</tr>
<tr>
<td>6. Civil society organisations, groups, and taxpayers</td>
<td>Including the National Assembly of Persons with Disabilities, organisations and associations of people with disability, disability sports associations, community and parent support groups, community leaders, Parish priests, and the general taxpaying public</td>
</tr>
<tr>
<td>7. National and international development &amp; partner organisations</td>
<td>Including AusAID, Caritas, CBM, Cordaid, European Union, DKA (Austria), Save the Children, Rotary International, Danish Association of the Blind, &amp; UN agencies</td>
</tr>
<tr>
<td></td>
<td>Including local businesses providing financial support to SERCs</td>
</tr>
</tbody>
</table>

As shown in Table 3, key stakeholders with a vested interest in education of children with disability identified in the case study and documentary research data include government ministries; registered public, private, and faith-based education agencies and education institutions; civil society groups, such as community organisations of people with disability; and international development organisations that provide capacity-building resource support. It is noted in this study that the term “clients” was used by research participants to refer to
children and adults with disabilities and school personnel who are the recipients of educational services and programs provided by the network of special education resource centres (SERCs).

This chapter proceeds with a description of the governance perspectives derived from analysis of the research data relating to the second research question.

### 4.3 Research question 2: Governance perspectives

#### 4.3.1 Introduction

The study’s second research question relates to educational governance of the Papua New Guinea education system for children with disability. The question was expressed in the following terms:

*What system of governance underpins the education system for children with disability, and the acquittal of fiduciary duties to financial stakeholders?*

Research data collected and analysed to answer the second research question included case study interview and documentary data described in Appendix D, (Tables D1 and D2). The results are organised below under the following the educational perspectives: (i) governance of the national education system; (ii) educational governance in the area of disability; and (iii) legislation, policies, and plans supporting the education system for children with disability.
4.3.2 Governance of the national education system

Papua New Guinea’s education system consists of national, provincial, district, and local educational levels with specific areas of governance as prescribed in the *Education Act 1983 (Consolidated to No. 13 of 1995)* (Independent State of Papua New Guinea, 2001a). Figure 15 presents a summary of the national and provincial-level educational governance authorities that was compiled using case interview and documentary data (Papua New Guinea Department of Education, 1993, 2003a, 2003b, 2004a, 2004b, 2008b, 2009).
Figure 15. National and provincial governance authorities of the Papua New Guinea national education system, 2008
National-level educational governance

As illustrated in Figure 15, national-level educational authorities include the Minister for Education, Secretary, deputy and assistant secretaries, the National Education Board (NEB), the Teaching Service Commission (TSC), and boards of management of schools conducted within the National Capital District by the NDoE. An analysis of the case interview and documentary data indicated that national level leaders and governance authorities are accountable to the government for the implementation of legislation, policies, and education plans that were linked with the national mission and vision for education. The authorities are responsible for teacher training colleges, technical and business colleges, the College of Distance Education, and schools situated in the National Capital District (NCD).

The NEB is responsible for a range of governance and administrative functions, including the following: (a) responsibility for the implementation of national education plans and policies, including financial provisions, (b) critical oversight of the functions of the national education system, (c) financial efficiency of national administration and schools, (d) the welfare of teachers, and (e) the membership and functions of governing bodies for national education institutions (Independent State of Papua New Guinea, 2001a, pp. 14-16). Membership of the NEB is representative of key education stakeholders at the national level, and includes representatives of national and provincial governments, the PNG Teachers’ Association, church associations, business and civic associations, and representation of the higher education sector (p. 12). The NEB works in close collaboration with the education boards in the 21 provinces.
Provincial, district, and local-level governance

Provincial, district, and local school level governance authorities identified in this study include the following: (a) provincial education boards, (b) district education offices and district education administrators, (c) boards of management of primary schools, (d) boards of governors of secondary schools, and (e) authorities of registered education agencies conducting schools and special education resource centres within the national education system (Papua New Guinea Department of Education, 2001a, 2008b, 2009).

Areas of responsibility of provincial, district, and local school level governance authorities are prescribed in the *Education Act 1983 (Consolidated to No 13 of 1995)* (Independent State of Papua New Guinea, 2001a). Key responsibilities include management and administration of registered elementary, primary, secondary and vocational schools; educational priority setting; and the acquittal of financial and fiduciary duties to provincial, district/local government authorities and donor organisations.

The following section describes the educational governance authorities responsible for education of children with disability.

4.3.3 Educational governance in the area of disability

The broad range of national, provincial, and district/local level education authorities in the area of disability identified in this study is summarised in Figure 16.
As shown in Figure 16, educational governance in the area of disability is supported by national, provincial, and district/local level education authorities. The following five key governance bodies were identified by the leaders and managers who participated in this study: (a) Special Education Committee of the National Education Board, National Department of Education (NDoE); (b) NDoE Inclusive Education Unit; (c) Callan Services for Disabled Persons; (d) the Boards of Governors of SERCs; and (e) church and faith-based education agencies. The location of the first three governance bodies within the organisational structure of the National Department of Education is presented in Appendix E. A description of the five key governance authorities follows. The ordering of the authorities is non-hierarchical.
National Special Education Committee (NSEC)

The NSEC is a subcommittee of the NEB of the NDoE. NSEC responsibilities include monitoring, guiding, and directing the NDoE National Inclusive Education Unit (IEU) and the registered government and non-government educational agencies responsible for promoting and supporting education integration and inclusion of children with disability in mainstream schools and learning support services and programs (Papua New Guinea Department of Education, 2008b, 2009, p. 2).

The NSEC was chaired by the Secretary of Education in 2010, and NSEC membership consisted of 12 representatives of key stakeholder organisations. These organisations included the NDoE, National Department of Health, Callan Services for Disabled Persons, the National Training Council, the Papua New Guinea Teacher Association, the University of Goroka, and three church representatives. The NDoE was represented by the Superintendent of the Inclusive Education Unit.

Inclusive Education Unit (IEU)

The IEU of the National Department of Education provides a range of governance and management support to registered education agencies and special education resource centres in the areas of inclusive education and special education for children with disability. At the time of this study, the IEU was staffed by an Inclusive Education Superintendent, an Inclusive Education Standards Officer (formerly called “inspector”), and a Curriculum Officer. The IEU Superintendent and Curriculum Officer support the inclusion of students with disability in mainstream schools through provision of professional development programs for the staff of teacher training institutions and SERCs.

The role of the IEU Superintendent includes collaboration with the NDoE Superintendents of Curriculum and Education Standards to ensure the national curriculum
and special education policy are implemented by mainstream schools and special education resource centres. This includes in-service training and support for SERC staff in modifications and adjustments to the national curriculum and the national assessment and reporting policy to support the individual learning needs of students with disability (Papua New Guinea Department of Education, 2001a, 2001b, 2002a). The education leaders who participated in this study noted the important role of the IEU in ensuring that the reform curriculum and assessment policy included considerations for children with special needs.

The major role of the IEU Inclusive Education Standards Officer is to conduct inspections of SERCs in terms of their implementation of high quality inclusive education programs for children with disability (Papua New Guinea Department of Education, 2002a, 2003a, 2009). The standards officer works in collaboration with the education standards officers of each of the four education regions (Papua New Guinea Department of Education, 2001a, 2009).

Callan Services for Disabled Persons

The third education authority responsible for governance, management, and administration in the area of disability, as identified by the participating leaders and managers is Callan Services for Disabled Persons. Callan Services is one of the major providers of education and rehabilitation support services and programs for children and adults with disability, their families, and teachers. Callan Services is a faith-based, registered national education agency that was established in 1991 by the Congregation of Christian Brothers (Ryan, 2009). It works in partnership with other key stakeholders in Papua New Guinea, including registered education agencies, the Catholic archdioceses and dioceses, diocesan pastoral care services, and the national, provincial, and district departments/divisions of education and health (Leach, 2002; Ryan, 2009). The governance and management of all
Callan Services programs and staffing is the responsibility of the Callan National Unit, situated in the St Benedict’s Campus of the Divine Word University, in Wewak, East Sepik Province (see map of Papua New Guinea, Figure 12).

*Callan National Unit.* The Callan National Unit (CNU) of Callan Services for Disabled Persons provides financial and operational governance and administration support for the broad range of activities undertaken by the Callan Services network. The CNU is registered with the National Board for Disabled Persons; however at the time of this study, it was not a registered entity with the National Department of Education (Leach, 2002). The CNU has established partnerships with government and international donor agencies to assist with the financial, human, and physical resources that are essential to the operation of Callan Services. The general organisational structure of the CNU at the time of this study is presented in Appendix E.

*Boards of Governors of special education resource centres (SERCs)*

The fourth education governance authority in the area of disability identified by the leaders and managers who participated in this study is the system of governing boards for the SERCs situated across the provinces of Papua New Guinea. At the time of the study, membership of the SERC governing boards generally included representatives of registered public, private, church, and faith-based education agencies within the province; provincial universities and colleges providing teacher training programs; and the SERC manager/coordinator and paraprofessionals providing services and programs for people with disability living in the province (Redding, 2002).

Duties include financial and fiduciary duties to government, key stakeholders, and donor partners; as well as annual audits of SERC accounts by independent external auditors.

The financial sustainability and administration of each SERC is generally the responsibility of SERC managers. Several of the case study groups described the biannual reporting requirements of the Papua New Guinea NDoE and international donor partners. SERC managers/coordinators are required to report annually on the number of SERC clients, types of client disabilities, and types of program enrolments. The annual SERC data was used in the annual NDoE education reports, and the government EFA and MDG monitoring reports to the UN and international development organisations.

Church and faith-based education agencies

The fifth group of educational governance authorities in the area of disability identified in this study are the Bishops of the Catholic dioceses, the Catholic Schools Agency, and other leaders of registered church and faith-based education agencies. This study did not explore the nature of the church educational governance, management, and administration systems, and this area is worthy of further study.

The following section presents the study’s results relating to legislation, policies, and educational plans supporting the education system for children with disability.

4.3.4 Legislation, policies and education plans

The study’s results indicate that the national education system in Papua New Guinea has undergone significant growth and change since implementation of a raft of educational reforms since the 1990s. The legislative and policy framework established to guide the reform process include the following: Organic Law on Provincial Governments and Local-level Governments 1995; National Charter for Reconstruction and Development 2000-2002;

The education leaders and managers who participated in this study identified the Education Act, Teaching Service Act, and Organic Law on Provincial and Local Government as key legislation promoting, supporting, and enforcing the government’s educational reforms in the area of disability since the 1990s. A brief description of these three laws follows.

Education Act

The Education Act 1983 (Consolidated to No 13 of 1995), stipulates the national education system regulations and procedures. The Act defines the systems of governance, management, and administration; school regulation; staffing; and the responsibilities of national, provincial, and district/local level education authorities (Independent State of Papua New Guinea, 2001a). The shared responsibilities of national and provincial governments for curriculum development and implementation are stipulated in the Act and reinforced in the National Curriculum Statement 2002 (Papua New Guinea Department of Education, 2002b). Provincial governments are given the power to prescribe curriculum content, standards, examinations, instruction hours, and languages of instruction that are appropriate to each province.
Teaching Service Act

The Teaching Service Act 1988 (Consolidated to No 20 of 1995) prescribes the code of ethics and statutory regulations for registered education agencies regarding staff employment. The Act includes salary classifications, staff entitlements, conditions of advancement, and staff disciplinary rules and procedures (Independent State of Papua New Guinea, 2001b). The Teaching Service Commission monitors implementation of the Teaching Service Act by education agencies that are registered with the NDoE National Education Board.

Organic Law on Provincial and Local Government

The Organic Law on Provincial and Local Government, 1995 prescribes the legislative framework for the government reforms associated with decentralisation of the national government and establishment of autonomous provincial and sub-provincial government systems (Government of Papua New Guinea & United Nations in Papua New Guinea, 2004, p. 6). The Organic Law limits the functions and resources of the NDoE to development, implementation, and coordination of national educational policies and standards. NDoE responsibilities include coordination support and advisory services, such as planning, research, training, and staff development (Papua New Guinea Department of Education, 2009).

The educational leaders and managers who participated in this study emphasised the importance of aligning and integrating growth and development of the education system for children with disability with the government’s overall national education plans. Further, the educational leaders identified the initial and subsequent national special education plan and statement of policy and guidelines as the most important national documents guiding long-term growth and reform of the education system for children with disability since the early 1990s. A description of these documents follows.
(a) The *National Special Education Plan and Policy and Guidelines for Special Education* (Papua New Guinea Department of Education, 1993) was the first government endorsed special education policy. It was developed as a result of the Education Sector Review of 1991, and included the following guiding principles for development of education services for children with special educational needs: (a) that where feasible, children with disability attend mainstream schools; (b) pre-service and in-service teacher training in special education needs is provided by all teachers’ colleges; and (c) the NDoE allocate 2.5% of its budget for education of children with disability (p. 2).

(b) The *National Special Education Five-Year Plan 2004-2008; Directions and emphases 2004-2013; Revised policy and guidelines for special education* (Papua New Guinea Department of Education, 2003a) were endorsed by the National Education Board in 2003, following a review of the first special education policy document published in 1993. The Secretary for Education stated that special education plan, revised policy guidelines, and directions and emphases for 2004-2013, provided the government with “a clear vision and a plan of action” (2003a, p. 1). Leach (2002) highlighted that the special education policy emphasises enrolment of all children in mainstream schools, with teaching and learning support services and programs for children with disability provided by a network of special education resource centres.

(c) The *National Plan for Education 2005-2014*, published by the Papua New Guinea Department of Education (2004a), presents the educational vision and national priorities for the ten-year period of 2005-2014, including the government’s priorities in education for children with special needs (termed “special education”).
The priorities for education system growth and development are linked with detailed timelines and financial projections, and monitoring and evaluation mechanisms.

The study’s educational leaders emphasised that the government’s use of the terms “special education” and “children with special needs” in its policies and plans is in the process of being replaced by the terms “inclusive education” and “children with disability”. In this chapter, these terms are used interchangeably, according to their usage by the research participants and in the documentary data.

The following section describes the study’s results relating to the third research question, which explored the teaching and learning infrastructure supporting children with disability.

4.4 Research question 3: Teaching and learning perspectives

4.4.1 Introduction

The study’s third research question, presented below, addresses the topic of teaching and learning infrastructure (services, programs, and staffing) and its responsiveness to the educational needs of children with disability, as indicated in national enrolment rates.

What teaching and learning infrastructure characterises the education system for children with disability, and how responsive is this infrastructure to child and family educational needs?
The case study and documentary data collected and analysed to answer this question included the participants’ responses to six specific interview questions (see Appendix D for details). The results presented below have been organised under the following three educational perspectives of the study’s analysis model: (i) educational needs of children with disability and their families; (ii) teaching and learning infrastructure (services, staffing, programs); and (iii) education enrolment rates for children with disability.

4.4.2 Educational needs of children with disability and their families

The following five groups of educational needs of children with disability and their families were identified in the case interview and documentary data: (a) social and cultural, (b) geographical location, (c) school accessibility, (d) financial needs of families, and (e) post-school employment and social and financial independence. A description of each follows.

Group (a) Social and cultural beliefs

The first group of educational needs of children with disability and their families/carers is linked closely with social and cultural beliefs that limit family engagement with educational services and programs delivered in formal (school-based) and non-formal and informal (home and community-based) settings. As noted by case study group 6, “the challenge is the way people think of disabled people”. Social and cultural beliefs include discriminatory cultural beliefs and superstitions about people with disability, family and community misunderstanding of the causes of disability and the educability of children with disabilities, family shame associated with childhood disability, and child safety concerns that are linked with law and order problems.
Traditional beliefs and superstitions about the causes of congenital or adventitious disability cited by the research participants include punishment by ancestral spirits for the breaking of tribal taboos, such as failure of a family member to comply with tribal obligations or rituals. Other cultural beliefs about the causes of disability are linked with witchdoctor curses and spells as a result of tribal warfare, disputes, or retribution for the death of a tribal member from an unknown cause. The birth of a child with a disability or the acquisition of disability during childhood is generally accompanied with family shame and social stigma, and as a result, children with disability are often kept out of public view and have restricted access to community activities (case study group 9). In addition, families have limited understanding of the causes of disability and the value of school for their children.

It was emphasised by case study group 5 that “resource centres must try to engage parents in rehabilitation … and increase understanding of their child’s disabilities … parents tend to have narrow minds and have no skills”. Further, SERC staff “present the community with a way out … rather than traditional beliefs and practices … we do not force people to change their view … parents and carers ask for counselling … they must accept the disability as the first step” (case study group 5).

Group (b) Geographical location

The second group of educational needs of children with disability and their families/carers are associated with the child and family’s geographical location (urban, rural, or remote). The quality and quantity of education and rehabilitation services and programs provided by schools and SERCs vary according to child and family geographical location. SERCs are generally located in urban centres, while the majority of their clients live in villages that are a considerable distance from the SERC. Case study group 9 highlighted the social isolation experienced by people with disabilities, particularly in non-urban
communities. “It is rare to have more than one client in a village … may have up to three … it is difficult to bring the people with disabilities together”.

Travel between remote villages and urban-based SERCs includes walking along rugged bush tracks to main roads, travel by boat along large river systems, and road travel by PMV (people moving vehicle). Concerns about the safety of children with disabilities when walking between home and school are linked with law and order problems, inter-tribal disputes, and inadequate policing in non-urban communities. Safety concerns have a negative impact on school enrolments of children with disability, in particular girls with disability. Families are reluctant to take their children with disability to SERCs due to the financial and time demands of the journey, and the risks of encountering “rascals” (law breakers) along the way. “Parents keep their children in the house … parents don’t want to bring children out of home. If parents take a positive response then we try to make a broader awareness to the community. We draw up the program and involve the immediate community” (case study group 5).

Group (c) School accessibility

The third group of educational needs of children with disability and their families is related to the level of accessibility of school classrooms and playgrounds. Physical inaccessibility of school environments, such as inaccessible school buildings, classrooms, toilets, and playgrounds was identified by the research participants as one of the main reasons why many school-age children with physical disability are enrolled in home and community SERC programs, rather than school-based programs. Barriers to school access are further compounded by the limited availability of wheelchairs and other physical mobility aids for children with physical and multiple disabilities, and the limited provision of hearing aids for children with severe hearing impairment and deafblindness.
Accessibility needs also include difficulties associated with the rough physical terrain that is common across Papua New Guinea, and the severely limited or non-existent school transport infrastructure.

*Group (d) Financial needs of families*

The fourth group of educational needs are related to the financial needs of families with children with disability, in particular families living in rural and remote villages. It was emphasised by several case study groups that, in non-urban regions, the financial costs of school fees, uniforms, and books are prohibitive for families relying on income from subsistence farming. “School fees are a big problem and families in villages look to the CBR team to help with this” (case study group 9). The research participants reported that children with disability are frequently kept at home to support the family’s livelihood. In such instances, the children help with household chores and the tending of the family’s crops and livestock.

*Group (e) Post-school employment and social and financial independence*

The fifth and final group of educational needs is related to the high levels of unemployment and limited social independence of adults with disability. The research participants highlighted the need for growth in school and community-based self-help and income generation training programs to enable children and youth with disability to become financially independent in adulthood. The importance of development of income-generation and survival skills for life in traditional rural communities and villages is emphasised in the *National Curriculum Statement 2002* (Papua New Guinea Department of Education, 2002b, p. 5). The Curriculum Statement highlights the importance of teaching and learning activities that prepare school leavers for employment in the formal and informal economy (p. 11).
Case study group 5 expressed their concerns about the absence of social welfare support systems for people with disability. As a result, children and adults with disability are dependent upon their families and wantok networks for housing, living, medical, food, and other needs across their lifespan. It was noted by case study group 5 that the National Board for Disabled Persons is promoting disability-related community development and improvements in the living conditions for people with disability.

Education issues associated with limited post-school employment options for people with disability were identified by several case study groups. The limited prospects of gaining paid employment were cited as a disincentive for families living in rural and remote communities to invest their limited financial resources in education for their children with disability. The importance of raising awareness among national, provincial, and local government bodies and private industries about the need for employment and job creation programs for people with disability was emphasised by case study group 2.

The following section presents the results based upon the third research question that relates to teaching and learning infrastructure (services, programs, and staffing) supporting education access and inclusion of children with disability.

4.4.3 Teaching and learning infrastructure (services, staffing, programs)

An extensive amount of case interview and documentary research data relating to teaching and learning infrastructure was analysed and synthesised during this study. The results are described using the following four topics: (a) education placement options and learning support staff supporting inclusion of children with disability; (b) the role of SERC; (c) formal, non-formal, and informal SERC programs; and (c) a case study of Mount Sion Centre for Disabled Persons.
4.4.3.1 Education placement options and learning support staff supporting inclusion of children with disability

The present study found that students with disability (special needs) are enrolled in the national education system of public, private, and faith-based elementary, primary, secondary, and post-secondary schools and educational institutions. Presented below is a brief description of each of the major education system placement options, and a supporting diagram may be found in Appendix E.

*Elementary schools (Preparatory, Elementary 1, and Elementary 2):* Compulsory education for children aged 6-8 years was formally established in 1997 by the government of Papua New Guinea (Morris & Stewart, 2005). Local communities are responsible for the provision of land for elementary schools, selection of elementary school teachers, and operation of elementary schools. School operation costs are generally funded through partnerships between the Provincial Divisions of Education, parents and communities, the church, and donor organisations. Wherever possible, the language of instruction in elementary schools is the native vernacular/language of the local region, and formal orthographies have been developed for approximately 400 language groups (p. 27). In urban elementary schools, where there may be a broad cultural mix of students, the language of instruction in elementary schools is generally the country’s official language, *Tok Pisin* (Morris & Stewart, 2005).

*Primary schools (Grades 3-8):* Primary education is compulsory, and consists of lower primary (grades 3-5) and upper primary (grades 6-8). Students generally enter primary education at age nine. The educational reforms to the primary education system include the incorporation of Grades 7 and 8 into the local primary system (Papua New Guinea Department of Education, 2009). One of the main purposes of this reform is to alleviate the need for students to leave their home communities to attend provincial or national high
schools and secondary schools. As a result, there has been an overall increase in the school retention rates to the end of Grade 8 (Papua New Guinea Department of Education, 2009). The languages of instruction in schools may be one or more of the official national languages of *Tok Pisin*, *Hiri Motu*, and English. English is generally the language of instruction in the upper primary, secondary, and tertiary levels of the education system (Morris & Stewart, 2005). The Central Intelligence Agency (2011) describes *Tok Pisin* as a creole language that is widely used and understood across Papua New Guinea.

*Post-primary education placement options:* The post-primary education system consists of a range of academic and vocationally-oriented education placement options. These include provincial high schools and secondary schools for students in Grades 7-12, national high schools for students in Grades 11 and 12, vocational centres for students who have completed grades 6 or 7, and technical and business colleges for students who have completed Grades 10-12 (Papua New Guinea Department of Education, 2009, p. 116). The National Department of Education also provides “flexible open distance education” (FODE) for students in Grades 7-12 who are not enrolled in the formal education system (2009).

*Mainstream school learning support staff*

Analysis of the research data indicates that “internal resource officers” (IROs) and volunteer teacher assistants are employed by the 21 provincial divisions of education. The learning support staffs are situated in mainstream schools and their main role is to provide learning support services and programs for students with disability and their teachers. The establishment of IRO positions was recommended in the initial and subsequent national special education plans (Papua New Guinea Department of Education, 1993, 2003a); however limited information about the IROs was identified in this study.
The limited information compiled relating to internal resource officers (IROs) suggests the IROs are generally mainstream classroom teachers who have completed short-term inclusive education and special education training programs. Teacher assistants are usually unpaid community volunteers, in particular members of the same wantok as the learner with disability, who assist the student to access the school curriculum. Unfortunately, this study did not uncover data relating to the recruitment, retention, and location of IROs and volunteer teacher assistants. This limited the conclusions and recommendations drawn from the study, and is a worthy area for future research.

The following section describes a second placement option for children with severe hearing impairments.

**School support units**

Students with deafness, severe hearing impairment, and other disabilities are offered the option of part-time placement in a school support unit. The units are situated in mainstream schools in regions with approximately 7-10 students with severe hearing impairments. In accordance with the guidelines of the national special education policy and plan, the location of the school support unit is determined on the basis of the presence of “the kind of family and local social cultures to support such an educational programme” (Papua New Guinea Department of Education, 2003a, p. 21).

The purpose of the school support units is to provide training in sign language, communication, and literacy support for the enrolled students, as well as their classroom teachers and peers situated in the schools where they are enrolled. Students with severe hearing impairment from local schools within the region attend the support units on a part-time basis. Depending upon the age and location of the student, accompanied or
unaccompanied travel between home and the support unit is undertaken by public transport, namely by PMV (people moving vehicle).

*School support unit staff*

The school support units are staffed by special education teachers who are closely affiliated with the special education resource centres (SERCs) situated in each province. In general, unit staffs have qualifications in special education, with specific training in the area of deafness and sign language. The role of unit staff is to provide sign language, communication, and literacy programs for students with severe hearing impairments, their mainstream school teachers, and peers. One of the challenges highlighted in this study was the provision of individualised programs by the support unit teacher for students of various ages, disabilities, and cultural and linguistic backgrounds.

The successful inclusion of students with disability in mainstream schools and school support units is supported by SERC and SERC sub-centres situated in 18 of the 21 provinces of Papua New Guinea. A general description of the SERCs and their staffing and programs follows.

**4.4.3.2 Special education resource centres**

Data analysis highlighted the important role of the network of SERCs in ensuring the successful integration and inclusion of children with disability in mainstream school settings. The SERCs are owned and managed by registered education agencies, and operated in partnership with the national, provincial, and district-level education authorities. In general, SERCs are owned and governed through partnerships between registered public, private, and faith-based education agencies, in particular through partnerships between the Catholic dioceses and Callan Services for Disabled Persons.
SERCs are affiliated member institutions of the national education system, and their activities are regulated by the *Education Act 1983 (Consolidated to No 13 of 1995)* (Independent State of Papua New Guinea, 2001a). One of the main roles of SERCs, as stated in the *Revised Policy and Guidelines for Special Education and Recommendations for Directions and Emphases 2004-2013* (Papua New Guinea Department of Education, 2003a), is the promotion of quality education for children with special needs in “ordinary schools” (p. 14). The policy identifies the associated SERC role of development and delivery of “special educational support to individual students and their teachers, through materials and program development, program trialling and monitoring, and direct support to the student’s teacher” (p. 3).

SERCs are identified in this study as the major providers of formal, non-formal, and informal learning support services and programs, and their development was one of the major recommendations of the education reforms of the 1990s, as prescribed in the first and subsequent special education plans, policies, and implementation guidelines (Papua New Guinea Department of Education, 1993, 2003a). Appendix D provides a summary overview of the location and number of clients of each SERC and SERC sub-centres in 2009.

**SERC staff**

SERC staffs identified in this study include a centre manager/administrator; education and rehabilitation coordinators, teachers, and field officers; office/administrative assistant, and community volunteers (who were situated in local communities). SERC education coordinators and teachers are employed by the NDoE, whereas the community-based rehabilitation (CBR) staffs are employed through SERC partnerships with the government departments of Health and Youth and Home Affairs, church agencies, and non-government and international development agencies. The staffs of each SERC work closely with
education, health, rehabilitation, and community stakeholders in their province to ensure SERC programs are responsive to local school, community, and family needs.

Figure 17 depicts the general organisational structure of the SERCs identified in this study, as constructed using interview and documentary research data (Callan Services for Disabled Persons, 2006; Redding, 2002). The organisational structures of the four SERCs that participated in this study are presented in Appendix E.

![Diagram of SERC structure](image)

*Figure 17. General organisational structure of the four SERCs that participated in this study*

The study highlights across-SERC variations in the staffing and services summarised in Figure 17. These variations are associated with variations in the population and geographical features of each province, as well as across-SERC variations in staff expertise and qualifications. This is evident in the comparison between the Wewak SERC situated in the East Sepik Province, and the Mount Hagen SERC situated in the Western Highlands Province. The geographical size of the Western Highlands Province is about one-fifth of the East Sepik Province, and consequently the organisational structure of the Mount Hagen SERC was substantially smaller than the Wewak SERC. Similarly, the Mount Hagen and Mingende SERCs are situated in the rugged Western Highlands and Chimbu Provinces, and
as a result both SERCs recruit large numbers of community volunteers to deliver SERC programs in rural and remote communities. A case study of the Mount Sion Centre for Disabled Persons is presented in Section 4.4.3.4 which follows to illustrate the staffing and programs provided by individual SERCs.

**SERC staff qualifications and backgrounds**

An overview of the professional qualifications of the SERC staff who participated in this study is included in Appendix E. The three major qualifications held by the SERC staff are as follows: (a) Certificate in Disability Studies (n = 12), (b) Bachelor of Special Education (n = 7), and (c) Diploma/Certificate in Primary Education (n = 7). It is noteworthy that three of the four staff members who had completed the Diploma of Management held positions of leadership as SERC managers or inclusive education coordinators. Further, the study’s participants highlighted that a number of SERC community volunteers had completed a short “associate” rehabilitation program provided by the Callan Studies Institute; however the precise number could not be determined.

**Training options.** Analysis of the research data revealed a range of pre-service, in-service, and post-graduate professional training programs in inclusive education and special education are provided by higher education institutions in Papua New Guinea (Callan Services for Disabled Persons, 2006; Independent State of Papua New Guinea, 2001b; Papua New Guinea Department of Education, 2002a, 2003a, 2004a). At the time of the study, tertiary institutions included seven Primary Teachers’ Colleges, the University of Papua New Guinea, the PNG Education Institute (PNGEI), the University of Goroka, and the Divine Word University (Papua New Guinea Department of Education, 2001b, p. 4, 2002c, p. 136).

The following section describes the educational programs provided by SERCs.
4.4.3.3 Educational programs provided by special education resource centres

Data analysis revealed that SERCs provide a diverse range of educational programs for children with disability, their families, and teachers. The programs are delivered in schools, homes, local community centres, hospitals and clinics, and resource centres (termed formal, non-formal, and informal settings). Non-formal and informal SERC services and programs are generally provided for children and adults with disability who are unable to attend their local schools due to a range of factors. Definitions of the terms “formal education” and “non-formal and informal education” settings are included in Chapter 1, Section 1.9.

Presented below is a description of the educational programs delivered in schools, followed by the programs delivered in non-formal and informal home and community settings.

SERC programs delivered in school settings

The National Curriculum Statement 2002 includes suggestions for adjusting classroom teaching methods to accommodate the diversity of children enrolled in mainstream schools, including children with special needs (Papua New Guinea Department of Education, 2002b). Of importance to this study, is the curriculum’s reference to the low status of women, ethnic minority groups, and children with special needs in the reform curriculum’s list of “present and future conditions” (p. 10). The reform curriculum promotes the participation of parents, community leaders, churches, and teachers in curriculum implementation at school and community levels.

Analysis indicated that the following five types of school-based programs are provided by the four SERCs that participated in this study. These programs support the individual learning needs of students with disability, and the professional needs of their teachers.
Group 1: Disability-awareness programs are provided by SERC staff as a means of raising awareness of the education rights of children with disability and promoting positive attitudes among the broad school community towards children with disability and their inclusion in mainstream schools.

Group 2: Direct student support programs, including development and monitoring of individual education plans (IEPs) for children with disabilities; and school-based screening and referral programs in the disability areas of vision and hearing impairment.

Group 3: Professional training workshops and teacher consultation programs are designed to increase the knowledge and skills of school staff (principals, head teachers, and classroom teachers). The training workshops and programs address such areas as adjustment and modification to the school curriculum, assessments, teacher programming, and pedagogy in order to promote equality of academic access and inclusion of children with disability. SERC staff also develop IEPs in collaboration with school staff, and monitor their implementation. SERC staffs comply with the Policy and Guidelines for Special Education (Papua New Guinea Department of Education, 2002a, p 6), which emphasises that some students with disability may require modifications to the mainstream curriculum and implementation of IEPs. The policy and guidelines include the following examples of IEP program content areas for children with disability:

- Children with severe vision impairment or blindness: Braille, orientation, and mobility;
- Children with severe hearing impairment or deafness: Multi-sensory communication and language development programs, including instruction in speech, auditory processing; sign language; provision and maintenance of hearing aids; auditory-verbal speech and language development programs;
• Children with intellectual disabilities: Self-care, socialisation, pre-vocational and vocational programs;
• Children with severe intellectual disabilities: Independent living programs;
• Children with behaviour problems: Behaviour management programs (Papua New Guinea Department of Education, 2002a, pp. 6-7).

Group 4: Vocational programs have been implemented by a number of SERCs as a means of addressing issues of unemployment among school-leavers with disability. Case study group 6 highlighted the need for a greater emphasis on job preparation programs as a means of reducing the high school drop-out rate among students with disability at the end of primary school (Year 8). However, it was emphasised that such programs are difficult to sustain due to the limitations in long-term funding provision by government and international donor partner organisations.

Group 5: Support unit programs, including sign language and communication programs for students with severe hearing impairments enrolled in mainstream schools in the surrounding area, together with sign language training for mainstream teachers and peers. The results indicated that support units also enrol students with other types of disabilities. Information about the types of programs provided for these students was not provided by the research participants.

Presented below is a description of the SERC programs delivered in home and community (non-formal and informal) settings.

SERC programs delivered in home and community settings

Analysis of the case interview and documentary data indicates that a range of learning support programs is delivered by SERC staff in non-formal and informal educational settings,
including community centres, family homes, hospitals, clinics, and SERCs. The recipients are families and their children with disability, who are not accessing school-based programs due to a range of factors. These factors include the nature and severity of disabilities; the presence of a parent or carer with a disability; exclusionary beliefs and attitudes about childhood disabilities among local school staff, community leaders, and families; and physical disabilities or geographical barriers limiting travel and physical access to school environments (see Section 4.4.2 detailing beneficiary needs).

One of the major purposes of non-formal and informal SERC programs is to promote the integration/transition of children with disability into the formal education system, in accordance with the national special education plans, policies, and implementation guidelines (Papua New Guinea Department of Education, 1993, 2003a). In many instances, programs provided by the four participating SERCs are delivered through collaborative partnerships with health and rehabilitation professionals employed by other agencies, including therapists and health professionals employed by the national and provincial health departments/divisions (Callan Services for Disabled Persons, 2006; Papua New Guinea Department of Education, 2003a, 2004a, 2009). The benefits of collaborative partnerships identified by the research participants include greater SERC staff access to local communities through links with pre-established programs of other agencies.

SERC programs delivered in homes and communities include the following:

- *Disability awareness programs*, aimed at promoting the medical causes of disability, the educability of children with disability, and the rights of adults and children with disability to access and inclusion in schools and communities. Community leaders and counsellors may be included in the SERC programs as a means of reaching out and engaging with parents. Case study group 4, for example,
noted the use of role plays on “mental disabilities” as a means of addressing negative parent and community attitudes and promoting increased school enrolments of children with intellectual disabilities and mental illness.

- *Disability screening, assessment, and referral programs* are conducted by education and rehabilitation professionals in close collaboration with parents and community leaders, and local organisations/groups of people with disability (DPOs).

- *Early intervention programs* and *home-to-school bridging/preparation programs*, including “play-time” and preschool programs. It was noted by several research participants that formal preschool education programs are not provided by education agencies at the time of the study. Analysis of the case interview and documentary data revealed that preschool education is not a component of the formal education system and, as a result, non-formal home, community, and/or centre-based pre-school programs were provided by a number of SERCs across Papua New Guinea (Papua New Guinea Department of Education, 2004a, 2004b, 2009). One feature of Papua New Guinea culture highlighted by the research participants is the tradition of oral story-telling rather than formal reading. Therefore, books consisting of traditional, oral-based stories are developed by a number of SERCs that can be read to children with disability by parents, carers, and siblings as a means of promoting reading readiness and emergent literacy skill development.

- *Vocational educational programs* for youth with disabilities who have not completed their formal education due to a range of factors. Programs address income generation methods, self-help and self-advocacy skills, and independent living skills. Case study groups 5 and 6 advised that some SERCs actively recruit school graduates with disability as SERC community volunteers in local village
communities. This approach enables the young adults with disability to serve as role models and mentors for children with disability, and inspires children with disability to enrol and complete their education.

- **Clinic and hospital-based education programs** for children and adolescents with disability who are medium to long-term hospital patients, or who require frequent medical and health services that prevent or limit school attendance.

- **Training programs for community volunteers**, including training in screening methods, disability awareness, types of disabilities, preventive measures, rehabilitation, and medical and education referral procedures.

- **Networking and partnership-building programs** with other key stakeholders in the region. Several research participants noted that SERC staff may be approached by other agencies to assist in program delivery or to provide their specialist knowledge of the needs of people with disability living in a particular region.

- **Outreach patrols** to rural and remote schools and communities, staffed by multidisciplinary teams of SERC education and rehabilitation officers and volunteers.

The following section presents an in-depth description of the range of programs provided during 2007 by one of the resource centres that participated in this study, namely Mount Sion Centre for Disabled Persons in the Eastern Highlands province. The case study features the Centre’s approach to program delivery in the rural and remote regions of the province.
4.4.3.4 Case study: Mount Sion Centre for Disabled Persons

Mount Sion Centre for Disabled Persons provides a range of formal, non-formal, and informal programs for children and adults with disability (termed “clients”) living in urban, rural, and remote regions of the Eastern Highlands province. A description of the Centre’s school-based and home and community-based programs follows.

Mount Sion Centre’s school-based programs

Mount Sion Centre supports students with disability and their teachers in the following seven schools and colleges: (a) Mount Sion elementary school; (b) West Goroka Primary School; (c) Ginitoke Primary School; (d) Sacred Heart Primary School, Faniufa; (e) Sacred Heart Primary School support unit, for students with deafness and severe hearing impairment; (f) Goroka Secondary School; and (g) Goroka Business College.

The following school-based programs were provided by the Mount Sion Centre staff during 2007:

- Disability and education awareness workshops for teachers, parents, carers, and guardians;
- Disability assessment, screening, and referral to health care professionals;
- Direct support for students with disability enrolled in mainstream classes;
- Teacher training in the “basics” of inclusive education;
- Vocational and income generation training programs for students with disability who were leaving school at the end of Grades 8 and 10;
- Partnership program with the Mount Sion Elementary School, including SERC recruitment and training of elementary school teachers and the active enrolment of young children with disability;
Staffing of the school support unit situated at Sacred Heart Primary School by a hearing impairment specialist, whose role is to provide sign language, communication, and literacy programs for the students with severe hearing impairment, their teachers, and classroom peers;

Provision of brailled text books to the Mount Sion braille resource centre for students with severe vision impairments enrolled in mainstream schools across Papua New Guinea; and

“In-house” professional development programs for Mount Sion Centre staff, for example training in braille, sign language, mental health, and referral processes.

For children with disability living outside a radius of 40 kilometres of the Mount Sion Centre, formal, non-formal, and informal programs are delivered by SERC community-based volunteers and by SERC “outreach patrols”. The range of non-formal and informal programs is described in the following section.

Mount Sion Centre's home and community-based programs

At the time of this study, Mount Sion Centre provided the following home and community-based programs for children and adults with disability who did not attend school due to a range of factors.

- Disability awareness programs to promote positive community attitudes and behaviours towards people with disability.

- Disability assessment, screening, prevention, and referral programs, in particular for children with vision and hearing impairments. These programs were delivered in a range of settings by multidisciplinary teams that included physiotherapists,
occupational therapists, and allied health professionals. (See Section 1.9 for a definition of “multidisciplinary team”.)

- Parent/carer counselling and community advocacy programs to promote empowerment of parents, families, and carers of people with disability. One research participant noted that “parents and carers ask for counselling … they must accept the disability as a first step”.

- Early intervention (EI) and early childhood care and education (ECCE) programs aimed at preventing developmental delays and promoting health and survival of children with disability.

- School readiness and story-telling programs to prepare children with disability for school enrolment.

- Activities of daily living (ADL), self-help, and income generating programs for adolescents and adults with disability, including produce and livestock farming.

- Resource provision, including books, stimulating toys, crutches, and wheelchairs.

- Networking with other service providers, including churches, and government and “mission-run” schools.

- Annual training programs for Mount Sion Centre’s community volunteers and parents, guardians, and carers of children and adults with disability.

One of Mount Sion Centre’s innovative approaches to program delivery in remote communities is the provision of outreach patrols, as described below.
Mount Sion Centre’s outreach patrols to remote communities

Mount Sion Centre provides “outreach patrols” to remote schools and communities across the Eastern Highlands Province. The outreach patrols are staffed by multidisciplinary teams of education and rehabilitation specialists. They are generally of one-week duration and take place approximately every three to six months. The patrols often include lengthy four-wheel drive and river journeys into remote regions of the province where villages are isolated from urban-based education and health infrastructure.

The research participants highlighted the extensive planning involved in successfully delivering the outreach patrols. All provisions, including assessment and training resources, food, and fuel, are taken along, thereby minimising the team’s reliance and demands on the communities being visited. During the planning phase, the upcoming patrol would be publicised in the target region through local networks of priests, school staff, and health centres, and also through local radio announcements. A process map of the steps involved in planning and delivering an outreach patrol, as described by the Centre’s research participants, is included in Appendix E.

Programs provided by the outreach patrols include early intervention, advocacy, education, and rehabilitation training programs for parents/carers, people with disabilities, school personnel, community volunteers, and other key stakeholders. Upon arrival in the target community, the patrol team generally commences with disability screening, assessment, and referrals to other health professionals. School and community-based disability and education awareness programs are considered an essential component of the programs provided; village school staffs are often unaware of the presence of disability among the student body, or the presence of “out-of-school” children with disability in the villages.
Concern was expressed by the participants about the high demands placed on Mount Sion Centre’s human and physical resource capacity to provide effective patrols to remote communities situated in the rugged and poorly accessible areas of the Eastern Highlands Province.

The following section describes the results based upon the third research question that relate to school and SERC enrolments rates for children and adults with disability. The description is supported by supplementary figures and tables included in Appendix E.

4.4.4 Education enrolment rates for children with disability

4.4.4.1 Introduction

The annual education report for 2008 indicated that 1,097,898 students were enrolled in Papua New Guinea schools (Papua New Guinea Department of Education, 2009, p. 101). Of this national study body, 2,321 students (or 0.21%) were reported to have some form of disability (p. 116). Furthermore, the 2008 annual education report stated that although total school enrolments had doubled between 1992 and 2008, there was static growth in school enrolments of students with disability (p. 116).

The major source of data relating to education enrolment rates for children with disability was annual SERC data compiled by the Papua New Guinea Department of Education (2008a, 2010). Analysis of the SERC enrolment data for 2009 indicated there were 5,697 adults and children with disability (termed “SERC clients”) enrolled in programs provided by SERCs situated in 18 provinces (Papua New Guinea Department of Education, 2010). The SERC clients represented approximately 1% of the national population of 6.3 million in 2009 (Central Intelligence Agency, 2011), which was well below the World Health Organisation’s estimated disability prevalence rate of 10% for any given country (World
Health Organization, 2003). The relatively low SERC enrolment rate suggests the presence of a large number of children and adults with disability who are marginalised from the educational services and programs.

Presented below are the results of analysis of the 2009 SERC enrolment data.

4.4.4.2 SERC enrolment patterns

A comprehensive analysis of the 2009 SERC enrolment data revealed substantial across-SERC and within-SERC variations in enrolment patterns (Papua New Guinea Department of Education, 2010). Research participant input into the causes of these variations suggested the following factors: (a) geographical location of SERC clients; (b) age, gender, and types of disability of SERC clients; (c) the areas of expertise of SERC staff employed in individual SERCs; and (d) availability of SERC vehicles and resources needed to deliver programs across each province.

A description of the SERC enrolment patterns identified through analysis and synthesis of the documentary data follows.

Geographical location of SERC clients

An analysis of documentary data revealed high variability in SERC enrolment rates as a percentage of the population of each of the provinces (Zimmermann, 2000, cited in City Population, 2010; Papua New Guinea Department of Education, 2010). The results are presented in Figure 18. The Gulf, Oro (Northern), and Central provinces are not included in the figure as there were no SERCs situated in these three provinces.
As evidenced in Figure 18, SERC enrolment rates as a percentage of province population, ranged from 0.01% in the Morobe province to 0.55% in the West Sepik Province (Callan Services for Disabled Persons, 2006; Papua New Guinea Department of Education, 2010). The figure shows the following rates for the four SERCs that participated in this study:

- Mount Sion Centre for Disabled Persons: 263 clients representing 0.06% of the Eastern Highlands Province population of approximately 433,000;
- Wewak SERC: 557 clients, representing 0.16% of the East Sepik Province population of approximately 343,000 (PNG Tourism, 2010);
- Mingende SERC and Simbu SERC: Combined total of 956 clients, representing 0.37% of the Simbu/Chimbu Province population of approximately 260,000; and
- Mount Hagen SERC: 315 clients, representing 0.07% of the Western Highlands Province population of 440,000 (City Population, 2010; Papua New Guinea Statistics Office, 2010).
An analysis of the SERC enrolment data for 2007-2009 revealed an overall decline of 8% in enrolments over the three year period, with SERC enrolments of 6,162 in 2007, and 5,697 in 2009 (Papua New Guinea Department of Education, 2008a, 2010). The data indicated across-SERC variability in enrolment rates. In the Bougainville province for example, the number of SERC clients had fallen by 27% from 1,487 clients in 2007, to 405 clients in 2009. The reasons for this dramatic reduction in the number of Bougainville SERC clients may be associated with the secessionist movement and civil war in Bougainville that took place between 1989 and 1999 (Government of Papua New Guinea & United Nations in Papua New Guinea, 2004, p. 6; Morris & Stewart, 2005, p. 22).

The following section presents the results of comparative analysis of 2009 SERC program enrolments and the age, gender, and types of disability of SERC clients (Papua New Guinea Department of Education, 2010). The discussion is supported by a series of tables and graphs included in Appendix E which provide additional description of the SERC client enrolment pattern.

**SERC programs**

The six types of SERC programs identified in the SERC data are as follows: (i) monitoring, (ii) integration, (iii) community-based rehabilitation (CBR), (iv) home-based, (v) support unit-based, and (vi) SERC-based programs. The SERC program pattern summarised in Figure 26 indicates that during 2009, almost half (49%) of all SERC clients were enrolled in community-based rehabilitation programs. The second largest group was 1,059 clients (19%) enrolled in school-based integration support programs. Monitoring and SERC-based program enrolments represented 14% and 13% respectively of the total SERC clients, and home-based programs accounted for 5% of the total clients. The smallest group of enrolments (1%) was enrolments in education programs delivered in school support units. Across-SERC
variability in program enrolments was evident at a national level and between the four participating SERCs. The largest variation related to monitoring programs, which accounted for 32% of clients of the four participating SERCs and only 14% of SERC programs nationally.

Research participant explanations for the variability in the program enrolment pattern across the five age groups included across-SERC variability in staff expertise and program classification. The Wewak SERC and Mount Sion Centre for example, employed education staff to support elementary and primary school programs, and as a result had larger client enrolments in school-based programs than the Mount Hagen and Mingende SERCs. Furthermore, the program classification of “monitoring” was used by the Wewak SERC staff in relation to school-based IEP monitoring programs, whereas the Mount Sion Centre staff used the classification of “monitoring” to refer to programs delivered in non-formal educational settings, such as work placements. Inconsistencies in the program classification system limited the scope of comparative data analysis of SERC program data.

**SERC program enrolments and age of clients**

The age distribution of the total 5,697 SERC clients in 2009 included 3,931 (69%) clients aged 0-18 years, and 1,766 (31%) clients aged over 18 years. Presented below is a description of the results relating to SERC program enrolments across the five age groups.

**SERC clients aged 0-5 years (n = 494)**

The total number of SERC clients aged 0-5 years represented 0.0008% of the country’s population in this age cohort (UNDP, 2009b). SERC programs offered to children with disability aged 0-5 years nationally were limited to non-formal community-based, home-based, and centre-based programs, reflecting the lack of formal pre-school education in Papua
New Guinea at the time of the study. An analysis of the data for the four SERCs that participated in this study showed that three of the SERCs focused upon CBR programs for children with physical and sensory disabilities in the 0-5 age group. The exception to this pattern was the Mount Hagen SERC, which had the largest number of enrolments and the most diverse range of disabilities among this age cohort.

*SERC clients aged 6-8 years (n = 1,316)*

SERC clients aged 6-8 years were enrolled in a broad range of formal (school-based) and non-formal (home, community, and SERC-based) programs. It is noteworthy that although elementary school attendance is compulsory in Papua New Guinea, only 20% (263 children) in the 6-8 year cohort were enrolled in school-based integration programs. Of the four participating SERCs, 72% of Mount Hagen enrolments and 63% of Mount Sion Centre clients aged 6-8 years were enrolled in non-formal programs. In comparison, 96% of Wewak SERC’s clients aged 6-8 years were enrolled in school-based monitoring programs. This was linked with the Wewak SERC’s staffing, which included 12 elementary school teachers that were situated in St Benedict’s Elementary School and St Francis Elementary School (see organisational chart included in Appendix E).

*SERC clients aged 9-14 years (n = 1,206)*

No discernible pattern was apparent in the SERC program enrolments for children aged 9-14 years, with variability in enrolments nationally and across the four participating SERCs. It is noteworthy that although education was compulsory until the end of primary school at Year 8, 38% of the 9-14 year age group were enrolled in non-formal and informal SERC programs delivered outside of school settings.
SERC clients aged 15-18 years (n = 914)

An analysis of the SERC data indicated that 57% of SERC clients aged 15-18 years were enrolled in community-based rehabilitation (CBR) programs. Enrolments in school-based programs were 23% fewer than in the enrolments of the 9-14 year-old cohort, highlighting that 43% of 15-18 year-olds with disability are not enrolled in secondary education. One exception to this shift from formal to non-formal programs for 15-18 year-olds was the Mount Sion Centre enrolment pattern, which indicated that 69% of their 15-18 year-old clients were enrolled in secondary school programs, in particular at the Goroka Secondary School.

The Papua New Guinea Department of Education (Papua New Guinea Department of Education, 2009) linked the low secondary school enrolment rates for all students with inadequate provision of school infrastructure, over-crowding, and serious shortages of qualified teachers, textbooks, and school materials (pp. 31-32). Contributing factors to the school drop-out rate for 15-18 year-olds with disability identified by the case study groups included the non-compulsory nature of secondary education, and the government requirement that students must pass formal examinations at the end of Year 8 in order to graduate and proceed to secondary school.

SERC clients aged over 18 years (n = 1,766)

The major types of disabilities among the adult SERC clients were mild to severe physical disability and sensory (vision and hearing) disabilities. This suggests that adults with other types of disability are not receiving SERC support. There was a marked change in the SERC enrolment pattern for adult clients aged over 18 years, with 97% enrolled in non-formal SERC programs (Papua New Guinea Department of Education, 2010). It is noteworthy that of the 87% of adult clients enrolled in CBR programs provided by the 21
SERCs, 60% of this cohort were enrolled in the programs provided by only four SERCs, namely the Aitape, Alotau, Madang, and Mingende SERCs. The reasons for this phenomenon were not apparent in the national data. The enrolment pattern suggests the need for growth in education and literacy programs for adults with a range of disabilities.

**SERC program enrolments and gender of clients**

An analysis of the 2009 SERC enrolment data indicated that females represented 42% of SERC clients nationally, with females underrepresented in all disability groups (Papua New Guinea Department of Education, 2010). The highest level of gender inequity was among SERC clients with intellectual disability, where girls represented only 38% of this cohort. Comparative analysis of the relationship between gender and age of SERC clients indicated that females represented 44% of students with disability who were aged 6-18 years, that is, of school age. This contrasts with the 40% representation of females among SERC clients who were either too young or too old to attend school, that is, clients aged 0-5 years and aged over 18 years. The reasons for the lower enrolment rates of female SERC clients outside the school-age group may be associated with the social, cultural, and safety needs described in Section 4.4.2 of this chapter.

**SERC program enrolments and types of disability of clients**

An analysis of the national SERC data for 2009 provided by the Papua New Guinea Department of Education (2010) revealed across-SERC variability in disability prevalence (Papua New Guinea Department of Education, 2010). The three major types of disability among the total 5,697 SERC clients were mild to severe physical disabilities (30%); hearing impairments and deafness (19%); and (c) learning disabilities (19%). An analysis of the three major disabilities of the participating SERCs indicated the following variations:
• Mount Sion Centre: Blindness and vision impairment (27%), learning disability (22%), and deafness and hearing impairment (20%);

• Wewak SERC: Learning disability (64%), mild to severe physical disability (20%), and deafness and hearing impairment (8%);

• Mount Hagen SERC: Deafness and hearing impairment (43%), vision impairment and blindness (19%), and mild to severe physical disability (18%);

• Mingende SERC: Mild-to-moderate physical disability (43%), hearing impairments and deafness 22%, and blindness (18%).

The high prevalence of blindness and vision impairment among Mount Sion Centre clients was attributed to the Centre’s historical origins as a “school for the blind” in the 1980s. At the time of the study, Mount Sion Centre programs included boarding facilities for approximately 20 students with vision and hearing impairments who were enrolled in local mainstream schools. Ten of the boarding students were from the East Sepik Province, and 10 were from other provinces across Papua New Guinea. However, since completion of the case study interviews, the boarding hostels have been closed and the students have returned to their village communities.

Presented below is a description of the SERC enrolment patterns across the disability groups of SERC clients.

*SERC clients with mild to severe physical disabilities (n = 1,647)*

Children and adults with mild to severe physical disabilities were the largest cohort of SERC clients, representing 30% of all clients nationally. The range of disabilities included in the “physical disability” group included mild, moderate, or severe cerebral palsy, muscular
dystrophy, arthritis, limb amputation, spinal cord injury, polio, spina bifida, hydrocephalus, paraplegia, hemiplegia, and epilepsy (personal communication, A. Koima, 2011). The results indicated substantial variation in enrolment rates for clients with physical disabilities across the five age groups, ranging from 14% of all 6-8 year-old SERC clients, to 50% of all clients aged over 18 years (Papua New Guinea Department of Education, 2010). Clients with physical disabilities were generally enrolled in community, home, and SERC-based programs.

SERC clients with learning disability ($n = 1,091$)

Children and adults with learning disability represented the second largest group of SERC clients, representing 19% of clients nationally. The largest age cohorts of clients with learning disability were school-age clients aged 6-8 years (29%), 9-14 years (16%), and 15-18 years (12%). Learning disabilities were present among only 2% of SERC clients aged 0-5 years, and 1% of clients aged over 18 years (Papua New Guinea Department of Education, 2010). The majority of school-age SERC clients with learning disability were enrolled in school-based integration and monitoring programs.

The relatively high levels of enrolments of children and youth with learning disability in the school-age group suggest an emphasis on the identification and enrolment of children and youth with learning disability in mainstream schools supported by individual SERCs who have expertise in the area of learning disability. The low enrolment rates of young children (0-5 years) and adults (over 18 years) with learning disability suggest several possible causes. The first possible cause is limited identification of people with learning disability who are not of school age, due to the academic indicators of learning disability (for example, literacy and/or numeracy difficulties). Other possible causes are limited SERC program options for
young children and adults with learning disability who were not of school age; and/or limited
SERC program engagement of families with children with learning disability.

It was noteworthy that the Wewak SERC enrolment pattern for 2009 included 345
children with learning disability aged 6-8 years who were enrolled in monitoring programs.
Similar enrolments of children with learning disability were not evident for the other three
SERCs or across the other age groups of Wewak SERC clients. It may therefore be assumed
that children and adults with learning disability generally receive little specialist support in
schools.

**SERC clients with hearing impairments and deafness (n = 1,090)**

Children and adults with hearing impairments were well represented across all SERC
client age groups in 2009 (Papua New Guinea Department of Education, 2010). They
represented 19% of SERC clients nationally. Analysis of SERC clients by age group
indicated that clients with hearing impairments and deafness represented 20% of clients aged
0-5 years, 42% of clients aged 15-18 years, and only 12% of adult clients aged over 18 years.
Children aged 0-5 years with hearing impairments were enrolled in non-formal and informal
SERC programs, whereas a large percentage of the 6-18 year cohort were enrolled in school-
based (formal) programs.

**SERC clients with vision impairments and blindness (n = 814)**

Children and adults with vision impairments and blindness represented 14% SERC
clients nationally. However, there were national variations in enrolments of clients with
vision impairments and blindness across the client age groups, ranging from 11% of total
clients aged 0-5 years, to 20% of total clients aged over 18 years (Papua New Guinea
Department of Education, 2010). The majority of school-age children and youth with vision
impairment (aged 6-18 years) were enrolled in integration and monitoring programs, whereas
the majority of adults with vision impairment were enrolled in CBR and SERC-based
programs. It was noteworthy that there were twice as many SERC clients aged 0-5 years with
blindness as with low vision, suggesting better detection of young children with blindness
through community, hospital, and clinic screening programs.

SERC clients with multiple disabilities (n = 523)

Children and adults with multiple disabilities represented 9% of SERC clients
nationally, with the majority of clients with multiple disabilities enrolled in CBR and other
non-formal SERC programs. Enrolments of clients with multiple disabilities ranged from
15% of clients aged 0-5 years, to 10% of clients aged over 18 years (Papua New Guinea
Department of Education, 2010). Clients with multiple disabilities included those with
deafblindness. The results suggest that the complexity of multiple disabilities limits access
and participation in school-based programs.

SERC clients with intellectual disability (n = 299)

SERC clients with mild, moderate, and severe intellectual disability represented 6% of
the total clients aged 0-18 years, and 3% of clients aged over 18 years (Papua New Guinea
Department of Education, 2010). The highest percentage of SERC clients with intellectual
disability was aged 0-5 years (8%). Analysis of unpublished 2006 SERC client data provided
by one case study group showed that SERC clients with intellectual disability included
people with mental illness.

The pattern of 2009 SERC program enrolments for children and adults with intellectual
disability showed there were greater enrolments in community-based rehabilitation (CBR)
and centre-based programs across four of the five age groups of SERC clients. The only
exception was primary school-age children with intellectual disability aged 9-14 years, who were represented in school-based integration support programs.

SERC clients with emotional and speech impairments (n = 233)

Adults and children with emotional disabilities represented 2% of the total SERC clients. Children and adults with emotional disability represented 7.6% of the total SERC clients aged 0-5 years, and between 0.2% and 2.7% of the other four age groups of SERC clients. Adults and children with speech impairments also represented 2% of the total clients. Enrolments of clients with speech impairments ranged from 0.5% of the 15-18 year cohort to 2-3% of all other cohorts. It was interesting to note that SERC clients with emotional disability represented a larger percentage of enrolments of children aged 0-5 years (10%) and 6-8 years (8%) than any other age group (Papua New Guinea Department of Education, 2010). The reasons for this were not apparent in the research data.

The pattern of SERC program enrolments for clients with emotional and speech impairments varied across the five age groups. The majority of SERC clients with emotional and speech impairments were enrolled in home-based, centre-based, and CBR programs, rather than school-based integration and monitoring programs.

The following section presents the final group of results relating to the Papua New Guinea study.
4.5 Research question 4: Priorities for future growth

4.5.1 Introduction

The study’s fourth research question was related to the future priorities of leaders and practitioners in the area of disability. The question was expressed as follows:

*What do current leaders and practitioners declare are the national priorities for the education system for children with disability?*

An answer to the fourth research question required the collection and analysis of the personal and professional perspectives of the Papua New Guinea study’s 19 participants. The interview schedule used during the case study interview included three questions relating to current and future priorities for growth of the education system for children with disability (see Appendix D, Table D1). As a result of analysis, 19 priorities were identified and these are presented below under the following headings: (i) leadership and governance priorities; (ii) human capital priorities; and (iii) priorities in education services, programs, and enrolments.

4.5.2 Leadership and governance priorities

*Priority 1: Government leadership and financial commitment in the area of disability*

The nine case study groups emphasised the need for strong government leadership and financial commitment to growth in the education system capacity in the area of disability in order to increase enrolments of children with disability and the quality of education provision. The substantial leadership and financial support provided by the church, national
and international organisations, and other key stakeholders (listed in Table 4) to develop educational infrastructure in the area of disability was acknowledged by two of the participating education leaders.

The following three priority areas for growth in leadership in the area of disability were identified by the case study participants: (i) government leadership in the implementation of education policies and plans for inclusive education of all children, including children with disability; (ii) government leadership in implementation of the national building accessibility codes when approving the construction of schools and public buildings; and (iii) National Education Board leadership in the implementation of braille and sign language instruction in schools enrolling children with vision and hearing impairments.

**Priority 2: Stakeholder partnerships**

The educational leaders emphasised the importance of partnerships between government, civil society, and international stakeholders in the delivery of a sustainable system of educational provision for children with disability. Stakeholder partnerships included such areas as education priority setting, financial and fiduciary management and accountability, and establishment and maintenance of learning support infrastructure (staffing, services, and programs). The costs associated with professional training of SERC staff for example, were generally paid through partnerships between government and non-government education agencies and/or international donor organisations. Case study group 6 acknowledged the work being done by the National Department of Education and Callan Services to increase financial provision for inclusive education of children with disability, and the importance of involving all stakeholder groups. “… It should involve Edmund Rice laymen and staff, families of people with disabilities and the government … all should come together and put their hands together to make change” (case study 6).
**Priority 3: Government partnerships with organisations of persons with disability**

The importance of government partnerships with organisations of persons with disability (DPOs) in the area of DPO capacity-building and community development were highlighted by several case study groups. Case study group 5 highlighted the importance of government financial assistance for DPOs and individuals with disability, noting that “at the present time there are no benefits … if you are not a worker then there is nothing ... there is a social welfare department but people with disability don’t receive any social welfare”. Case study group 6 suggested the government allocate a percentage of its budget for national workshops for people with disabilities and actively promote employment of people with disabilities.

**Priority 4: Government commitment to sustainable education system growth in rural and remote regions**

Priorities identified by the case study groups included growth in the government’s financial commitment to the development of high quality and sustainable educational infrastructure supporting children with disability in rural and remote regions. The education leaders who participated in this study emphasised the higher costs associated with delivery of SERC programs to rural and remote schools and communities. “… it costs 250 Kina to visit a child in a school … this can tie up a SERC staff member for one week, with time and money limitations”.

Case study groups 3 and 4 raised concerns about the short-term nature of funding agreements between individual SERCs and major international donor organisations. Concerns were related to the reliance on international development organisations to fund outreach services to rural and remote communities and the short to medium-term nature of these
agreements. This created uncertainty about whether the funding would continue, which would jeopardise the long-term sustainability of the internationally-funded programs for children and adults with disability. The fourth case study group, for example, noted that “we need to build in sustainable systems and strengthen relationships with the government to get support programs in recurrent budget”.

**Priority 5: Improvements in data collection, management, and reporting systems**

The importance of annual national data on educational enrolments, retention, and achievement rates, together with data on the prevalence and causes of disabilities in children and adults, was highlighted by the educational leaders who participated in this study. The leaders highlighted the importance of education and demographic data relating to children with disability in the monitoring of educational infrastructure (services, programs, and staffing) at national, provincial, and district/local school levels. Suggestions for improvements in current data collection methods offered by the case study groups included the recording of disability on the birth registration forms, and implementation of a national government survey to identify the prevalence of childhood disabilities and provision of educational services, staffing, and programs.

**Priority 6: Improved school governance through growth in the recruitment and training of “inclusive education standards officers”**

Three case study groups identified the need for growth in the employment of inclusive education standards officers (formerly called “school inspectors”) employed by the national and provincial departments/divisions of education, and expansion of their responsibilities for monitoring and reporting school implementation of the government’s inclusive education policy. It was emphasised that, at the time of this study, there was only one “inclusive
education standards officer” employed by the National Department of Education. Such a situation was believed insufficient to ensure the implementation of high quality inclusive education programs by urban, rural, and remote schools across Papua New Guinea (case study group 2).

A government review of the job description for national and provincial education standards officers, and expansion of responsibilities to include “inclusive education” inspections of schools were recommended by case study groups 4 and 7. The inspection responsibilities suggested by the case study groups included school monitoring and reporting on (a) the implementation of high quality, inclusive education teaching programs, and curriculum and examination/assessment adjustments and accommodations for children with special needs, and (b) school efforts to promote and support enrolment and retention of children with disability.

**Priority 6: Growth in the financial skills of SERC managers and coordinators**

It was noted by two case study groups that improvements were needed in the provision of training in bookkeeping and financial management for SERC managers and coordinators who were responsible for the annual acquittal of donor funds, the production of biannual SERC reports, and the collection of annual client data. At the time of the study, such training was generally limited to short courses provided by the National Department of Education and Callan Studies Institute. Several who participated in this study identified their desire to enrol in the Diploma of Management program provided by Divine Word University, subject to the availability of sponsorship funding.

The following section presents seven priorities of leaders and practitioners in the area of disability that relate to the recruitment, training, and retention of educational staff in schools and SERCs.
4.5.3 Human capital priorities

Priority 7: Recruitment and training of “internal resource officers” in mainstream schools

Five case study groups highlighted the need to strengthen the capacity of local schools to include children with disability in the academic and social life of schools and school communities. The provision of school-based learning support staff would help address the limited human capital of schools in the area of disability, and the over-reliance of schools on the small number of SERCs and SERC sub-centres dotted across Papua New Guinea. In 2008, for example, the Provincial Divisions of Education employed 93% of the 99,544 mainstream classroom teachers, and 57% of the 132 special education staff (Papua New Guinea Department of Education, 2009, p. 119).

Priority 8: Growth in the professional skills of mainstream school staff (principals, teachers)

Five case study groups identified the need for growth in the number of mainstream school staff (principals and teachers) with knowledge and skills in the area of disability. Three case study groups emphasised that school staff (principals, head teachers, and classroom teachers) requested professional training and resource support in the area of curriculum and pedagogy adjustments and modifications to address the individual learning needs of students with disability, and training in specialised areas such as braille literacy, sign language, and the development and implementation of individual education plans (IEPs). The high dropout rates of adolescents with disability at the end of primary school (Year 8), and at the end of lower secondary school (Year 10), suggested the need for an increase in
adjustments and accommodations to the Year 8 and Year 10 national examinations for students with disability (Papua New Guinea Department of Education, 2010).

The importance of schools’ accepting responsibility for IEP development and monitoring was highlighted by several case study groups. In many instances, individual education plans were not developed by schools that did not receive direct support from SERCs. It was highlighted by several education leaders that many SERCs had established formal agreements (memorandums of understanding) with individual schools as a means of promoting school responsibility for IEPs development and monitoring. It was emphasised by the education leaders that this approach, although effective with the small number of schools receiving SERC support, was insufficient to address the broader resource capacity limitations of schools in the area of inclusive education for students with disability.

*Rural and remote schools.* Four of the case study groups emphasised the importance of professional training in the area of disability for mainstream school principals and teachers situated in rural and remote schools that were geographically distant from the urban-based SERCs. One education leader noted that “we will need a national program that will involve the provincial divisions and SERCs, but the focus will be on the school itself … the teacher takes responsibility”. Further, one of the case study groups emphasised that in situations where there was only one child with a disability in a village, the SERC staff encouraged the family to enrol this child in the local village school. The SERC staff “…look at the nearest school and try to resource a teacher…” (case study group 9).

**Priority 9: Incentives for mainstream school staff to support children with disability**

Several case study groups highlighted that mainstream teachers undertaking further training in the area of disability are expected to carry out additional duties with students with disability without appropriate salary increases, time allocation, or other incentives. As a
result, there are limited incentives for mainstream teachers to undertake IRO training programs provided by SERC staff. As noted by one case study group, “mainstream teachers that are trained … are expected to carry out extra work for children with special needs … in-servicing is not always successful”.

The case study groups emphasised that the role of government should include the establishment of government regulations and financial and non-financial incentives that are linked with the completion of further training and specialist teaching in the area of disability. Incentives suggested by the case study groups included public acknowledgement of mainstream schools with high enrolment and retention rates for students with disability, and professional acknowledgement and salary and entitlement increases for classroom teachers who complete inclusive and/or special education training, and implement inclusive classroom programs.

**Priority 10: Recruitment, training, and retention of SERC staff**

The majority of case study groups recommended greater emphasis on training programs for SERC staff, including SERC community volunteers. The documentary information provided by the research participants showed that the SERC staff represented only 0.13% of the overall number of education staff employed by the NDoE and 21 provincial divisions of education (Papua New Guinea Department of Education, 2009). One education leader who participated in this study highlighted the need to address the diversity of disabilities and to lift education standards. This leader asked the question “who will resource the resource teachers?” (The term “resource teacher” is defined in Section 1.9 of Chapter 1.)

The need for a greater number of district-level SERC coordinator positions to oversee the expanding programs provided by SERCs and their district-level sub-centres was highlighted by several case study groups. The existence of “pockets” of staff specialisation in
individual SERCs was considered an important area to address. Examples cited included the Mount Sion Centre staff specialisation in the area of vision impairment, and the Wewak SERC staff specialisation in the areas of hearing impairment and learning disability.

Training needs identified by the case study groups included sign language, braille, and teaching methods for children with autism or mental illness, and children with disability aged 0-6 years. Three of the case study groups recommended the inclusion of school-based practicum for SERC staff undertaking special education and inclusive education training programs. This would enable SERC staff to apply newly acquired knowledge and skills to their work in schools. Such links between inclusive education theory and classroom practice were considered beneficial to SERC staff, classroom teachers, and students with disability. Classroom teachers would gain insights and understanding of inclusive teaching and assessment methods, thereby improving retention and achievement rates of their students with disability.

Priority 11: Growth in tertiary-level training programs in the area of disability

Closely aligned with the priorities relating to the professional skills of mainstream and special education personnel is the priority of improving the number and range of tertiary-level programs in the area of disability. The case study groups noted that several tertiary institutions employed lecturers who taught only single units in inclusive education or special education as a part of the primary and secondary teacher training programs. These institutions included the Papua New Guinea Education Institute, University of Papua New Guinea (UPNG), and the teacher training colleges in Rabaul and Lae.

At the time of the study, Callan Studies Institute, in partnership with Divine Word University, was one of the major providers of professional training programs for mainstream school and SERC staff, including degree and non-degree professional training programs in
inclusive education, special education, disability studies, and early childhood education (see Table 4.3). Callan Services also supported the recruitment of academic staff in the area of disability to provide professional training in inclusive education and special education at the University of Goroka, Kabaleo Teachers’ College in Rabaul; and Holy Trinity Teachers’ College at Mount Hagen.

**Priority 12: Government recognition of SERC community-based staff providing education programs**

Several of the education leaders who participated in this study noted that the government was exploring ways of decentralising educational services and programs for children with disability to rural and remote regions. It was highlighted that the Callan Services model of community-based education and rehabilitation service delivery by SERC staff and community volunteers was being considered by the government as a potentially effective means of supporting children and families in rural and remote regions. However, the education leaders highlighted the need for professional recognition of all SERCs providing education programs in schools, homes, and communities. At the time of this study, the Teaching Service Commission of the National Department of Education did not identify SERC community-based rehabilitation (CBR) staff providing community-based education programs. Further, the *Teaching Service Act 1988, updated 1995* (Independent State of Papua New Guinea, 2001b) did not address the employment status of SERC staff with qualifications that are outside the field of education. As a result, SERCs relied on the funding of non-teaching staff positions by other government departments such as Health, and Youth and Home Affairs, and by international development agencies. This was an area of concern for the education leaders, as the long-term provision of community-based education programs could not be guaranteed. Several education leaders noted that the government was reviewing
the status of CBR staff employed in SERCs in order to determine whether the National Department of Education should take some responsibility for their salaries and entitlements (case study 2).

**Priority 13: Growth in SERC community volunteer incentives**

All nine case study groups highlighted the importance of community volunteers in the delivery of SERC programs in rural and remote communities and in providing a bridge between rural and remote communities and the urban-based SERCs. Five of the case study groups expressed concern about the reliance on community volunteers by SERC managers and staff, and challenges of recruiting, training, and retaining volunteers over time. Two of the case study groups noted that community volunteers were often the first point of contact for families with children with disabilities in rural and remote communities, and generally accompanied families when visiting SERCs, clinics, and hospitals. The types of programs provided by community volunteers included disability screening, assessment, and referral programs; and early childhood intervention, rehabilitation, and school readiness programs.

The importance of incentive programs to recruit and motivate community volunteers was emphasised by several case study groups. One case study group, for example, highlighted that only 150 of its 200 volunteers were active in delivering programs in their local communities. It was emphasised that this SERC had tried different ways to address the issue of volunteer incentives, noting “(we) have a lot of volunteers … one incentive is training but times are changing and people are busy earning a living”.

Areas of future growth recommended by four case study groups were government support (financial and human) for community volunteer training programs delivered by SERC, and also government provision of a small annual stipend for each community volunteer to cover costs associated with the delivery of community-based education and
rehabilitation programs for children and adults with disabilities and their families.

“Volunteers need incentives … SERCs could not run without them. But money is a problem … volunteers should be paid”. One education leader noted that “20 kina per person in a community is a good amount … [to buy] kerosene for lamps, medicine when sick … bit of food (case study group 3).

It was noted, however, by four of the case study groups that SERCs faced financial and human capital challenges in providing centre-based and community-based training and support programs for community volunteers. The limited finances of SERCs, for example, prevented SERC managers from covering the costs of travel, accommodation and living expenses of community volunteers attending SERC-based training programs or accompanying rural and remote clients requiring medical or other urban-based treatment and support.

The following section presents seven priorities of leaders and practitioners in the area of disability that relate to child and family educational needs and the provision of teaching and learning infrastructure. As with the preceding group of priorities, the ordering of the priorities does not indicate a ranking of their overall importance.

4.5.3 Priorities in educational services, programs, and enrolments

Priority 14: Growth in school resources supporting students with disability

Five of the case study groups identified the need for an increased number of educational resources to support the delivery of education programs in urban, rural, and remote communities. Educational resources identified by the case study groups included resources for early literacy development, for example picture books; general and specialist curriculum and learning support aids (hearing aids, low vision aids, braille writing
equipment, brailed textbooks, exercise books, pencils); and physical aids (wheelchairs, walking frames, splints). It was emphasised by several case study groups that without the provision of such resources, classroom teachers found it difficult to ensure children with disability had adequate education support to ensure equality of access and participation in teaching and learning activities, and equality of access to the physical and school environment.

**Priority 15: Growth in SERC capacity**

All nine case study groups prioritised growth in the capacity of SERCs to expand their services and programs in response to growing school and family demand. Areas of growth included the following: (a) growth in the number of SERC sub-centres in rural and remote communities; and (b) growth in SERC programs and training resources.

**(a) Growth in SERC sub-centre capacity**

All nine case study groups prioritised growth and decentralisation of the predominantly urban-based SERC services and programs. Several education leaders and case study groups highlighted the need for a greater number of SERC sub-centres in rural and remote regions of each province as a means of supporting and motivating SERC community volunteers. The education leaders highlighted the need for sustainable disability services in the remote islands of Papua New Guinea. The following example was cited:

*20 SERC staff went in a boat with all kinds of services. This had never happened before. They found deaf children who had a natural sign language ... also found HIV AIDS, TB, malaria and lots of yaws [ulcers] ... There was a school but no health services ... people with disabilities die on the island. The nearest health*
service is 40 minutes by outboard motor ... the people want training (case study group 1).

(b) Growth in SERC programs and resources

The following two priority areas for growth in school, home, and community-based SERC programs were identified by five of the case study groups and supported by the documentary data: (i) growth in disability assessment, screening, and referral programs for babies and young children living in rural and remote communities, accompanied by growth in home and community-based early intervention and school readiness programs for their families (case study groups 5 and 7); (ii) establishment of kindergarten (pre-school) programs and community-based literacy and education readiness programs in rural and remote communities; and (iii) establishment of self-help and income generation training programs for adolescents and adults with disabilities (Papua New Guinea Department of Education, 2010).

The conclusion section that follows presents a summary overview of the Papua New Guinea results relating to each of the four research questions.

4.6 Conclusion

This chapter detailed the results of analysis and synthesis of the case study interview and documentary data compiled during the study of the Papua New Guinea system of educational provision for children with disability. Analysis and synthesis of the extensive research data were supported by the study’s analysis model, with refinements made to the model as a result of its application to the analysis and synthesis process. A summary overview of the results relating to each of the four research questions follows.
Research question 1

The long-term goal for education of children with special needs (disabilities), first established in 1993, is the “integration or inclusion of children with special needs into the regular school system and into the community” (Papua New Guinea Department of Education, 1993, 2003a). The long-term goal is aligned with the government’s mission (objects and purposes) and vision for the national education system, and is underpinned by the democratic, constitutional directives that support, promote, and protect the human rights of all Papua New Guinea’s citizens (Independent State of Papua New Guinea, 1975).

Of particular relevance to children with disabilities and their families are the constitutional directives of integral human development and equality of participation in education. Over the past decade, the long-term goal for education of children with special needs has been integrated into the government’s national education plans, including the National Plan for Education 2005-2014 (Papua New Guinea Department of Education, 2004a).

The key beneficiaries of the long-term goal of integration and inclusion of children with disability in the national education system are the children and adults with disabilities and their families. The key stakeholders with a vested interest in the education of children with disability included the key beneficiaries, together with government ministries; registered education agencies and school personnel; civil society groups, such as organisations of people with disability; and international development organisations.

Research question 2

Results indicated that the following five educational authorities were responsible for governance and administration of educational infrastructure (staffing, services, programs)
supporting children with disability: (a) the National Special Education Committee (NSEC) of the National Department of Education (NDoE); (b) the NDoE Inclusive Education Unit; (c) Callan Services for Disabled Persons; (d) the Boards of Governors of special education resource centres (SERCs); and (e) registered church and faith-based education agencies operating schools and special education resource centres.

The roles and responsibilities of the governance and administration authorities are regulated by national legislation and policies, including the *Education Act 1983 (Consolidated to No 13 of 1995)* (Independent State of Papua New Guinea, 2001a).

**Research question 3**

*Child and family needs.* The educational needs of children and adults with disability, as identified through analysis of the research data, were associated with such factors as limited financial resources, traditional tribal beliefs and attitudes towards people with disability and limited family and community awareness of the educability of children with disability.

*Education placement options.* The primary educational placement option for children with disability was enrolment in mainstream classrooms of registered public, private, and faith-based schools across Papua New Guinea. A small number of students with severe hearing impairments, deafness, and other disabilities were provided with part-time enrolment in learning support units situated in mainstream schools, in accordance with the identified need for such units.

*School-based learning support staff.* The integration and inclusion of children with disability in mainstream schools, in accordance with the national special education goal, was supported by learning support staff who were situated in the schools, support units, and network of special education resource centres across Papua New Guinea. Learning support staff included the following: (a) internal resource officers (IROs) and volunteer teacher
assistants situated in mainstream schools and employed by the National Department of Education (NDoE) and the 21 Provincial Divisions of Education; (b) specialists in hearing impairment situated in support units in mainstream schools; and (c) specialist education and rehabilitation staff situated in SERCs and employed by the NDoE. The learning support staff were predominantly Papua New Guinea nationals with diverse cultural and linguistic backgrounds.

*Learning support programs* were provided by special education resource centres (SERCs), in accordance with the national goal of integration and inclusion of children with disability in mainstream schools. For children with disability who were marginalised from the formal school system, a range of learning support programs was provided by the SERC education and rehabilitation staff. These programs were delivered in non-formal and informal educational settings, including homes, local community centres, hospitals and clinics, and SERCs.

*Enrolment of children with disability.* Enrolment of students with disabilities in the Papua New Guinea education system represented 0.21% of the total study body of approximately one million in 2008 (Papua New Guinea Department of Education, 2009, p. 101). Enrolments of children and adults with disability in SERC programs represented approximately 1% of the national population of 6.3 million in 2009 (Central Intelligence Agency, 2011). SERC enrolments are well below the World Health Organisation’s estimated disability prevalence rate of 10% for any given population (World Health Organization, 2003), suggesting the presence of a large number of children and adults with disability who are marginalised from the education and rehabilitation programs. Furthermore, the within-SERC and across-SERC variations identified in the SERC enrolment patterns across Papua New Guinea were associated with the human and resource capacity of individual SERCs, and the diversity of demographic attributes (age, gender, location, socio-economic status) of
children and adults with disability living in urban, rural, and remote communities across Papua New Guinea.

Research question 4

Priorities for effective and sustainable growth in the system of educational provision for children with disability were identified through analysis and synthesis of the case study and documentary research data. Priorities relating to education system leadership, governance, and management included the growth areas: (a) government leadership and financial commitment to achieving the national goal of education integration and inclusion of children with disability; (b) participatory governance and partnerships that empower people with disabilities, their families, and other key stakeholders who have a vested interest in education of children with disability; and (c) improvements in data collection, management, and reporting of the educational and demographic attributes and needs of children with disability.

Priorities relating to growth in the human capital of the education system in the area of disability included the following: (a) professional training programs for mainstream school teachers to equip them with the knowledge and skills needed to include children with disability; (b) recruitment, training, and retention of learning support staff situated in mainstream schools, support units in mainstream schools, and SERCs; (c) establishment of school and family incentive programs to promote school enrolment and retention of children with disability, and the delivery of high quality learning programs in schools; (d) government recognition and employment of SERC “community-based education” (CBE) staff delivering education programs in non-formal and informal educational settings (homes, communities, hospitals, and clinics).

The third and final group of priorities for education system growth in the area of disability included the following key priorities: (a) growth and improvement in school and
SERC infrastructure (accessible buildings and classrooms, learning support resources) to support enrolments of children with disability and the delivery of high quality education programs, (b) growth in the number and capacity of special education resource centres to provide programs for the large percentage of children with disability and families living in rural and remote communities, and (c) growth in technology to support communication and information distribution across national, provincial, and local levels of the education system.

This chapter is followed by Chapter 5, which presents the results of the study of the Timor-Leste education system for children with disability.
CHAPTER 5 RESULTS: TIMOR-LESTE

5.1 Introduction

This chapter describes the results of the study of Timor-Leste’s education system for children with disability. These are drawn from analysis and synthesis of the written and verbal contributions of 13 members of the Timor-Leste reference group, together with related documentary data. Reference group members included acknowledged leaders, decision-makers, advisors, and practitioners working for government, civil society, and international agencies in the areas of education, rehabilitation, and disability. Seven of the group’s members were Timorese nationals, and 10 members resided in Timor-Leste at the time of this study.

The research methods and techniques used to collect, analyse, and display the Timor-Leste data are described in the third chapter (Section 3.6). They included data aggregation, reduction, classification, and patterning, as well as documentary and variable-oriented analysis. The study’s analysis model of educational perspectives guided the analysis process, and readers are referred to Figures 8 and 14 in the chapters 1 and 4 respectively for this model.

One of the challenges experienced by the researcher during the Timor-Leste study was the limited availability of published and unpublished information relating to the national education system and, more specifically, to education provision for children with disability. Much of the information secured during this study was unpublished or anecdotal in nature, and further research is required to improve the body of knowledge about education for
children with disability in Timor-Leste. The quality of the results reported in this chapter reflects the personal and professional contributions of the Timor-Leste reference group. Their contributions are gratefully acknowledged by the researcher.

The results have been organised under the following four educational perspectives of the study’s analysis model that are linked with the four research questions.

- National goal setting perspectives (research question 1).
- Governance and leadership perspectives (research question 2).
- Teaching and learning perspectives (research question 3).
- Educational system growth and reform perspectives (research question 4).

5.2 Research question 1: National goal setting perspectives

5.2.1 Introduction

As previously discussed, the study’s first research question is as follows:

*What is the national goal or vision underpinning the education system for children with disability, and who are the key beneficiaries and stakeholders with a vested interest in achievement of the goal?*

An answer to the question required the collection and analysis of reference group and documentary data in order to identify the national goal/vision for the education system for children with disability, and the key beneficiaries and key stakeholders with a vested interest in its achievement. Results are described below using the following three educational perspectives: (i) national goal for the education system for children with disability; (ii) goal
alignment with the mission and vision for the national education system; and (iii) key beneficiaries and stakeholders with a vested interest in the national goal’s achievement.

5.2.2 National goal for the education system for children with disability

At the commencement of the Timor-Leste study (2007), the Timor-Leste government had not established a formal national goal or vision for education of children with disability. Since that time, progress has been made in developing an inclusive education policy and plan. There was general consensus among members of the study’s reference group that the government’s aspirational goal/vision for the education system for children with disability was inclusive in nature. Further, the reference group members emphasised that the aspirational goal was an integral component of the government’s vision and mission for the national education system.

An overview of the government’s mission and vision for the national education system is presented below.

5.2.3 Government’s mission and vision for the national education system

Mission for the national education system

The Timor-Leste government’s mission (or purpose) for the national education system was published in a document recording the final considerations of the first National Congress on Education, held in 2003, and reiterated in the National Education Policy 2007-2012 in the following terms:

Education is an aspiration of all society, since it has always had moral legitimacy and it is seen as the cornerstone of any civilization. In order for the democratic society to function, it is vital that its citizens have access to quality education that
enables them to find positions in the current world (Democratic Republic of

Vision for the national education system

The Timor-Leste government’s national vision for 2007-2012 for its national education
system highlights establishment of an education system that prepares the country’s children
and youth for participation in “economic, social, and political development” (Democratic
Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007, p. 10). During
the 2008 focus group meetings, the Timor-Leste Education Minister emphasised the
government’s commitment to the vision of “inclusive education” for all children, including
those with disabilities. This vision became a government policy priority area over the ensuing
four year period of this study. The national vision for education was published in the Timor-
Leste National Education Policy 2007-2012 in the following terms:

In 2020 Timor-Leste will be a democratic country with a vibrant traditional
culture and a suitable environment. The population will be educated,
knowledgeable and qualified. It will be healthy and able to live a long and
productive life. It will participate in the economical, social and political
development, promoting social equity and national unity (Democratic Republic of

Principles underpinning the government’s mission and vision for the national education
system

The Timor-Leste government’s national education mission and vision and mission
endorse the human rights principles enshrined in its national constitution. The Constitution
states that “children shall enjoy all rights that are universally recognised, as well as all those
that are enshrined in international conventions commonly ratified or approved by the state” and “the State shall promote the protection of disabled citizens” (Democratic Republic of Timor-Leste - Ministry of Social Solidarity, 2002).

Of particular importance to the present study are the following constitutionally-based principles that were included in the *National Education Policy 2007-2012* (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007). These principles highlight the important role of education in promoting the education rights of children with disability.

- *Principle of quality*, focusing on learning process and outcomes;
- *Principle of equity*, implying great institutional sensitivity regarding local and social differences in the access to education, providing special attention to underprivileged regions and social groups;
- *Principle of social and economic relevance*, translated into a permanent search for social and economic gains for Timor-Leste and its citizens;
- *Principle of co-participation*, according to which families will have an active participation in management and decision-making;
- *Principle of social partnership* through support to private and cooperative, and solidarity initiatives, in view of the promotion of education and teaching in its various levels, as well as in what concerns the planning and coordination of education policies and the delivery of other services relevant to education (pp. 11-12).
The following section describes the study’s results relating to the key beneficiaries and stakeholders with a vested interest in the education system for children with disability in Timor-Leste.

5.2.4 Key beneficiaries and stakeholders with a vested interest in the national education system for children with disability

The results indicated that Timor-Leste’s key education beneficiaries in the area of disability (special needs) were children with disability, their families, and carers. Table 4 summarises the key beneficiaries and stakeholders with a vested interest in the national education system for children with disability.
Examination of Table 4 reveals that the key beneficiaries and stakeholders identified in this study include the following: (a) children with disability and their families/carers; (b) government ministries, including Education, Health, and Social Solidarity; (c) civil society groups supporting people with disabilities and families; and (d) UN and international development agencies working in the related areas of education, rehabilitation, and disability. With the absence of a well-established system of special schools, the key government stakeholder in education of children with disability is the Timor-Leste Ministry of Education.
The following section presents the results relating to the study’s second research question, which addressed education system governance in the area of disability.

5.3 Research question 2: Governance perspectives

5.3.1 Introduction

The second research question was expressed in the following terms:

What system of governance underpins the education system for children with disability, and the acquittal of fiduciary duties to financial stakeholders?

At the time of this study, there was limited published and unpublished information available to address the general question of governance of the national education system and, more specifically, governance in the area of disability. With a view to answering the question, the results of analysis of reference group and documentary data are described using the following educational perspectives: (i) governance of the national education system; and (ii) legislation and policies supporting education of children with special needs (disability). It is emphasised that the researcher was unable to obtain published information confirming the study’s results, and concludes that further study is needed in the important area of educational governance.

5.3.2 Governance of the national education system

Governance of the national education system at the time of this study was the responsibility of the senior leaders of the Timor-Leste Ministry of Education (MoE). The leaders included the Minister, Vice-Minister, Director General, and Assistant Directors
General. Their roles and responsibilities in relation to national-level education governance, management, and administration were supported by the National Education Commission, senior members of the MoE Directorates, the Judicial Office, Protocol and Media Services, and the Infrastructure Office (Timor-Leste Ministry of Education, 2008).

At the regional level, the Timor-Leste education system was subdivided into five regional offices. Each regional office was governed and managed by a Regional Director, Regional and District Superintendents of Inspections, and senior members of the regional education departments. Unfortunately, at the time of this study, published information such as annual Ministry of Education reports was not being produced. As a result, information relating to the responsibilities of the national and regional governance authorities was not available.

Informal sources of information obtained during 2008 have been used to construct an organisational chart for the Ministry of Education’s national and regional governance and management authorities. The organisational chart is presented as Table F1 in Appendix F, and includes an overview of the education authorities in one of the five education regions.

The following section describes the legislation and policies supporting education of children with disability, as compiled from analysis and synthesis of the documentary and reference group data.

5.3.3 Legislation and policies supporting education of children with disability

An extensive search of the Timor-Leste government websites and related information resulted in the identification of the following national legislation and policies that had relevance to education of children with disability: (a) Base Law for Education, 2008; (b) Organic Law of the Ministry of Education, 2010; (c) Decree law that approves the curriculum plans for implementation of the basic education curriculum, 2011; (d) Decree law that
approves the curricular plan for the general secondary system, 2011; and (e) National education policy 2007-2012. A brief outline of these government laws and policy follows.

- The *Base Law for Education 2008* establishes the general framework for the national education system (Democratic Republic of Timor-Leste, 2008). The Act includes principles and objectives relating to such areas as education system operations, management, administration, and resources (human, material, and financial). Of relevance to this study is the basic education objective of ensuring that children with specific educational needs resulting from physical and mental disabilities are provided with an educational environment that supports their development and full use of their capabilities (Article 12). Further, the Act specifies the provision of a range of inclusive education placement options for students with special education needs, including enrolment in general education schools; specialised classes, groups, or units; and specialised education establishments (Article 29).

- The *Organic Law of the Ministry of Education, 2010* sets out the changes that have been made to the organisational structure of the Timor-Leste Ministry of Education in order to meet education system reform needs. Of interest to this study is the Ministry of Education responsibility specified in Article 2, which relates to the promotion of “a recurrent education policy that ensures the eradication of illiteracy and the development of literacy and of special and inclusive education” (Democratic Republic of Timor-Leste, 2010a).

- The Decree laws approving the curriculum plans for implementation of the basic education curriculum and the general secondary curriculum were approved by the Timor-Leste government’s Council of Ministers during 2011 (Democratic Republic of Timor-Leste, 2011b, 2011c). The purpose of these two laws includes establishment of
the rules governing implementation of the national curriculum to ensure consistency and compliance of public, private, and church education agencies in their implementation of the national education curriculum.

- The *National Education Policy 2007-2012* sets the direction for reform of the national education system over the period of 2007-2012. The policy includes the historical and current context underlying the reform process and the reform strategies and objectives. Of importance to this study is the policy’s emphasis on basic (primary) education for all children, and the need for “special attention to underprivileged regions and social groups” (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007, p. 11).


The following section describes the Timor-Leste results for the third research question, which relates to the educational needs of children with disability, and the responsiveness of teaching and learning infrastructure in addressing these needs.
5.4 Research question 3: Teaching and learning perspectives

5.4.1 Introduction

The study’s third research question is as follows:

*What teaching and learning infrastructure characterises the education system for children with disability, and how responsive is this infrastructure to child and family educational needs?*

An analysis of reference group and documentary data was undertaken with a view to answering the third question. The results are presented below under the following teaching and learning perspectives: (i) educational needs of children with disability; (ii) teaching and learning infrastructure (services, staffing, programs); and (iii) education enrolment rates for children with disability.

5.4.2 Educational needs of children with disability

An analysis of the Timor-Leste data identified the following three groups of child and family educational needs in the area of disability: (a) social and cultural practices and beliefs that limit education access and participation, (b) poor health and nutrition that impact upon the capacity of children to learn and thrive, and (c) the prohibitive cost of school fees, uniforms, books, and other education materials (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007; Timor-Leste Ministry of Education and Culture, 2005).

It was emphasised by several members of the study’s reference group that, in general, children and youth with disability have limited choices about where they live, whether they
are able to attend school, and the responsibilities they are assigned within the family and local community. One reference group member highlighted the strong desire of children with disability to attend school with their siblings, rather than being “left behind” at home (Reference group member 12). Another reference group member noted the derogatory language that may be used to identify people with disability, such as “lame Pedro” or “one leg Juanita”. The need for disability and education awareness workshops for parents and community members was emphasised by reference group members as a means of overcoming social stigma and discriminatory attitudes and beliefs.

The study’s results are limited in nature due to difficulties experienced in obtaining information about the educational needs of children with disability. It is concluded that further study in this area is needed. The following section describes the study’s results relating to teaching and learning infrastructure (staffing, services, and programs) supporting children with disability.

5.4.3 Teaching and learning infrastructure (services, staffing, programs)

Analysis of the Timor-Leste data indicated that the education placement options provided for children with disability consisted of the following: (i) mainstream school enrolment, with no provision of learning support staffing or programs; (ii) enrolment at Taibessi Special Primary School, situated in Dili, the nation’s capital; and (iii) educational services and programs provided by non-government agencies. A description of these three education options is presented below.

5.4.3.1 Mainstream school enrolment for children with disability

A national primary school survey undertaken by Plan Timor-Leste and ASSERT in 2008 highlighted the presence of children with disability in Timor-Leste’s primary school
system. The survey’s results highlighted that due to the severely limited capacity of the national education system, disability assessment, intervention, and learning support programs are not a feature of the primary school system. The Plan Timor-Leste and ASSERT survey suggests the possibility that children and youth with disability may also be enrolled in preschool and secondary levels of the education system.

Preschool education. There were approximately 146 registered preschools for children aged 36 to 59 months that were predominantly operated by church and faith-based organisations (Plan Timor-Leste & ASSERT, 2008, p. 16; UNICEF Timor-Leste, 2003). Plan Timor-Leste and ASSERT (2008) estimated there were 7,924 pre-school age children in 2006/2007 (p. 16). At the time of this study, preschool education was not compulsory in Timor-Leste and UNICEF estimated that only 2% of Timorese children aged 36 to 59 months attended early childhood education programs during 2002 (UNICEF Timor-Leste, 2003).

Primary (basic) education. There were approximately 240 “basic” (primary) schools, which were grouped into Grades 1-3, Grades 4-6, and Grades 7-9 (called pre-secondary schools) (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007, pp. 1-3). Between 2002 and 2005, primary school enrolments decreased from 184,000 in 2002, to 178,000 enrolments in 2005, with 30,000 of the enrolled students absent from school at any given time (Timor-Leste Ministry of Education and Culture, 2005, p. 11). During this three year period, teacher recruitment increased substantially and the student-teacher ratio increased from a 1:51 teacher/student ratio in 2002, to a 1:34 teacher/student ratio in 2005 (UNESCO Institute for Statistics, 2008). In 2003, UNESCO reported that 150,000 Timorese children aged 6-11 years were not in school, with 50% of this marginalised group reported never to have enrolled in school (UNESCO, 2003).

Secondary, technical, and professional education. Secondary education consisted of secondary and technical/professional schools for students in Grades 10-12. The Timor-Leste
Ministry of Education reported growth in secondary school enrolments, from 47,000 in 2002 to 75,000 in 2005. However, the total number of secondary school enrolments in 2005 represented only 53% of children of secondary school age. Gender parity was achieved in secondary school enrolments in 2005, and an average student-teacher ratio of 24:1.

5.4.3.2 Taibesse Special Primary School enrolment

At the time of this study, the Timor-Leste government schools included one special primary school for approximately 32 students with disability. This was Taibessi Special Primary School, situated on the outskirts of Dili, the nation’s capital. The school was staffed by a Director and four teachers who were Timorese nationals. Anecdotal information relating to the school’s history suggests it was a residential special school during Indonesian rule. However, the school’s Indonesian teachers returned to Indonesia during the period of violence in 1999 (L. da Costa, personal communication, 23 April, 2008). The qualifications of the school’s current teachers were not identified in this study.

5.4.3.3 Learning support programs for students with disability

Anecdotal information compiled during this study indicated that several national and international development agencies provided community and home-based programs for children and adults with disability. These agencies included Klibur Domin (Ryder Cheshire Foundation), Fuan Nabilan Ba Matan Aat, Katilosa, ASSERT, AGAPE School for the Deaf, and the Alola Foundation (Timor-Leste Ministry of Education; National Office of Inclusive Education, 2010). Further investigation is needed to gain an understanding of the types of services and programs provided by the agencies for children and adults with disability.
The following section describes the Timor-Leste results relating to education enrolment rates for children with disability. The section is the third and final group of teaching and learning perspectives identified in this study.

5.4.4 Education enrolment rates for children with disability

At the time of this study, there were limited sources of comprehensive and accurate demographic and disability prevalence data for children with disability in Timor-Leste. In order to gain a basic level of knowledge of education enrolment rates for children with disability, the following sources of data were analysed: (a) population survey undertaken by the Democratic Republic of Timor-Leste Ministry of Social Solidarity (2002); (b) primary school survey undertaken by Plan Timor-Leste and ASSERT (2008); and (c) Taibessi Special Primary School enrolment data, provided by the Timor-Leste Ministry of Education (2010). A description of the results follows.

(a) National population survey, undertaken by Timor-Leste Ministry for Social Solidarity, 2001

A national population survey was undertaken by the Timor-Leste Ministry for Social Solidarity during 2001 (Timor-Leste Ministry for Labor and Solidarity, 2002). The survey identified 12,957 people with disability, suggesting a disability prevalence rate of 1.75% among the Timorese population of 739,000 at this time (UNICEF, 2003). The percentage of females identified was 37.5%, indicating substantial under-representation of females with disability in the population surveyed. Figure 19 presents an overview of the major types of disability identified in the 2001 population survey, constructed from published information (Democratic Republic of Timor-Leste Ministry of Social Solidarity, 2002, cited in Plan Timor-Leste & ASSERT, 2008).
The major causes of disability identified in the Ministry of Social Solidarity survey were disease (64%), brain-related disability (17.5%), accident (16%) and war (2.5%). These causes were all preventable. As evidenced in Figure 19, the four major types of disability identified by the Timor-Leste Ministry of Social Solidarity (2002) were “physical” (41%), “blind” (23%), “mute” (17%), and “mentally ill” (11.5%). It is noteworthy that the types of disability listed in the Ministry of Social Solidarity survey suggest limitations in the survey classification system used. The survey did not identify people with less obvious disabilities, such as intellectual disability, learning disability, hearing impairment, and low vision. Further, the survey’s results suggested that people with deafness and severe hearing impairment may have been incorrectly included in the “mute” category; and people with learning and intellectual disabilities and social-emotional disorders may have been included in the “mentally ill” category.

*(b) Primary school survey undertaken by Plan Timor-Leste and ASSERT, 2008*
The second source of data relating to children with disability was a survey of 972 primary schools, undertaken by Plan Timor-Leste and ASSERT in collaboration with the Timor-Leste Ministry of Education during 2008. The survey involved reporting by school principals and teachers of suspected disability among the school population, on the basis of disability-related information provided by the surveyors visiting each school. The survey identified a total of 972 primary school students who were believed to have some form of disability. Plan Timor-Leste and ASSERT suggested, on the basis of the survey’s results, that approximately 1.02% of all primary school students may have some type of disability (Plan Timor-Leste & ASSERT, 2008, p. 10).

The two major types of childhood disability reported in the Plan Timor-Leste and ASSERT report were intellectual/learning disability (24%) and physical disability (21%) (2008, p. 17). Further, 62% of all disabilities were classified as “mild disabilities” and 41.6% of students with disability were over-age for their grade level. By fourth grade, 55% of the students with disability were over-age for their grade (p. 5).

A comparison of the types of disability, age, and grade level of the surveyed primary school students is included in Appendix F (Figure F2). It is noteworthy that the types of disability identified in the Plan Timor-Leste and ASSERT survey varied substantially from the types of disability reported by the Timor-Leste Ministry of Social Solidarity in 2002. These variations highlight the need to strengthen current methods of collecting national data in the area of disability.
(c) Taibessi Special Primary School enrolments, 2010

The third and final set of data obtained during this study were 2010 enrolment data for Taibessi Special Primary School, provided by the Timor-Leste Ministry of Education (2010). An analysis of the Taibessi Special Primary School enrolment data for 2010 indicated variability in the spread of enrolments across the six grade levels, as follows: Grade 1: 47%; Grade 2: 28%; Grade 3: 6%, Grade 4: 6%, Grade 5: 6%, and Grade 6: 6%. Further analysis found that 91% of the 32 students were over-age for their grade level. Students enrolled in the first grade for example, were aged 5-17 years, with 93% over the age of six years.

The enrolment data highlighted gender disparity in Taibessi Special Primary School enrolments, with females representing 28% of the student body. The three types of disability of Taibessi students were the following: intellectual disability (59%), mute (25%), and blindness (16%) (Democratic Republic of Timor-Leste Ministry of Education, 2010). The reasons for this limited range of disabilities were not evident in the research data. The results of analysis of the Taibessi enrolment data are summarised in Appendix F (Figure F3).

The following section presents the final group of Timor-Leste results which address the study’s fourth research question relating to future education priorities.

5.5 Research question 4: Priorities for future growth

5.5.1 Introduction

The fourth research question was expressed as follows:

What do current leaders and practitioners declare are the national priorities for the education system for children with disability?
With a view to addressing this question, the education priorities identified by the 13 members of the Timor-Leste reference group were collected and analysed. Where possible, analysis included supporting documentary data and/or professional literature in related fields of study. As a result of analysis, priorities were identified in such important areas as government leadership, stakeholder partnerships and consultation, demographic and education data collection, growth in education infrastructure (staffing, services, staffing, and programs), and alignment of the present study with the country’s educational reforms.

5.5.2 Education priorities in the area of disability

The following nine education priorities for growth in the education system for children with disability have been identified through data analysis and synthesis.

Priority 1: Government leadership in national planning and policy development

There was general agreement among the senior education leaders who participated in this study that development of an inclusive education policy and implementation plan should be a high priority, in accordance with the government’s recommended education reforms in the area of disability. Government leadership was considered essential in national planning and policy development to ensure the government’s national education infrastructure supports and promotes inclusive education for children with disability.

The reference group members highlighted the political and economic factors limiting the adoption of an inclusive education philosophy in Timor-Leste. Of particular concern to members was the limited national education budget and lack of financial or other incentives to encourage national leaders and decision-makers to undertake professional studies in inclusive education leadership and practice. It was highlighted that government leadership and commitment to the philosophy of inclusive education was essential to preventing the
treatment of education for children with disability as a *special interest area* which should be delegated to charitable, religious, and non-government agencies.

**Priority 2: Stakeholder partnerships and consultation**

There was general consensus among the Dili focus group meeting participants that a greater emphasis was needed on partnerships between key government, non-government, and civil society stakeholders with a vested interest in the education system for children with disability. This included strengthening existing partnerships between government ministries; government, non-government, and church education agencies; and government partnerships with local organisations representing people with disability and families.

The nature and merit of government and church partnerships were discussed during the focus group meetings. Several senior government leaders expressed a strong desire to partner with church agencies working in the area of education, whereas several of the participants representing UN and international agencies expressed their preference for government leadership alone. The view expressed by one church educational leader was that decision-making should rest with the Timorese education authorities and stakeholders, with UN and international agencies adopting an advisory and support role.

*Inclusive education consultation period.* An important area of agreement reached among the participants of the focus group meetings was the priority of broad government consultation with key education beneficiaries and stakeholders in the area of disability. The Education Minister emphasised that an important goal of stakeholder consultation was the development of a policy document that reflected consensus among key stakeholders on the future direction of inclusive education policy and implementation. Further, it was emphasised by several of the education leaders that an extended period of time was needed to address
existing negative and discriminatory social and cultural beliefs and practices at all levels of the education system.

It was recommended by senior members of the Ministry of Education that the consultation process include visits by the country’s educational leaders and decision-makers to other developing countries in the East-Asia and Pacific region that had successfully implemented inclusive education systems for children with disability. This was considered important as current views of Timor-Leste’s education leaders were generally drawn from their experiences of segregated education during the 25-year period of Indonesian rule (1975-1999).

**Priority 3: Education and demographic data collection and management**

The Timor-Leste reference group and focus group meeting participants emphasised the importance of developing effective processes for the collection, management, and dissemination of national demographic and educational data relating to children with disability in order to gain an understanding of the scope and causes of education marginalisation and disadvantage. Recommendations for data collection included data relating to the prevalence and causes of childhood disabilities; educational enrolment, retention, and achievement rates for students with disabilities; and data relating to the causes and number of “out-of-school” children and youth with disabilities. It was recommended that the outcomes of the present study include the priority of effective collection and management of national demographic and education data relating to children and youth with disabilities. It was also recommended that the study build upon the results of the primary school survey undertaken by Plan Timor-Leste and ASSERT (2008).
Priority 4: Alignment of the present study with existing educational structures, processes, and reforms

The senior leaders of the Ministry of Education who participated in this study highlighted the importance of alignment between the recommendations offered as a result of this study and the existing organisational structures, processes, and reforms of the Timor-Leste Ministry of Education. It was emphasised by the education leaders that, wherever possible, recommendations offered should emphasise education system growth and reform rather than the development of new and separate educational structures and processes in the area of disability.

There was general agreement among the participants who attended the Dili focus meetings in 2008 that the study’s initial recommendations for education system growth, as contained in the Timor-Leste strategic model (see Appendix G), were aligned with the education reform priorities of the Timor-Leste government. Alignment between the study’s recommendations and the government’s educational reforms was evident in the government’s implementation of several of the study’s key initial recommendations during 2008-2009. This included the recommendations relating to the establishment of the establishment of the Office of Inclusive Education within the Ministry of Education and recruitment of a National Inclusive Education Coordinator.

Priority 5: Growth in the school capacity to educate students with disability

Participants of the Dili focus group meetings discussed the priority of increasing school enrolment and retention rates for children with disability living in non-urban regions of Timor-Leste. Achievement of this priority required addressing the challenges associated with the lack of teacher training in the area of disability and the limited availability of learning support resources and assistive technologies to support and promote equality of academic and
social inclusion of children with disability in rural and remote village schools. Several reference group members emphasised that as a result of limited human and resource capacity, school staff were known to actively discourage children with disability from attending school.

There were diverse opinions among the reference group and focus group meeting participants about whether education placement options for children with disability should be confined to mainstream school classrooms, or whether school support units should be included. This discussion was centred on the severely limited resource capacity (human, financial, physical) of Timorese schools.

**Building accessibility standards.** Discussion among education leaders in the Timor-Leste Ministry of Education included the urgent need for building accessibility codes and standards in order to ensure that the construction and refurbishment of school buildings, classrooms, and playgrounds included consideration of physical accessibility needs of students, parents, and teachers with physical and multiple disabilities. The extensive reconstruction of schools since the violence of August 1999 has been undertaken without consideration of the importance of including ramps, railings, and other accessibility infrastructure within the general building design. It is noteworthy that at the time of the present study, the Ministry of Education’s headquarters in Dili had an extensive inner staircase, with neither ramps nor lifts. As a result, the first National Inclusive Education Coordinator employed by the Ministry of Education in 2008 was unable to reach his proposed office on the second floor due to his physical disability.

**Disability and education awareness programs.** Several members of the Timor-Leste reference group highlighted the importance of establishing disability and education awareness workshops targeting parents, carers, school personnel, and people with disability as a means of addressing the high number of “out-of-school” children with disability. It was emphasised
by the study’s participants that the workshops should address the cycle of education marginalisation and disadvantage caused by cultural and social stigma and family shame upon the birth of a child with a disability or the acquisition of disability during childhood.

**Priority 6: Strengthening of human capital in the area of disability**

The importance of growth in human capital in the area of disability at all levels of the education system was evident in the reference group, focus group, and documentary research data. Human capital was considered by several education leaders as a critical “feasibility” issue that could limit the capacity of the Timor-Leste government to implement an inclusive education system. A related priority identified by education leaders was the need to establish financial and professional incentives to encourage school personnel to undertake professional training in the area of disability. The education leaders highlighted, for example, that the average school director/principal receives the same salary as regular teachers, with no financial or professional recognition of their additional responsibilities.

The importance of strengthening human capital in the area of disability was supported by the professional literature presented in the second chapter, which highlighted the limited number of Timorese nationals in educational management and administration prior to national independence in 2002. Timorese nationals with limited training, for example, accounted for only 10% of teachers during Indonesian rule (Beck, 2008, pp. 39-40).

The government’s *National Education Policy 2007-2012* (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007) prioritised the establishment of primary teacher training programs at the *National University of Timor Lorosa’e* (UNTL). However, reference group input indicated that at the time of this study, the teacher training programs did not involve inclusive education or special education. Several members of the reference group identified the Catholic teacher training college, called the
Instituto Catolico Para Formacao de Professores (ICFP), as the major provider of teacher training in the area of disability. The ICFP was established in 2002 by the Bishop of Baucau, in partnership with the Marist Brothers of Australia. At the time of the present study, the ICFP provided a three-year Bachelor of Teaching degree program that included one unit in education of children with special needs, which was situated within the curriculum strand of “teaching studies” (Beck, 2008, p. 49).

5.6 Conclusion

This chapter described the results of research on the Timor-Leste system of educational provision for children with disability. The results addressed the four research questions posed at the commencement of the study, and sources of data included reference group, focus group, and documentary research data. The reference and focus groups included recognised leaders, advisors, and practitioners in the related fields of education, rehabilitation, and disability in Timor-Leste. Their input and feedback included consideration of the study’s strategic model for inclusive education of children with special needs in Timor-Leste, which was devised in 2008 as a means of stimulating discussion about education system growth and reform to promote and support the development of disability-inclusive education structures and processes.

The study’s analysis model guided the process of data analysis and synthesis, and the results presented in this chapter were organised under its five key themes. Presented below is a summary overview of the Timor-Leste results presented in this chapter relating to each of the four research questions.

Research question 1
The Timor-Leste government’s national education vision for 2007-2020 aims to develop a population that is educated, knowledgeable, and qualified to participate in the country’s economic, social, and political development. The vision emphasises democratic constitutional principles, sensitivity to the traditional culture, and promotion of social equity and national unity (Democratic Republic of Timor-Leste Ministry of Education, Office of the Minister, 2007, p. 10). The vision is inclusive of all Timorese citizens, including those with disability, and is founded upon the democratic human rights principles enshrined in the national constitution. The vision is aligned with the national education mission and education reforms implemented since national independence in 2002.

Research question 2

The key beneficiaries of education structures and processes supporting children with disability are those children, youth, and adults with disability. Key stakeholders with a vested interest in education of children with disability identified in the present study included the Ministries of Education, Health, and Social Solidarity; the National Education Commission of the Ministry of Education; government and non-government education agencies, schools, and tertiary education institutions; civil society groups, including organisations of people with disability (DPOs), UN agencies supporting education in Timor-Leste, and national and international government and non-government development organisations working in the related fields of education and rehabilitation.

The educational needs of people with disabilities and their families identified in this study were associated with exclusionary social and cultural practices and beliefs that limit education access of families and their children with disability; and poverty-related needs and issues that limit survival and learning capacity of children with disability, including those
associated with limited access to health and education programs, food and clean drinking water, and child-birth support.

**Research question 3**

Due to the severely limited nature of educational provision for children with disability in Timor-Leste at the time of the present study, education governance and management at national, regional, and district levels in the area of disability was severely limited or non-existent. One of the consequences of the production of the study’s strategic model for education of children with special needs in Timor-Leste was establishment by the Director General for Education of the National Office of Inclusive Education (NOIE) within the Ministry of Education headquarters in Dili, and the appointment of the National Inclusive Education Coordinator (NIEC) and support staff. This initiative has strengthened the Ministry of Education’s governance and administration in the area of disability, and provided a substantial link with UN agencies and international development partners.

**Research question 4**

*Education placement options.* The first education placement option for children with disability consisted of enrolment in the national education system of preschool, “basic” (primary and pre-secondary), secondary, and technical/professional education institutions that are owned and/or operated by government, non-government, faith-based, and international organisations. The second education placement option for children with disability is enrolment in the government-operated special day school for students with disability, Taibessi Special Primary School, situated in Dili.

*Learning support programs.* The results suggested that students with disability enrolled in the mainstream schools received little, if any, learning support due to the limited
professional training of teachers in disability-inclusive pedagogy. At the time of the present study, the 32 students enrolled at Taibessi Special Primary School were grouped in classes of approximately six students, with adjustments made to the curriculum by the school’s director and four teaching staff to accommodate their special learning needs.

*Educational enrolments.* National data on the number and location of students with disability within the national education system were unavailable at the time of the present study. However, a primary school survey undertaken by Plan Timor-Leste and ASSERT in 2008 identified 972 primary students with disability. This group represents approximately 1.02% of the total primary school population, which is well below the 10% disability estimate of the World Health Organisation (2003) for any given population.

*Types of disabilities.* The major types of disabilities reported by the school directors and teachers who participated in the primary school survey were mild disability (62%), intellectual and learning disability (24%), and physical disability (21%) (Plan Timor-Leste & ASSERT, 2008). The three groups of disabilities present in the 32 students enrolled at Taibessi Special Primary School were intellectual disability (59%), mute (25%), and blindness (16%) (Democratic Republic of Timor-Leste Ministry of Education, 2010).

**Research question 5**

Priorities for effective and sustainable growth in the system of educational provision for children with disability were identified through analysis of all sources of research data. Priorities for growth in education leadership, governance, and administration were linked with the following areas: (a) growth in government leadership and commitment to policy development and financial resource provision; (b) alignment and integration of the study’s recommendations with current education system reforms, structures, and processes; (c) development of key stakeholder partnerships and consultation; (d) growth in education and
demographic data collection, management, and reporting; and (c) growth in information communication technology (ICT) supporting education governance and administration.

Priorities for effective and sustainable growth in human capital included the following: (a) development of professional leadership programs as a means of promoting inclusive education principles, values, and culture across the national education system; (b) growth in recruitment, training, and retention of education personnel with responsibly for the provision of disability-inclusive education programs at all levels of the education system; and (c) expansion of teacher training institutions and training programs in the area of disability.

The third group of priorities was associated with growth in the range of education placement options and learning support infrastructure (staffing, services, and programs) supporting children with disability. The reference group and focus group input highlighted the importance of implementing disability and education awareness programs during the early stages of education system growth. Such programs were required to address the social and cultural barriers limiting engagement of families with children with disabilities with education programs. A second priority area identified in the research data was the importance of expanding education infrastructure in non-urban regions of Timor-Leste. The majority of the country’s population live in impoverished non-urban communities where education and health infrastructure are severely limited. An emphasis of inclusive education infrastructure in non-urban region would expand the quality of life of children and youth with disability.

This chapter is followed by Chapter 6, which presents a discussion of the interpretations and inferences drawn from the study.
CHAPTER 6 DISCUSSION

6.1 Introduction

This chapter presents a discussion of the perspectives and conclusions drawn from a transformative analysis of the Papua New Guinea results described in the fourth chapter. The discussion focuses on an important insight gained from this study. The insight relates to the innovative, multidisciplinary partnership approaches to educational provision for children with disabilities implemented by government, non-government, and faith-based education agencies. These approaches include the collaborative implementation of a broad range of school, home, and community-based educational and rehabilitation infrastructure (services, programs, staffing) aimed at reaching children and families in urban, rural, and remote communities. However, it was surprising to discover that, after 20 years post-implementation, these broad-reaching approaches have not resulted in substantive growth in education enrolment and retention rates for children with disability. In its 2008 annual report, the Papua New Guinea Department of Education reported that students with disability represented 0.21% of the national student body of 3.36 million (2009, p. 117). This statistic is well below the World Health Organisation’s (2003) estimated 10% disability prevalence for any given population and suggests a large number of “out-of-school” children with disability.

It might be argued that studying the Papua New Guinea inclusive education system for children with disability is therefore not a worthwhile endeavour, as the government’s national educational goal of integration and inclusion of children with disability has achieved only limited success. Yet, considering the substantial national human development constraints
discussed in the literature review (presented in the second chapter), the progress of Papua New Guinea’s education agencies in implementing inclusive educational reforms supporting children with disability must be acknowledged and even applauded.

The Papua New Guinea study was based upon the following four research questions:

1. What is the national goal or vision underpinning the education system for children with disability, and who are the key beneficiaries and stakeholders with a vested interest in achievement of the goal?

2. What system of governance underpins the education system for children with disability, and the acquittal of fiduciary duties to financial stakeholders?

3. What teaching and learning infrastructure characterises the education system for children with disability, and how responsive is this infrastructure to the educational needs of children with disability?

4. What do current leaders and practitioners declare are the national priorities for the education system for children with disability?

In this chapter, the insights and conclusions drawn from analysis, interpretation, and synthesis of the study’s results are organised using the following framework:

- National educational goal setting in the area of disability: Features supporting and constraining the goal’s achievement (Research question 1);
- Educational governance features supporting and constraining growth in education enrolment rates for children with disability (Research questions 2-4);
- Teaching and learning infrastructure features supporting and constraining growth in education enrolment rates for children with disability (Research questions 3 and 4).
The discovery of a mismatch between education system growth and corresponding growth in enrolment rates for children with disability prompted the researcher to analyse the study’s results using transformative educational perspectives generally associated with human rights and the empowerment of people with disability. The application of a transformative “lens” to the analysis process promoted understanding of the features of the Papua New Guinea educational reforms that supported and constrained growth in enrolment and retention rates for children with disability. The transformative analysis process included construction of three qualitative “educational scales” (see Figures 20-22) to represent the balance of education system features interpreted as supports and constraints to achieving substantive growth in education enrolment rates for children and youth with disability. The idea of qualitative educational scales was derived from the researcher’s reflections on Kaplan and Norton’s Balanced Scorecard (BSC) Management System (1991; 1996a; 2008). Their BSC depicts the relationship between organisational management, performance, strategy, and operations as a balance of four perspectives that are closely linked with the organisation’s vision or purpose (see Chapter 2, Section 2.3 for more details). The concept of qualitative educational scales has proven an effective means of summarising the complex and multifaceted features of Papua New Guinea’s education system and for designing the recommendations for educational priority setting in Timor-Leste presented in the final chapter.

A range of analytic methods and techniques was used to strengthen the internal validity, credibility, and authenticity of the perspectives and conclusions drawn from the Papua New Guinea study. These included the following: (a) case-oriented analysis to ensure a “goodness of fit” between the research questions, the study’s results, and the interpretations and conclusions drawn; (b) review of the documentary data during interpretive analysis of the
subjective perspectives of research participants; and (c) academic validation of the results through comparison with the published research in related fields of study.

The chapter proceeds with a discussion of the perspectives and conclusions drawn from the transformative analysis of the results of the first research question.

6.2 National educational goal setting

6.2.1 Introduction

Rigorous analysis of the features of national educational goal setting in the area of disability was undertaken to understand better the historical and current features that support and constrain its achievement. Figure 20 presents the balance of supportive and constraining features of national goal setting that have been linked in this study with the goal’s limited achievement to date, as measured in terms of national growth in education rates for children with disability. The discussion commences with the supportive features presented on the left of Figure 20.
6.2.2 National goal setting features supporting the goal’s achievement

6.2.2.1 Long-term aspirations of the national educational goal

An analysis of the study’s results highlighted the long-term aspirations embodied in the national education goal of integration and inclusion of children with special needs (disability) within the national education system of public, private, and faith-based schools. Objectives linked with the national goal emphasised development of competencies and values that enable children and youth with disability (special needs) to become “useful and effective” members of society (Papua New Guinea Department of Education, 1993, p. 21).

The national educational goal was approved by the National Education Board (NEB) in 1991, and signalled a significant shift in the government’s perspectives and approaches to
education provision for students with disabilities. The goal’s adoption highlighted the Papua New Guinea government’s intention to transform the country’s dual regular-special school system into one unified inclusive national education system. The inclusive education goal was a bold initiative, as the government’s educational infrastructure and human capital in the area of disability were severely limited. Government services for children and adults with disability in the early 1990s were confined to the department of Health and Youth and Home Affairs. Education provision for children with special needs was relegated to a small number of charitable, religious, and private organisations that operated urban-based special schools.

6.2.2.2 Goal alignment with the national education mission, vision, and constitutional directives underpinning the national education system

The second insight drawn from the study has to do with the national education goal’s alignment and integration with the government’s mission, vision, and constitutional directives underpinning the national education system. The National Plan for Education 2005-2014, for example, specifically refers to the inclusion of students with disability in “basic education”, that is, in the first nine years of compulsory schooling (Papua New Guinea Department of Education, 2004a, p. 10). The constitutional directives include integral human development, freedom from domination and oppression, and equality and participation in education and community life (Independent State of Papua New Guinea, 2001a). The national goal is also aligned with the government’s international and regional obligations as a State signatory to UN treaties and commitment to global and regional education initiatives promoting the education rights of all children, including children with disability (Pacific Islands Forum Secretariat, 2009a, 2009b; United Nations, 2006).
Presented below is a discussion of the features of national goal setting presented in Figure 20 that were interpreted in this study as potential constraints to progress (to date) in the goal’s achievement.

6.2.3 National educational goal setting features constraining the goal’s achievement

6.2.3.1 Participation of people with disability and families in national educational goal setting

An analysis of the study’s results highlighted the low level of participation of people with disability in national educational goal setting in the area of disability during the early 1990s. Results indicated that the national goal was developed by a committee of educational and rehabilitation leaders, under the auspices of the National Education Board of the National Department of Education. At the time of the goal’s development, the leaders with a vested interest in education of children with disability consisted mostly of the charitable, private, church, and faith-based organisations/agencies operating the special schools and providing rehabilitation services. The Papua New Guinea government was not involved in education provision for children with disability and, therefore, lacked expertise in this area. Further, people with disabilities and their families were generally marginalised from political and educational leadership and decision-making.

The comprehensive literature review presented in the second chapter identified a range of national human development dimensions that have limited the health, well-being, and social and educational participation of children and adults with disability and their families. Such social and educational factors as poverty, poor health, social inequality, social marginalisation, and low literacy rates have limited their active participation in decision-
making at all levels of the political and education systems. It may be concluded from the study’s results that the limited involvement of people with disabilities and their families in the 1990s development of the national inclusive education goal has resulted in their limited sense of “ownership” of the national goal, and commitment to its implementation. Research undertaken by Alkire (2010) on behalf of the United Nations Development Programme emphasised that “human beings are not only the beneficiaries of development; they are also the agents, whose vision, ingenuity and strength are vital to advancing their own and others’ well-being” (p. 42). The researcher has concluded that the active participation of people with disabilities in national goal setting would have empowered them as beneficiaries and agents in the educational reforms affecting their lives and the lives of their families.

The following section presents a discussion of the perspectives and conclusions drawn from transformative analysis of the results of the second and fourth research questions.

6.3 Educational governance and enrolment rates of children with disability

6.3.1 Introduction

Educational governance refers in this study to the set of responsibilities and practices, policies and procedures, exercised by educational leaders and decision-makers in order to provide strategic direction, to ensure objectives are achieved, to manage risks, and to use educational resources responsibility and with accountability (adapted from Australian Public Service Commission, 2007).

An analysis was undertaken of the results of the second and fourth research questions to develop insights into the relationship between educational governance in the area of disability and progress to date in substantially improving enrolment and retention rates for children.
with disability. Figure 21 presents the balance of important governance system features interpreted in this study as supporting and constraining progress (to date) in achieving substantial growth in national education enrolment rates for children with disability.

The discussion that follows commences with the two supportive governance features linked with enrolment rates.

![Figure 21. Qualitative educational scales: Governance features supporting and constraining growth in national education enrolment rates for children with disability](image)
6.3.2 Educational governance features supporting growth in enrolment rates

6.3.2.1 Participatory governance at national and provincial levels of the education system

The first insight derived from analysis was the establishment in the early 1990s of a “participatory” governance system in the area of disability at national and provincial levels of the education system. The three key national and provincial governance bodies identified in this study were the National Special Education Committee (NSEC) of the NDoE National Education Board, the NDoE national Inclusive Education Unit (IEU), and the governing boards of the special education resource centres. Membership on these three governance bodies included public, private, civil society, and church stakeholders with a vested interest in education of children with disability.

The national and provincial participatory governance model strengthened collaborative partnerships between registered public, private, and faith-based education agencies; and between education agencies and organisations of people with disability. Key stakeholder representation helped to ensure national planning and educational reforms were relevant to the diverse cultural, social, and religious contexts of education provision for children with disability and their families in Papua New Guinea. Further, participatory governance helped to strengthen the ethical and accountable acquittal of fiduciary duties to financial stakeholders by providing them with a representative voice on governance bodies.

The responsibilities of governance authorities at all levels of the education system are regulated by the Education Act 1983 (Consolidated to No. 13 of 1995) (Independent State of Papua New Guinea, 2001a). Their major responsibilities include educational leadership and decision-making in the related areas of inclusive and special education; governance, management, and coordination of the education system for children with disabilities; and
acquittal of fiduciary duties to donor organisations. The national and provincial educational governance authorities work in collaboration with provincial education boards, district education administrators, and school management and governance bodies.

6.3.2.2 Development of a national special education plan and statement of policy and guidelines

An important feature of national educational planning and priority setting in the area of disability was the development of the initial and subsequent national special education plan and statement of policy and guidelines the Papua New Guinea Department of Education (Papua New Guinea Department of Education, 1993, 2003a). The importance of these policy and planning documents cannot be understated in setting the direction of inclusive educational reform in the area of disability in Papua New Guinea since the early 1990s.

The initial national special education plan and statement of policy and guidelines were published in 1993 by the National Special Education Committee (NSEC) of the National Department of Education. Membership of the NSEC in the early 1990s consisted of the small number of public, private, and church leaders in Papua New Guinea with knowledge and experience of education provision for children with disability. These leaders recognised the limitations of the urban-based special schools that were operated by charitable, religious, and private organisations. Enrolment in the special schools was generally beyond the reach of subsistence farming families with children with disability living in rural and remote communities.

An insightful approach adopted by the NSEC resulted in implementation of an inclusive philosophy at all levels of the education system. This result was evident in the recommendations included in the national special education plan promoting education system growth and reform through organisational restructuring, rather than through the development
of separate and parallel educational infrastructure supporting children with disability. The existing educational infrastructure and lines of reporting at national, provincial, and district/local levels, were retained and expanded to include responsibility for the implementation of services, programs, and staffing supporting children with disability, their families, and teachers.

Presented below is a discussion of three features of the educational governance system presented in Figure 21 that were interpreted in this study as potential constraints to growth in national enrolment rates for children with disability achieved to date. The discussion commences with the level of representation of people with disability on district and local educational governance bodies.

6.3.3 Educational governance features constraining growth in enrolment rates

6.3.3.1 Participation of people with disability in educational leadership and governance

The first educational governance feature interpreted as a potential constraint to growth in national enrolment rates for children with disability was under-representation of people with disability on educational governance bodies at district and local levels of the education system. This situation contrasts with the professional literature, which emphasises the importance of representation of people with disability on leadership and governance bodies (Alkire, 2010; Jayadev, 2010; UNDP, 2007a, 2007b). Representation provides people with disability with a “voice” in promoting and sustaining inclusive educational reforms across the national education system. Further, representation of people with disability in leadership and governance positions serves as a means of reducing the susceptibility of inclusive education
reforms to competing political and economic priorities of government leaders and decision-makers that are associated with their kinship obligations (Morris & Stewart, 2005).

There exists a substantial body of professional literature promoting the rights of people with disability through participation in educational leadership and governance (Clegg, et al., 2006; Morris & Stewart, 2005). Much UN research has highlighted the relationship between inclusive democratic governance and promotion of equality of rights before the law for disadvantaged and minority groups such as persons with disability (Alkire, 2010, pp. 40-41; UNDP, 2007a, p. 1, 2007b, p. 1; UNESCAP; UNDP; & ADB, 2007, p. ix; UNESCO, 2010, pp. 82-83). The core dimensions of national human development identified by Alkire (2010) were human values and capabilities, empowerment and democratic practice (process freedoms), and social justice for people experiencing marginalisation and disadvantage (pp. 41-42). Moreover, research on global governance and human development undertaken by Jayadev (2010) identified the growing shift from centralised to decentralised forms of national governance, with increased participation on local governance boards of key stakeholders and beneficiaries who are affected by social decisions (p. 27). Jayadev’s research supports the interpretations drawn from this study promoting empowerment of people with disability through representation on leadership and governance bodies at all levels of the national education system.

6.3.3.2 Political dimensions of educational leadership and governance

The second element of educational governance identified as a potential constraint to growth in national enrolment rates for children with disability was the limitations in government leadership and resource commitment (financial, human, and physical) in the area of disability. The study’s results highlighted the critical importance of government leadership and resource commitment in the long-term development of an effective and sustainable
inclusive education system for children with disabilities and their families. The government’s national special education “directions and emphases for 2004-2013” identified government leadership and financial provision as “current needs and critical issues” in the development of a disability-inclusive education system (Papua New Guinea Department of Education, 2003a, pp. 7-8). The government’s list of current needs and critical issues included leadership training in inclusive education principles and practices for educational administrators and the inspectorate, and recurrent annual government funding “to enable inclusive education to become the vehicle for quality upgrading and revitalising of the schools of PNG through providing quality education for all” (p. 8).

The important role of government leadership in educational governance and management systems that promote and support the human rights of a country’s citizens was emphasised by UNESCAP, UNDP, and ADB (2007). The authors identified the government’s important role in establishing and maintaining governance and management systems that are inclusive and equitable; transparent and accountable; efficient, effective, and sustainable in the long term; and that adhere to the rule of law (p. ix). However, significant leadership challenges facing the Papua New Guinea government have been identified by Morris and Stewart (2005). These challenges included the kinship obligations of government ministers that strongly influenced political and bureaucratic priority setting in education and health. A further concern identified by Morris and Stewart was the limited and ineffective demand by community and civil society organisations for greater political and bureaucratic accountability and performance by the Papua New Guinea government.

6.3.3.3 The role of the school inspectorate in policy implementation

The third educational governance feature presented in Figure 39 as a potential constraint to growth in national education enrolment rates for children with disability has to
do with the limited role of the education inspectorate in the area of disability. The government’s national special education “directions and emphases for 2004-2013” includes several recommendations associated with improving school and resource centre (SERC) inspections in the area of inclusion of children with disability (Papua New Guinea Department of Education, 2003a, p. 18).

An important area of concern identified in this study is the existence of only one “inclusive education standards officer” (inspector) in the national Inclusive Education Unit of the National Department of Education. It has been concluded by the researcher that this sole standards officer faces a range of physical and financial challenges in undertaking regular inspections of the 21 SERCs and eight SERC sub-centres situated in 18 of Papua New Guinea’s 21 provinces. Challenges include the country’s severely limited transportation and communication infrastructure outside of Port Moresby, the nation’s capital (see PNG map presented in Figure 12).

The present study has highlighted the need to broaden the role of the school inspectorate in monitoring enrolment and retention rates for children with disability in government, non-government, and faith-based schools across Papua New Guinea. School inspections should be an essential component of national monitoring and reporting on school implementation of the national special education policy and plan. The study’s conclusions support the recommendations of the national special education directions and emphasis for 2004-2013 (Papua New Guinea Department of Education, 2003a, p. 18).

The following section presents a discussion of the teaching and learning insights and conclusions drawn from an analysis of the results of the third and fourth research questions.
6.4 Teaching and learning infrastructure and enrolment rates for children with disability

6.4.1 Introduction

As mentioned in the introduction to this chapter (Section 6.1), a particular focus in the analysis of the study’s results was related to developing an understanding of the reasons why the two decades of broad-reaching educational reforms had not resulted in substantial growth in national education enrolment rates for children with disability. Figure 22 presents the educational infrastructure features interpreted in this study as supporting and constraining influences on growth in national enrolment rates for children with disability. The discussion that follows explores the three supportive educational infrastructure features identified, commencing with the placement of children with disability in mainstream schools.
6.4.2 Educational infrastructure features supporting growth in enrolment rates

6.4.2.1 Education inclusion in mainstream schools

It is important to reiterate at this juncture that the study of Papua New Guinea’s education system for children with disability was selected because it was founded upon an inclusive educational philosophy, with national reforms aligned with the democratic human rights principles enshrined in the national constitution and educational policy and legislative
framework. In accordance with the constitutional human rights principles, the first and foremost education option for children with disability is enrolment in the national education system of public, private, and faith-based schools.

A small number of school support units have been established in regions of Papua New Guinea where there is high incidence of deafness, deafblindness, and severe hearing impairment among the school-age population. The purpose of the support units is to promote full and equitable inclusion for the students with severe hearing impairments in mainstream schools and local communities through the provision of teacher and student training in sign language and communication development.

The successful inclusion of students with disability in the national education system is supported by staff of SERCs. The study identified the employment of internal resource officers (IROs) and teacher assistants in mainstream schools. However, further study is recommended to develop a greater understanding of the system of recruitment, training, and retention of IRO staff.

6.4.2.2 Establishment of special education resource centres (SERC)

One of the striking features of the study’s results was the establishment of a network of SERCs to support achievement of the national goal of school and community integration and inclusion of children with disability. It was recognised by those education leaders who wrote the initial national special education plan and statement of policy and guidelines that educational reform would need to include proactive and innovative implementation approaches. Since the policy and plan’s development in the early 1990s, there have been persistent social, cultural, economic, educational, and environmental barriers to education inclusion for children with disability.
One of the innovative approaches adopted in the 1993 national special education plan was redevelopment of the pre-existing special schools into SERCs. The recommended construction of additional SERCs in close proximity to teacher training institutions and schools has promoted the development of collaborative professional partnerships between specialist and regular educators. SERC staffs are predominantly Papua New Guinea nationals drawn from the diverse linguistic and cultural communities across the country. This has enabled SERCs to deliver programs that are sensitive to the diverse social, cultural, and linguistic needs of Papua New Guinea’s children and families. Further, the majority of SERC staffs who participated in this study have some level of professional training in inclusive education and special education, in accordance with the nature of their job requirements.

The SERCs have become an essential component of the learning support infrastructure underpinning integration and inclusion of children with disability in schools, communities, work places, and the broader society.

6.4.2.3 Innovative SERC programs in rural and remote regions

The third feature of teaching and learning infrastructure interpreted in this study as supportive of growth in national enrolment rates for children with disability was the implementation by SERCs of a broad range of school, home, and community-based support programs for children with disability.

A common area of concern identified by the research participants was the challenge of educational access and inclusion for children with disability in the vast rural and remote regions of Papua New Guinea. As discussed in the second chapter, approximately 87% of the country’s population live in rural and remote communities where subsistence farming and cash cropping are the major sources of family income. In such communities the meagre income of the family is generally reserved for the children who, it is believed, will benefit
most from education. In many instances, children with disability are perceived as uneducable (Aiwa, 2006). School access and participation are further constrained by limitations in local transportation and communication infrastructure that negatively affect children who are unable to walk the distance between home and school on foot (Government of Papua New Guinea & United Nations in Papua New Guinea, 2004). SERC provision of a broad range of formal, non-formal/informal programs has enabled families with children with disability to receive educational intervention and support, and has enabled children with disability to receive an education irrespective of whether or not they have access to local schools.

The following two SERC programs stand out in this study as proactive and innovative approaches to education for children with disability in the rural and remote regions of Papua New Guinea.

SERC outreach patrols. This study identified the provision of SERC outreach patrols of approximately five days’ duration to schools and communities situated in rugged and remote regions. The patrols are generally staffed by multidisciplinary teams of education and rehabilitation officers who work in close collaboration with local school, church, and community leaders. For many of the children with disability living in the remote regions, the outreach patrols are the first point of contact with education and rehabilitation services, including disability assessment, intervention, referral, and education. It was noteworthy that the sustainable delivery of outreach patrols is constrained by SERC reliance on donor funding. SERCs face challenges in addressing the staffing and financial cost associated with reaching the pockets of children and adults with disability living in geographically remote and difficult to reach communities and schools.

Community volunteer system. The second innovative SERC approach to education and rehabilitation service delivery in the rural and remote regions is recruitment and training of community volunteers. The volunteers are generally selected by local parish and community
leaders, with an emphasis on the selection of ethical and reliable community members who speak the same *tok ples* as the targeted family (“talk of your place” or mother tongue). This approach helps SERCs to reach children and families who are marginalised from education and rehabilitation services due to social, cultural, and linguistic barriers. It is noteworthy that the sustainability of the community volunteer system is challenged by the “voluntary” aspect of the recruitment. Volunteers living in subsistence farming communities have limited financial resources to meet any costs associated with supporting children and families.

The ensuing section presents the four features of teaching and learning infrastructure presented in Figure 22 that were interpreted as potential constraints to growth in national education enrolment rates for children with disability.

### 6.4.3 Educational infrastructure features constraining growth in enrolment rates

#### 6.4.3.1 Rights-based and inclusive school culture

The limited adoption of a rights-based and inclusive culture by schools across Papua New Guinea was identified as the first feature of the teaching and learning infrastructure constraining growth in national enrolment rates for children with disability. This study’s results highlighted the strong influence on school culture and leadership of discriminatory traditional beliefs and attitudes about the causes of disability and the educability of children with disability. Decisions regarding school enrolment are determined by the school principal and executive, and their attitudes and beliefs influence the extent to which the school is welcoming and inclusive of children with disability.

The study highlighted the importance of preparing school leaders, staff, and school communities for the academic and social inclusion of children with disability. Preparation
should include leadership programs in inclusive education for school principals, and
disability awareness programs for school staff, students, and community members.

6.4.3.2 Financial, human, and physical resource provision through stakeholder partnerships

The second feature of teaching and learning infrastructure identified as potentially
constraining growth in national enrolment rates for children with disability is the mismatch
between the Papua New Guinea government’s national goal of inclusive education for
children with disabilities, and its level of commitment of the required financial, human, and
physical resources necessary to achieve the national goal. This mismatch is associated with
Papua New Guinea’s status as a low human development country with limited economic
capacity for development of human, institutional, and productive infrastructure in education,

Issues associated with limited government funding have impacted directly upon the
capacity of government, non-government, and faith-based educational agencies to expand
their existing school and SERC infrastructure supporting children with disability. As a result,
school and SERC enrolment rates of school-age children with disability have remained static
in recent years (Papua New Guinea Department of Education, 2008a, 2010). The study’s
results highlight the links between low school and SERC enrolment rates across Papua New
Guinea, and the limited number of SERCs and SERC sub-centres and their capacity to
provide sufficient programs to meet the needs and expectations of children with disability,
their families, and teachers.

It is concluded from this study that the long-term financial commitment of the Papua
New Guinea government is critical to developing sufficient teaching and learning
infrastructure (services, programs, and staffing) to meet the diverse educational needs of
children and families. This conclusion is supported by the “current needs and critical issues” underpinning the national special education directions and emphases for 2004-2013 (Papua New Guinea Department of Education, 2003a, pp. 7-10). Long-term funding was identified as critical to the expansion of the existing SERC network across the Papua New Guinea provinces, and to growth in human and physical resources supporting equitable enrolment of children with disability (pp. 7-8).

**Stakeholder partnerships.** Limitations in government funding of the education system for children with disability have in part been offset by the establishment of government partnerships with national and international donor agencies. In its *National Plan for Education 2005-2014*, the Papua New Guinea Department of Education identified the importance of government partnerships with non-government financial stakeholders as a means of addressing the educational pressures associated with high population growth, budgetary constraints, and national and international economic uncertainties (2004a, p. 23). However, the present study identified the inherent dangers in relying on short-term international donor funds for long-term development of educational infrastructure in the area of disability. This study highlighted the financial uncertainties experienced by SERCs in their long-term provision of education and rehabilitation support programs.

**6.4.3.3 Links between unmet child and family educational needs and educational marginalisation**

Children and youth with disability and their families are the key beneficiaries of the national goal of integration and inclusion in local schools and communities across Papua New Guinea. This study highlighted that national planning and priority setting in the provision of teaching and learning infrastructure supporting achievement of the national goal must be closely linked with an understanding of children and family educational needs.
Without these close links, there is no guarantee that growth in educational infrastructure will result in corresponding growth in education enrolment and retention rates for children with disability. As noted in the introduction to this chapter (Section 6.1), the present study identified such a mismatch between educational infrastructure and national enrolment rates for children with disability. In 2008, school enrolments of students with disability represented only 0.21% of the national student body. Further, 2009 enrolments of children and adults with disability in SERC programs represented only 1% of the country’s total population (Papua New Guinea Department of Education, 2009, 2010). These national enrolment statistics are well below the World Health Organization’s (2003) estimated 10% disability prevalence for any given population. It is concluded from this study that an area for further research is the relationship between inclusive education teaching and learning infrastructure, educational enrolment and retention rates, and the educational needs and demographic attributes of children with disability.

Analysis of the study’s results identified a number of child and family educational expectations, including the provision of education that is of high quality; affordable; culturally, socially, and linguistically relevant; delivered in local schools and communities; and physically and academically accessible. Child and family expectations also include the expectation that adolescents with disability will acquire the necessary knowledge and skills to proceed from school to post-school employment and social and financial independence (Papua New Guinea Department of Education, 1993, 2003a).

The limited responsiveness of the education system to the following five child and family educational needs was identified as a potential constraint to substantial growth in national education enrolment rates for children with disability. The ordering of the five educational needs that follow does not reflect their relative importance, and further research in this area is recommended.
Educational needs (1): Accessibility of academic and physical learning environment addressed through learning support services and modifications

The term “academic accessibility” refers in this study to the range of individualised adjustments and accommodations to the school curriculum, teaching programs, and teaching methods that are required to ensure equitable access for students with disability. Issues associated with low school retention and achievement rates for children with disability identified in this study included the limited knowledge and skills of school principals and teachers to implement disability-inclusive teaching and learning adjustments and accommodations.

The present study found that one of the areas of responsibility of special education resource centre staff was provision of the following school-based support programs for teachers and students: (a) disability awareness programs to raise teacher awareness of the educability of children with disabilities and the presence of students with disabilities in their classrooms; (b) workshops and consultation to improve teacher knowledge and skills in disability-inclusive curriculum and program modifications, and inclusive teaching methods; and (c) direct student support programs, including disability assessment and screening, and development of individual education plans in partnership with classroom teachers.

Physical accessibility of learning environments. The term “physical accessibility” refers in this study to the modifications made to the school environment (classrooms, playground, toilets) to support access of children and adults with disability. Access issues limiting growth in enrolment rates for children with disability identified in this study included the limited provision of accessible ramps, railings, and toilets; and the limited provision of wheelchairs and other physical mobility aids. Physical inaccessibility of school environments presents significant barriers to enrolment for students with mild to severe physical and
multiple disabilities, as evidenced in the high level of enrolments of children with physical
disability in home and community-based programs provided by SERCs.

*Educational needs (2): Social and cultural beliefs about disability*

The second set of educational needs identified in this study as limiting education enrolment rates for children with disability were associated with traditional social and cultural beliefs about the causes of disability that resulted in family shame and the marginalisation of their children from social and educational opportunities. Discriminatory beliefs impact upon education enrolment and retention rates and the level of family engagement with medical, educational, or rehabilitation support services. It is concluded from this study that school and community-based disability and educational awareness programs are essential to overcoming the social and cultural barriers to education access and participation for children with disability. Growth in education enrolment rates is intricately linked with the adoption of rights-based beliefs and obligations by the country’s chiefs, village elders, and extended families and clans that form the traditional wantok system.

*Educational needs (3): Poverty and health-related factors impacting the well-being, survival, and learning capacity of children and youth with disability*

The third set of educational needs that should be prioritised by education agencies is associated with the strong links between family poverty and high rates of childhood malnutrition and mortality. The literature review presented in the second chapter highlights the extensive body of research into the impact of low national human development on the quality of life of children and their capacity to attend school and engage with learning opportunities (Asian Development Bank, 2009a; UNDP, 2007b, 2010a, 2011a; UNICEF, 2008). Unfortunately the professional literature contained little information on the well-being,
survival, and learning capacity of children with disability. The researcher’s personal and professional experiences in Papua New Guinea have led her to conclude that the extremely low percentage (0.0008%) of children aged 0-5 years enrolled in SERC programs is linked with their low survival rate. This is an area warranting further study. The quality of life challenges associated with human poverty in Papua New Guinea resulted in an annual mortality rate of 5% for children 0-12 months, with an annual mortality rate of 6.5% for children aged 0-5 years (UNDP, 2010a). Published information about the health and well-being of children with disability and the economic status of their families was not identified in the present study.

Educational needs (4): Educational needs associated with child and family demographic attributes

The fourth set of educational needs identified in this study as potential constraints to growth in national education enrolment rates was associated with the demographic attributes (age, gender, disability, geographical location) of children with disability. Key issues associated with age and gender attributes are presented below.

Age attributes

Children with disability aged 0-5 years. Non-formal/informal SERC programs delivered in homes, communities, and centres were the only educational option for families with young children with disability. As mentioned previously, SERC enrolment rates for this cohort were extremely low, representing 0.008% of the national population of children aged 0-5 years. It is concluded from this study that the education system is not adequately responsive to the needs of families with young children with disability.
Children with disability aged 6-14 years. This study revealed that despite the government policy of compulsory school attendance for children aged 6-14 years, national data indicated that 45% of SERC clients aged 6-8 years and 38% of clients aged 9-14 years were enrolled in programs delivered outside the formal school system. It is concluded that further research is needed to understand the causes of educational marginalisation of elementary and primary-age children with disability.

Youth with disability aged over 15 years. This study’s results indicate a sharp decline in school-based SERC program enrolments at the end of compulsory primary education (Grade 8) for youth with disability aged over 15 years. As noted previously, a contributing factor to the school drop-out rate for secondary-age students with disability was the limited number of post-school employment options for adolescents and adults with disability. Moreover, the government requires all students to pass the formal national examinations at the end of Grades 8 and 10, in order to proceed from primary to lower secondary, and from lower to upper secondary. These national exams are a significant impediment to school retention rates for students with disability beyond primary school level. Empirical and anecdotal evidence suggests the need for a greater investment in the provision of examination papers in accessible formats (braille, large print, electronic) and the modification of examination conditions (location, time allocation) to enable equitable participation for students with disability. This is an area worthy of further study.

Gender attributes

The study’s results suggest that school and SERC enrolment rates for girls with disability of school age (6-18 years) are influenced by the safety and child protection concerns of parents and families. These concerns include issues of personal safety when walking between home and school, protection from sexual harassment and bullying during
school hours, and concerns about the limited provision of gender-specific school sanitation facilities.

**Educational needs (5): Relevance of education to post-school employment and social and financial independence**

The study’s results highlighted the need to break the cycle of unemployment and dependency of people with disability on their parents and extended family networks. The absence of social welfare support, coupled with the predominance of subsistence farming occupations requires an intensive focus on self-help, income generation, and vocational programs for adolescents and adults with disability. The decline in school enrolments for all students, including children with disability at the end of primary schooling (Year 8), reflects the current limitations of an academically-focused secondary education in preparing adolescents for post-school employment in the formal and non-formal economy.

It is concluded from this study that in order to break the cycle of poverty and dependence for people with disability, greater emphasis is needed on government-funded programs targeting job creation for people with disabilities in public and private industry, supported by public awareness programs highlighting the employability of people with disability.

**6.4.3.4 Human capital: Inclusive education staff recruitment, training, and retention**

Human capital is the fourth and final feature of teaching and learning infrastructure that is interpreted in this study as a potential constraint on growth in national enrolment and retention rates for children with disability. An analysis of the study’s results highlighted the vital importance of recruitment, training, and retention of education personnel who possess
the essential knowledge and skills required to facilitate equitable education access and inclusion for children with disability. The importance of human capital was supported by the Papua New Guinea Department of Education’s *Recommendations for Direction and Emphasis 2004-2013* (2003a, pp. 14-21), which prioritised staff recruitment and training in inclusive education and special education at all levels of the national education system.

Essential teacher knowledge and skills include the ability to modify curriculum, program, and examination content to address learner needs, to develop individual education plans (IEPs), to support students using sign language and alternative communication methods, and to provide curriculum and learning material in alternate formats (braille, large print). It was evident in the study’s results that schools were over-reliant on the limited network of SERCs due to the limited school capacity in the area of disability.

The challenges still to be overcome included the need for growth in pre-service and in-service professional training programs across the national education system. Growth in professional training options should be accompanied by the compulsory completion of these programs as a requirement of teacher employment in public, private, and faith-based schools. This requirement is specified in the Papua New Guinea Education Act and the Teaching Service Act (Independent State of Papua New Guinea, 2001a, 2001b). Conclusions drawn from the study included the importance of providing incentives to school principals, teachers, and learning support staff to undertake additional professional training in the area of disability. Incentives considered in this study included the following: (a) professional scholarships and cadetships, provided through partnerships between government and international development organisations; (b) paid time release for educators to undertake study; (c) financial and non-financial incentives linked with the successful completion of professional study in the area of disability, for example public recognition of qualifications
and timetabling provisions to support the implementation of teacher and student support programs.

One area of concern identified in this study was the limited availability of data relating to the recruitment, training, and retention of internal resource officers (IROs) in mainstream schools. The study’s results suggest a number of teacher disincentives to undertaking IRO training, including the added work-load to existing teaching duties. The importance of improving existing school-based supports for learners with disability highlights the need for further research into IRO roles and responsibilities.

The following section presents four potential directions for further research into the Papua New Guinea education system for children with disability.

### 6.5 Directions for further research in Papua New Guinea

The present study highlights the need for further study of Papua New Guinea’s inclusive education system for children with disability in order to develop a greater understanding of the factors influencing growth in education enrolment, retention, and achievement rates for children and youth with disability. Potential directions for further research include the following:

**Direction (1):** Research into the relationship between the provision of inclusive education teaching and learning infrastructure, educational enrolment and retention rates for girls and boys with disability, and child and family educational needs and demographic attributes.

Analysis of the Papua New Guinea study’s results highlighted substantial program and demographic variability in the SERC enrolment rates for children and adults with disability across the provinces of Papua New Guinea. Across-SERC program variability was associated
with such demographic factors as age, gender, and type of disability, and geographical location, with no clear pattern of causal factors evident in the national SERC enrolment data. Further research is essential in ensuring the education system is responsive to learner and family needs. Specific focus areas for further research suggested by this study include the gender-specific issues influencing enrolment and retention rates for girls and women with disability, and the causal factors associated with low elementary school enrolment rates for children with disability at the age of six years.

**Direction (2):** Research into the development of effective and sustainable preschool services for children with disability.

The present study identified the need for formal preschool education services in Papua New Guinea, including preschool services for parents and families with young children with disability. This study identified non-formal community-based preschool services provided by several SERCs. However, these services reached only a very small percentage of children with disability, suggesting a large percentage of parents with children with disability do not have access to educational services during the critical early years of childhood development.

**Direction (3):** Research into the recruitment, training, and retention of internal resource officers (IROs) and teacher assistants in Papua New Guinea schools.

The conclusions drawn from the present study included the importance of school-based learning support staff to support the inclusion of students with disability in mainstream schools. The government’s national special education “directions and emphasis for 2004-2013” prioritised recruitment and training of IROs and volunteer assistant teachers (Papua New Guinea Department of Education, 2003a, p. 19). However, the present study was unable to uncover information relating to the employment of IROs, or information about progress to
date in implementing the national special education recommendations in this area. Further research into the IRO system would enhance future national educational planning and priority setting in the area of disability.

*Direction (4):* Research into the provision of disability-inclusive curriculum, programs, examinations, and learning support resources to ensure equitable academic access and participation for students with disability.

The present study alluded to the need for improvements in current levels of curriculum access for students with disability. This was evident in the sharp decline in school enrolment rates for students with disability at the end of primary school (Grade 8), and also at the end of lower secondary school (Grade 10). Important issues of concern raised by the study’s participants that warrant further study include the following: (i) production and distribution of curriculum and examination materials in accessible formats (braille, large print, electronic); (ii) provision and maintenance of assistive devices and educational resources, including hearing aids, physical aids, and teaching aids; and (iii) provision of examination accommodations to address individual learner needs, for example, provision of additional time and suitable examination settings.

### 6.6 Conclusion

This chapter has presented a discussion of several insights and conclusions drawn from the study of Papua New Guinea’s education system for children with disability. Sources of information used in the analysis process included the perspectives of 19 leaders and practitioners who possessed a broad range of knowledge and expertise in education and rehabilitation of children and adults with disability in Papua New Guinea.
Discussion commenced with the insights and conclusions relating to the first research question, which explored the features of national goal setting that supported and constrained progress in the goal’s achievement. The analysis highlighted the importance of establishing a national educational goal in the early 1990s to serve as the philosophical foundation for inclusive education system growth and reforms. The strengths of the goal setting process included alignment between the national goal, the government’s mission and vision for the national education system, and the constitutional directives promoting the rights of all citizens to equality of participation in education and the broader society. The major constraint in achieving the national educational goal was the limited participation of people with disability in its development in the early 1990s.

The second focus of discussion was the insights and conclusions drawn from an interpretation of the results of research questions 2-4. The features of educational governance in the area of disability were discussed in terms of their interpreted supportive and constraining influence of growth in national enrolment rates for children with disability. Discussion included the supportive governance system features of participatory governance at national and provincial levels of the education system, and the central role of the national special education plan and statement of policy and guidelines in setting the long-term direction for education system growth and reform in the area of disability. This section of the chapter also included a discussion of the three features of the governance system that were concluded to be potential constraints to growth in national enrolment rates for children with disability. The governance constraints were related to the limited representation of people with disability on district and local governance bodies, limitations in government leadership and financial provision in the area of disability, and the important role of the school inspectorate in promoting growth in school enrolment and retention rates for children with disability.
The third area of discussion explored current and future perspectives on the teaching and learning infrastructure drawn from the results of the third and fourth research questions. Features of the educational infrastructure supporting growth in education enrolment rates for children with disability included an emphasis on enrolment in mainstream schools, and the importance of providing innovative, multidisciplinary home and community-based educational options for children with disability and families who are marginalised from the formal school system. The discussion then explored the features of the teaching and learning infrastructure that were interpreted as potential constraints to growth in national enrolment rates for children with disability. Perspectives and conclusions discussed in this section of the chapter included the negative influence of discriminatory traditional beliefs on school adoption of a rights-based and inclusive school culture, and the vital importance of the government’s long-term commitment to capacity building in the area of disability-inclusive educational infrastructure. Further, the third section of this chapter emphasised the importance of human capital in the area of disability and education system responsiveness to the needs and attributes of children with disability. The analysis process suggested a range of educational and demographic needs and attributes that impacted upon the levels of child and family engagement with educational services and programs. These included academic and physical accessibility of formal education; social and cultural beliefs about disability; poverty and health related factors impacting upon the well-being, survival, and learning capacity; age and gender attributes; and the relevance of education to post-school employment and income generation, and independence.

The chapter concluded with potential directions for further study of Papua New Guinea’s education system for children with disability. The following chapter presents the recommendations offered for national planning and priority setting in Timor-Leste, and the researcher’s final reflections on the study’s assumptions and outcomes.
CHAPTER 7 RECOMMENDATIONS AND REFLECTIONS

7.1 Introduction

The purpose of this transformative educational study is to offer recommendations for growth and reform of the Timor-Leste education system for children with disability that derive from a study of the Papua New Guinea and Timor-Leste education systems. The nine recommendations that follow reflect the study’s purpose and derive from a series of research questions. The study’s development included analysis, synthesis, and interpretation of participant and documentary data. The professional and personal perceptions of 32 widely acknowledged leaders and practitioners working in the related fields of education, rehabilitation, and disability in Papua New Guinea, Timor-Leste, Australia, and New Zealand greatly supported the study’s development and its contribution to the existing body of knowledge of the education systems for children with disability in Papua New Guinea and Timor-Leste. The recommendations offered for the education system for children with disability in Timor-Leste are organised using the following three focal areas, each linked to the study’s research questions:

- Recommendations for national educational goal setting (Research question 1; Recommendation 1);
- Recommendations for educational leadership and governance (Research question 2; Recommendations 2-7);
- Recommendations for growth in teaching and learning infrastructure (Research questions 3 & 4; Recommendations 8 and 9).
7.2 Recommendations for national educational goal setting

7.2.1 Recommendation 1: Consultation and partnerships in national educational goal setting

This recommendation relates to the importance of developing a rights-based and inclusive national goal for future growth and reform of the education system for children with disability in Timor-Leste. A national goal will serve as the philosophical foundation for long-term national educational planning and priority setting in the area of disability. Its development should reflect the democratic, human rights principles enshrined in the Timor-Leste Constitution and the national education policy for 2007-2012 (Democratic Republic of Timor-Leste, 2002; Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007).

In recognition of the national constitutional principles of equity, co-participation and social partnerships, it is recommended that the process of national educational planning be collaboratively undertaken by a committee of government, non-government, and civil society leaders and decision-makers with a vested interest in education for children with disability. The committee’s membership should include leaders of organisations representing people with disability and their families (key beneficiaries). In so doing, the national educational goal will embody the combined hopes and aspirations of key beneficiaries and stakeholders for the future direction of education system growth and reform. The country’s long history of social marginalisation and disempowerment has limited the potential leadership capacity of community organisations of people with disability. Efforts should be made by the government to minimise any limitations to the participation of people with disability, including provision
of financial and physical support for participation in the consultation process and educational governance bodies.

The following section presents six recommendations relating to growth in educational leadership and governance in the area of disability. The first addresses development of an inclusive education policy and implementation plan to guide the direction for education system growth and reform in the area of disability.

7.3 Recommendations for educational leadership and governance

7.3.1 Recommendation 2: Development of an inclusive education policy and implementation plan in the area of disability

This recommendation relates to the importance of developing a national policy and implementation plan for growth and reform of the national education system for children with disability in Timor-Leste. The policy and plan should be aligned with the government’s inclusive education reform agenda, as prescribed in the National Education Policy 2007-2012 (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007). Further, it is recommended that responsibility for development of the national policy and implementation plan be assigned to the national inclusive education governance committee (NIEGC), as described in the third recommendation that follows. The NIEGC should consult broadly with key beneficiaries and stakeholders to ensure the policy and plan reflect a broad cross-section of national priorities in education for children with disability.
7.3.2 Recommendation 3: Establishment of a national educational governance body to oversee national planning and policy development in the area of disability

This recommendation relates to the establishment of a national inclusive education governance committee (NIEGC) within the Timor-Leste Ministry of Education, with collaborative links to educational leaders and decision-makers at national, regional, district, and local levels of the education system. The NIEGC would serve as a national steering committee to oversee education system growth and development in the area of disability.

It is recommended that committee membership include acknowledged government, non-government, and civil society leaders and decision-makers with knowledge and expertise in the related fields of education and rehabilitation of children with disability. Membership would include representation of national and/or regional disability organisations, parent and community groups, and other key stakeholders. Appointment to the NIEGC would be honorary (unpaid), with committee attendance costs supported as required.

On the basis of this study’s results, it is recommended that responsibilities of the NIEGC include the following: (a) development of a national inclusive education policy and implementation plan for education system growth and reform in the area of disability (see recommendation 2); (b) acquittal of fiduciary duties to financial stakeholders (government, civil society, international donor agencies); (c) regular reporting on progress in achieving the national educational goal, as reflected in achievement of the operational priorities and timelines of the inclusive education implementation plan; and (d) progress in achieving equity of education enrolment, retention, and achievement rates for children with disability.

Growth in educational governance in the area of disability has received strong support from the education leaders who participated in the present study. The recommendation is aligned with reform priorities of the national education policy for 2007-2012 (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007). Moreover, the
recommendation was included in the 1999 funding submission of the Timor-Leste Ministry of Education under the World Bank’s *Fast track initiative for universal primary education completion* (FTI) program (Democratic Republic of Timor-Leste Ministry of Education, 2008).

### 7.3.3 Recommendation 4: Government leadership and financial commitment

This recommendation relates to the critical importance of government leadership and financial commitment to the achievement of the national goal for growth and reform of the education system for children with disability in Timor-Leste. Implementation of an inclusive educational philosophy at all levels of the education system; together with sustainable growth of disability-inclusive educational infrastructure (staffing, services, and programs) requires a commitment of the country’s leaders and decision-makers.

The Papua New Guinea study highlighted the challenges faced by governments in countries with low national human development and competing educational priorities associated with traditional cultural beliefs and clan-based obligations. In recognition of the financial constraints associated with Timor-Leste’s status as a low human development country, it is recommended that the government establish partnerships with non-government and international donors to support the provision of the financial, human, and physical resources required for education system growth in the area of disability.

### 7.3.4 Recommendation 5: National data on educational and demographic attributes of children with disability

The present study highlighted the importance of linking national planning and priority-setting in the area of disability with a comprehensive understanding of the educational and demographic attributes of children with disability. Prior Timor-Leste studies estimated that
approximately 99% of school-age children with disability were not enrolled in the national education system (Plan Timor-Leste & ASSERT, 2008). The severely limited availability of national data on children with disability limits the government’s ability to address the causes of low school enrolment and retention rates.

This fifth recommendation promotes an expansion of the education management information system (EMIS) of the Timor-Leste Ministry of Education to include data collection, management, and reporting on the following: (a) education enrolment, retention, and achievement rates for children and youth with disability enrolled in national education system of preschools, basic (primary) schools, and secondary and post-secondary schools; (b) the demographic attributes of children with disability, including the attributes of age, gender, disability, cultural and linguistic background, socio-economic status, and geographical (urban, rural, and remote) location; and (c) the extent and causes of education marginalisation of children with disability.

### 7.3.5 Recommendation 6: Establishment of a national office of inclusive education

This recommendation relates to the establishment of a national office of inclusive education (NOIE) within the Timor-Leste Ministry of Education, and appointment by the Director General of a national inclusive education coordinator, educational advisors/consultants, and administration staff. The main purpose of the Office would be to serve as the national coordination and management authority for growth and development in educational infrastructure (staffing, services, and programs) in the area of disability. The coordination and management role would be guided by the inclusive educational priorities and operational and performance measures of the national education policy and implementation plan. Further, it is recommended that consideration be given to the appointment of inclusive education coordinators within the country’s five education regions.
Chapter 7 Recommendations and reflections

The NOIE would work in with close collaboration with the regional authorities to ensure the educational reforms in the area of disability are implemented at all levels of the national education system.

Based upon results of this study, NOIE staff responsibilities should include collaborative partnerships with national, regional, and district directorates and departments of the Ministry of Education to ensure the national curriculum and policies and procedures are disability-inclusive, and staff professional training programs include relevant training in inclusive education principles and practices. Further, the NOIE should work in close collaboration with the Ministry’s inspectorate to promote school implementation of inclusive education policies, enrolment procedures, and teaching approaches. The NOIE should also collaborate with the Protocol and Media Division in the implementation of national media campaigns promoting school enrolments of children with disability.

7.3.6 Recommendation 7: Expansion of school inspectorate responsibilities in the area of disability

The present study highlighted the important role of the school inspectorate in promoting and monitoring growth in national enrolment, retention, and achievement rates for students with disability. The seventh recommendation relates to the expansion of the school inspectorate responsibilities proposed in the *Timor-Leste National Education Policy 2007-2012* (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007). The recommendation addresses the following important school inspection and monitoring responsibilities in the area of disability: (i) school implementation of child and family-centred policies and procedures, including enrolment, child protection, and examination procedures that promote equitable school access and participation for children with disability; (ii) school implementation of disability-inclusive teaching and learning.
content and pedagogy; (iii) school executive support of staff professional training relating to inclusive education and special education, in accordance with staff roles and responsibilities; and (iv) annual school progress in improving enrolment, retention, and academic achievement rates for students with disability.

The following section presents the two recommendations offered from this study relating to growth and reform of teaching and learning infrastructure (staffing, services, and programs). The first recommendation addresses innovative approaches to service and program delivery.

7.4 Recommendations for growth in teaching and learning infrastructure

7.4.1 Recommendation 8: Innovative approaches to education service and program delivery for children with disability

The eighth recommendation relates to the provision of a range of formal (school-based) and non-formal (home and community-based) educational services and programs for children with disabilities and their families situated in urban, rural, and remote regions of Timor-Leste. The Papua New Guinea study highlighted the importance of innovative approaches to education provision for children with disabilities and families in countries with high levels of educational marginalisation of children with disability. This research found that in Timor-Leste, the educational needs of children with disability were associated with the deep and persistent barriers to education access and participation that are associated with cultural, social, economic, educational, and geographical features of Timor-Leste society.

The following three types of educational services and programs are offered for consideration by Timor-Leste’s key beneficiaries and stakeholders:
Option 1: The first and foremost educational service offered for children with disability should be full inclusion in the national education system of public, private, and faith-based preschools, basic (primary) schools, and secondary/technical schools. In order to ensure equitable academic and social inclusion alongside same-age peers, learning support services, programs, and staffing should be customised to meet the individual learning needs of students.

Option 2: School support units should be considered in regions with a high incidence of deafness, deafblindness, and severe and multiple disabilities. Targeted students with disabilities living within a reasonable travelling distance of the school support unit would be enrolled in their local school, with part-time placement in the support unit. The purpose of school support units would be provision of short-term, intensive training in communication, sign language, and literacy acquisition for the individual students, their families, and school communities. Training in sign language for school staff and the student body will help to ensure the successful inclusion of the students with deafness and deafblindness in mainstream classrooms.

Option 3: In acknowledgement of the currently limited human, financial, and physical resource capacity of the Timor-Leste Ministry of Education in the area of disability, it is recommended that the educational services provided by the Directorate of Adult and Non-Formal Education be expanded to include an emphasis on home and community-based education for children with disability. Further, it is recommended that the Directorate establish an inclusive education resource centre (IERC) in Dili, the nation’s capital, with satellite resource centres in each of the five education regions. The main purpose of the non-formal home and community-based educational services and programs would be to provide child and family-centred training in basic literacy, numeracy, and life skills needed to become self-advocates for inclusion in mainstream school, work, and community settings. In
consideration of the role of the IERCs as the first point of contact for families with children with disability, particularly in rural and remote regions of Timor-Leste, it is recommended that the Ministry of Education consider establishing combined IERC education and rehabilitation services. This could be achieved through partnerships with other government ministries and non-government and civil society agencies providing education and rehabilitation services and programs.

In recognition of the extensive discussion among the study’s participants regarding the merits of centralised and decentralised growth in education infrastructure, the study’s recommendations do not specify urban, rural, or remote location. These decisions are the responsibility of the Timor-Leste educational leaders and decision-makers.

7.4.2 Recommendation 9: Staff recruitment, training, and retention

This ninth and final recommendation relates to the recruitment, training, and retention of educational personnel to support achievement of the recommended goal of a rights-based and inclusive national education system for children with disability in Timor-Leste. In order to achieve the recommendations relating to growth in teaching and learning infrastructure, recruitment and training of the following education personnel are recommended: (a) mainstream school learning support staff and teacher assistants; (b) school support unit teachers with expertise in sign language, communication, and literacy development for students with deafness, deafblindness, and severe/multiple disabilities; (c) IERC personnel with knowledge and skills to deliver formal and non-formal education and rehabilitation services and programs for children with disability, and (d) academics in tertiary education institutions with expertise in the delivery of undergraduate and post-graduate degree programs in inclusive education, special education, and disability studies. Presented below are
considerations and recommendations relating to staff recruitment, training, and retention offered from the present study.

Staff recruitment and training

It is recommended that enrolment of students with disability in schools across Timor-Leste be accompanied by the recruitment and training of school principals, teachers, learning support teachers, and teacher assistants/aides to equip them with the necessary knowledge and skills to ensure equitable student access to the school curriculum and full inclusion in the social life of the school community. School staff recruitment criteria should therefore include prior teaching qualifications, a commitment to inclusive education principles, and a willingness to undertake further study in disability-inclusive pedagogy.

It is recommended that existing pre-service and in-service professional training programs offered in Timor-Leste be expanded to include degree and non-degree courses in inclusive education, special education, and disability studies. This will require the expansion of academic positions in tertiary institution and teacher college placements to accommodate the recommended expansion of pre-service and in-service teacher training programs.

This study’s recommended focus on professional training for school personnel is aligned with the National Education Policy 2007-2012, which prioritises growth in teacher training institutions, growth in pre-service and in-service teacher training programs for school directors and teachers, and the establishment of a teacher training policy and/or statute specifying training content (Democratic Republic of Timor-Leste Ministry of Education - Office of the Minister, 2007, pp. 6-7). The education policy prioritises establishment of the National Institute for Professional and Ongoing Training (termed the Instituto Formacao Professores or IFCP) to deliver in-service training programs in school management and administration, school inspection, curriculum, and learning, (p. 19). The policy also
recommends the establishment of primary teacher training programs at the *National University of Timor Lorosa’e* (UNTL). It is noteworthy that degree programs and single courses in inclusive education or special education have not been identified as IFCP program priority areas.

**Staff incentives and retention**

It is recommended that the recruitment and training of education leaders, school principals, and teachers be accompanied with financial and professional incentives linked with the acquisition of qualifications in inclusive education and/or special education. Incentives may take the form of professional training scholarships, paid release from work duties to undertake study, financial and non-financial rewards upon the successful completion of training, and employment to positions reflecting the qualifications achieved. The present study highlighted the importance of staff incentives to help prevent the departure of qualified education personnel from the education system to work for private and international organisations offering higher incentives.

The final section of this chapter presents the researcher’s reflections on her assumptions at the commencement of the study, and the implications of these reflections for future studies in the area of disability.

### 7.5 Researcher reflections

Interpretative analysis of the study’s results included reflection upon the ontological and epistemological assumptions held by the researcher at the commencement of this study. The researcher’s assumptions have influenced the study’s development and direction, and the areas of emphasis included in the study’s conclusions and recommendations. There is no
doubt that assumptions about the nature of reality and pursuit of knowledge reflect the researcher’s social, cultural, and professional background and beliefs. Further, her personal experiences of the education systems for children with disability in Papua New Guinea and Timor-Leste have influenced her beliefs about the causes of, and potential solutions to, educational marginalisation and disadvantage experienced by children and youth with disability in both countries.

The first assumption held by the researcher at the study’s commencement was that educational marginalisation of children with disability was related to the unique economic, social, and cultural issues of human development in Papua New Guinea and Timor-Leste. These issues included the financial constraints on families living in rural and remote subsistence farming communities, where paid employment opportunities were severely limited. It was assumed at the commencement of this study that financial constraints on families with children with disability were further exacerbated by discriminatory and disempowering traditional beliefs and superstitions that led to family shame and child deprivation. The results supported the researcher’s first assumption. The study’s results relating to the education and demographic needs and attributes of children and youth with disability in both countries highlighted the links between educational enrolment rates and the social, cultural, economic, and environmental issues of low national human development.

The second assumption was that the causes of educational marginalisation and disadvantage experienced by children with disability in Papua New Guinea and Timor-Leste could be ameliorated through implementation of education reforms, such as those implemented in Papua New Guinea since the 1990s. The results did not support this assumption. The Papua New Guinea results highlighted that despite 20 years of education system reform to achieve the national goal of integration and inclusion of children and youth
with disability, school enrolment rates for students with disability represented only 0.21% of the country’s total student population in 2008.

The mismatch between the researcher’s second assumption and the Papua New Guinea study’s results sparked considerable reflection on the importance of participatory governance and leadership structures that empower people with disability to influence the direction of education system growth and reform. In the two focal countries of this study, “top-down” decisions for national educational planning and priority setting in the area of disability were made by government leaders with substantial guidance and support from UN and international development agencies. The power of international agencies to influence the direction of national educational planning is linked with their control of the flow of financial, human, and physical resources that are essential to national capacity-building in the area of disability.

The Papua New Guinea study has shown that the top-down approach to educational leadership and governance is insufficient to transform educational marginalisation into education inclusion for children with disability. The researcher has concluded that partnerships in educational leadership, governance, and service delivery are the key to sustained growth in enrolment, retention, and achievement rates for children with disability. Effective and sustainable growth and reform of the education system for children with disability require partnerships between government, non-government, and civil society stakeholders. This includes respectful, empowering partnerships with national organisations representing people with disability.

The implications of the researcher’s reflections extend beyond the national borders of Papua New Guinea and Timor-Leste. At the international level, collaborative partnerships are essential between UN and international agencies representing key stakeholders and beneficiaries with a vested interest in the human rights of people with disability and disability-inclusive development. At the national level, the contributions of UN and
international development agencies should support rather than direct, the educational priorities of key government and civil society beneficiaries and stakeholders.

The present study’s transformative educational perspective has highlighted the importance of empowering children and adults with disability as leaders in educational reforms that have a direct impact on their present and future lives and the lives of their families. It is vital that their educational hopes and aspirations are embodied in national educational goals, policies, and plans in order to achieve a high quality, rights-based, and inclusive education system with high enrolment and retention rates for students with disability.
APPENDICES

Appendix A: Study approval
Appendix B: Correspondence with Papua New Guinea research participants
Appendix C: Correspondence with Timor-Leste reference group
Appendix D: Research methodology: Supporting information
Appendix E: Papua New Guinea study: Supporting tables and figures
Appendix F: Timor-Leste study: Supporting tables and figures
APPENDIX A

Study Approval
8 August 2006

Mrs Frances Gentle
17 Yarrabung Road
St Ives NSW 2075

Dear Mrs Gentle,

I write to advise that your enrolment has been approved in the following research higher degree:

**DEGREE:** Doctor of Philosophy (Education)

**SCHOOL/FACULTY:** School of Education
Callaghan Campus
Faculty of Education and Arts

**PROPOSED SUPERVISOR:** Dr Mike Steer

**PROPOSED CO-SUPERVISOR:** Dr Rod Beattie

**TOPIC:** A Management Framework for Community-Based Early Childhood Education in Vision Impairment for Papua New Guinea

**COMMENCEMENT:** Semester 2, 2006

**CONFIRMATION YEAR:** You will be required to satisfy the following requirements within twelve months of commencement of candidature on a full-time basis (or part-time equivalent):

- A written document containing at least:
  - A critical review of recent work in the field
  - An updated research proposal
  - An updated plan of research
  - An updated timetable for completion of thesis
  - A comprehensive statement of the resources required to complete the project within the funded period
  - An oral presentation, given to a confirmation committee at a School-based seminar
  - A verbal defense of the research proposal before the confirmation committee.
You will be advised of the precise details of the requirements of your presentation by your supervisor. Please follow the link below for the Code of Practice for Research Higher Degree Candidature Section D. Responsibilities of Candidates:
http://www.newcastle.edu.au/research/hd/docs/codesupr.html#d

The Research Training Scheme (RTS) provides an entitlement to an exemption from the Higher Education Contribution Scheme (HECS) to candidates enrolling for the first time in a research higher degree. The RTS allocation for a Doctor of Philosophy, without prior enrolment, is four years full-time equivalent. Periods of prior enrolment at this level will be deducted from your RTS allocation.

Note that the Research Higher Degrees Candidates Guide is available on the Internet:

Kindly advise the Office of Graduate Studies of any change to your address.

Would you please complete the attached Letter of Acceptance/Authority to enrol form and return to the Office of Graduate Studies, so that we may proceed with your enrolment.

Alastair Hales
Senior Graduate Studies Officer

cc: Dr Jenny Gore, Head of School of Education
    Dr Mike Skeff, Principal Supervisor,
    Dr Rod Beattie, Co-Supervisor
Thank you for your response in support of your application to the Human Research Ethics Committee (HREC) seeking approval for the above project, which is the student research of Ms Frances Gentile.

Your response has been considered by a panel of HREC members under the provisions for expedited review and I am pleased to advise that your application has been approved effective 24 May 2007.

The full Committee will be asked to ratify this decision at its meeting on 26 June 2007 whereupon a formal Certificate of Approval will be issued. In the interim your approval number is H-472-0507.

Please ensure this number is inserted into the relevant section of the study documents (ie, complaints statement in the Information Statement) prior to distribution to potential participants. You may then proceed with the project.

Best wishes for a successful project.

**FOR ACTION/RESPONSE:**

Amendment to the Information Statement: Please remove "Information Statement – sample content" from the title information (this has been retained in error from the template document).

Once the document has been amended, please provide a copy for our file.

Your formal Certificate of Approval will not be issued until your response has been received.
**HUMAN RESEARCH ETHICS COMMITTEE**

**Certificate of Approval**

<table>
<thead>
<tr>
<th>Applicant: (first named in application)</th>
<th>Dr Michael Steer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-Investigators / Research Students:</td>
<td>Mrs Frances Jenie</td>
</tr>
<tr>
<td>Protocol:</td>
<td>A management framework for inclusive education of children with disabilities in Timor-Leste</td>
</tr>
</tbody>
</table>

In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the National Statement on Ethical Conduct in Human Research, 2007, and the requirements within this University relating to human research.

**Note:** Approval is granted subject to the requirements set out in the accompanying document Approval to Conduct Human Research, and any additional comments or conditions noted below.

**Details of Approval**

| HREC Approval No: H-472-0607 | Date of Initial Approval: 24-May-2007 |

**Approved to:** 23-May-2012

Approval is granted to this date or until the project is completed, whichever occurs first. If the approval of an External HREC has been "noted" the approval period is as determined by that HREC.

**Progress reports due:** Annually.

If the approval of an External HREC has been "noted", the reporting period is as determined by that HREC.

**Initial Approval**

- 20-Jun-2007
- Approved
- The Committee ratified the approval granted by the Chair on 24 May 2007.

**Renewal of Approval**

**Variations to Approved Protocol**

- 13-Aug-2008
- Variation to:
  

3. Change the Participant Information Statement, Consent Forms and Draft Interview Schedule to reflect the change in title and the change in final study focus to Timor-Leste (Information Statement for CEOs, Managers, Co-ordinators and Specialist Educators, Version 2 dated 1 July 2008; Participant Consent Form - Participant Agency, Version 2, dated 1 July 2008; Participant Consent Form - Participant CEO/Manager, Version 2 dated 1 July 2008; Draft Interview Schedule for CEO/Manager, Version 2, dated 1 July 2008).

4. Change the order of the case studies and replace the case study of the RIBDC National Remote Early Learning Program, with the case study of the Ministry of Education in Timor-Leste.

Approved
The Committee ratified the approval granted by the Chair on 25 July 2008 under the provisions for expedited review.

Authorised Certificate held in Research Services

Professor Val Robertson
Chair, Human Research Ethics Committee
APPENDIX B

Correspondence with Papua New Guinea research participants
INFORMATION STATEMENT FOR PNG LEADERS, DIRECTORS, AND MANAGERS

Date: ....
To: ....
Dear: ....

Re: Research Project: Papua New Guinea and Timor-Leste education research in the field of disability (working title)

You are invited to participate in the research project identified above which is being conducted by Dr Mike Steer, Senior Lecturer, and Dr Rod Beattie, Head of Graduate Studies, from the Renwick Centre, Faculty of Education and Arts at the University of Newcastle.

The research is part of Ms Frances Gentle’s studies at the University of Newcastle, supervised by Dr Mike Steer and Dr Rod Beattie from the Renwick Centre.

Why is the research being done?

The purpose of the research is to develop an effective philosophical and practical framework for inclusive education of children with disabilities in Timor-Leste. The importance of the study lies in its contribution to the work of such international organisations as UNESCO, UNICEF, World Blind Union (WBU), and the International Council for Education of People with Visual Impairment (ICEVI) in developing policies and programs that address the campaign goal of education for all children by the year 2015. As an important secondary outcome, the study is intended to provide government and non-government education service providers in Timor-Leste and Papua New Guinea with a valuable framework for planning new services and evaluating the capability of current service delivery.

Who can participate in the research?

Heads of Education Services, Chief Executive Officers (CEOs), Managers and specialist educators/ coordinators of Government of Non-Government organisations providing education for children with disabilities and their families in Australia, Papua New Guinea and Timor-Leste are being invited to participate in the research. Your service has been identified by a reference group of leaders in the field of vision impairment as an exemplary and innovative [insert]
national/state] level service in the education of children with disabilities. Your name appears on the organisation’s website as the [insert title] of the organisation.

We seek your assistance, in your capacity of [insert title] as follows:
(a) overall consent for the involvement of your agency in this research (Consent Form enclosed);
(b) consent for your personal participation in this study (Consent Form enclosed); and
(c) with obtaining the consent of the Coordinator and/or specialist educators (disabilities) to participate in this study. Once consent is obtained, could you please provide us with his/her contact details so that we can initiate contact.

What choice do you have?
Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project. Whether or not you decide to participate, your decision will not disadvantage you.

If you decide to participate, you may withdraw from the project at any time without giving a reason and have the option of withdrawing any data that identifies you.

What would you be asked to do?
If you agree to participate, Frances Gentle will contact you to arrange an individual interview (in person or telephone interview) at your convenience with you of approximately one hour duration. The purpose of the interview will be to obtain information about your organisation’s service provision for children with disabilities, including those with vision impairments who live in rural and remote communities. In particular, questions will focus upon your organisation’s vision and mission; policies, programs, and services for children with disabilities; the nature and needs of your clients; and general information regarding staff qualifications. A copy of the proposed Interview Schedule is enclosed with this letter for your consideration.

The interview will take place at a time and location suitable to you, and that meets your privacy needs. The interview, with your consent, may be recorded on either video or audiocassette. You will have an opportunity to review the recording and/or transcript to edit and/or erase any part of it. This includes transcriptions of the audio or video recording. At the study’s conclusion, you will be provided with a summary of the results written in “plain English”.
How much time will it take?
The interview will take approximately one hour.

What are the risks and benefits of participating?
We are unable to promise you any tangible benefits from participating in this research. Any risk of personal identification through this research will be minimised.

How will your privacy be protected?
You can be assured that data confidentiality and the privacy of you and your staff member as research participants will be maintained at all times. Data will be entered into a secure database with each participant identified by an assigned “confidentiality number”. These coded numbers rather than names will be used in all communication following your agreement to participate in the study, including consent and data collection forms. Any information collected by the researcher which might identify you will be stored securely and only accessed by the researcher. At the conclusion of this research, interview data will be locked in an archival storage area at the Renwick Centre.

In accordance with University of Newcastle policy, research data (including Consent Forms) will be retained for a minimum of five (5) years from completion of the research. In addition, as the research is being undertaken by a higher degree student, original data (i.e., interview recordings and other documentation) will be retained until the student’s thesis is accepted, as it might be required for reference or substantiation.

How will the information collected be used?
The research data may be reported or presented in papers in educational journals, in a thesis to be submitted for Ms Gentle’s doctoral degree; and possibly in presentations at educational conferences. Individual participants will not be identified in any reports arising from the project.

What do you need to do to participate?
Please read this Information Statement and be sure you understand its contents before you consent to participate. If there is anything you do not understand, or you have questions, please contact the project supervisor.

If you consent to participate, please complete and return the attached Consent Forms in the reply paid envelope provided. Your response will be taken as your informed consent to participate. Frances Gentle will then contact you to arrange a time convenient to you for the interview.
Further information

If you would like further information please contact Dr Mike Steer, the Chief Investigator, at The Renwick Centre, Private Bag 29, Parramatta, NSW, Ph (02) 9872 0814 (direct); Fax (02) 9873 1614; Email: mike.steer@ridbc.org.au

Thank you for considering this invitation.

Yours Sincerely,

Dr Mike Steer  
Chief Investigator and  
Senior Lecturer, The Renwick Centre  
University of Newcastle.

Frances Gentle  
Student Researcher

Complaints about this research

This project has been approved by the University's Human Research Ethics Committee, Approval No. H-472-05-07.

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Office, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone (02) 49216333, email Human-Ethics@newcastle.edu.au
INFORMATION STATEMENT FOR EDUCATION AND REHABILITATION STAFF

Dr Mike Steer
Chief Investigator
Postal Address: Private Bag 29
Parramatta NSW 2124 Australia
Ph: (02) 9872 0814 (direct)
Facsimile: (02) 9873 1614
Email: mike.steer@ridbc.org.au

INFORMATION STATEMENT

Date ....
To ....

Dear ....

Re: Research Project: Papua New Guinea and Timor-Leste education research in the field of disability (working title)

You are invited to participate in the research project identified above which is being conducted by Dr Mike Steer, Senior Lecturer, and Dr Rod Beattie, Head of Graduate Studies, from the Renwick Centre, Faculty of Education and Arts at the University of Newcastle.

The research is part of Ms Frances Gentle’s studies at the University of Newcastle, supervised by Dr Mike Steer and Dr Rod Beattie from the Renwick Centre.

Why is the research being done?

The purpose of the research is to develop an effective philosophical and practical framework for inclusive education of children with disabilities in Timor-Leste. The importance of the study lies in its contribution to the work of such international organisations as UNESCO, UNICEF, World Blind Union (WBU), and the International Council for Education of People with Visual Impairment (ICEVI) in developing policies and programs that address the campaign goal of education for all children by the year 2015. As an important secondary outcome, the study is intended to provide government and non-government education service providers in Papua New Guinea and Timor-Leste with a valuable framework for planning new services and evaluating the capability of current service delivery.

Who can participate in the research?

Heads of Education Services, Chief Executive Officers (CEOs), Managers and specialist educators/coordinators of Government of Non-Government organisations providing education for children with disabilities and their families in Australia, Papua New Guinea and Timor-Leste are being invited to participate in the research. Your service has been identified by a reference group of leaders in the field of disability as an exemplary and innovative [insert national/state]
level service in the education of children with disabilities. We seek your consent for your personal participation in this study (Consent Form enclosed).

What choice do you have?
Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project. Whether or not you decide to participate, your decision will not disadvantage you.

If you decide to participate, you may withdraw from the project at any time without giving a reason and have the option of withdrawing any data that identifies you.

What would you be asked to do?
If you agree to participate, Frances Gentle will contact you to arrange an individual interview (in person or telephone interview) at your convenience of approximately one hour duration. The purpose of the interview will be to obtain information about your organisation’s service provision for children with disabilities. In particular, questions will focus upon your organisation’s vision and mission; policies, programs, and services for children with disabilities; the nature and needs of your clients; and general information regarding staff qualifications. A copy of the proposed Interview Schedule is enclosed with this letter for your consideration.

The interview will take place at a time and location suitable to you, and that meets your privacy needs. The interview, with your consent, may be recorded on either video or audioscetta. You will have an opportunity to review the recording and/or transcript to edit and/or erase any part of it. This includes transcriptions of the audio or video recording. At the study’s conclusion, you will be provided with a summary of the results written in “plain English”.

How much time will it take?
The interview will take approximately one hour.

What are the risks and benefits of participating?
We are unable to promise you any tangible benefits from participating in this research. Any risk of personal identification through this research will be minimised.

How will your privacy be protected?
You can be assured that data confidentiality and your privacy as a research participant will be maintained at all times. Data will be entered into a secure database with each participant identified by an assigned “confidentiality number”. These coded numbers rather than names will be used in all communication following your agreement to participate in the study, including consent and data collection forms. Any information collected by the researcher which might
identify you will be stored securely and only accessed by the researcher. At the conclusion of this research, interview data will be locked in an archival storage area at the Renwick Centre. In accordance with University of Newcastle policy, research data (including Consent Forms) will be retained for a minimum of five (5) years from completion of the research. In addition, as the research is being undertaken by a higher degree student, original data (i.e., interview recordings and other documentation) will be retained until the student’s thesis is accepted, as it might be required for reference or substantiation.

How will the information collected be used?
The research data may be reported or presented in papers in educational journals; in a thesis to be submitted for Ms Gentle’s doctoral degree; and possibly in presentations at educational conferences. Individual participants will not be identified in any reports arising from the project.

What do you need to do to participate?
Please read this Information Statement and be sure you understand its contents before you consent to participate. If there is anything you do not understand, or you have questions, please contact the project supervisor.

If you consent to participate, please complete and return the attached Consent Form in the reply paid envelope provided. Your response will be taken as your informed consent to participate. Frances Gentle will then contact you to arrange a time convenient to you for the interview.

Further information
If you would like further information please contact Dr Mike Steer, the Chief Investigator, at The Renwick Centre, Private Bag 29, Parramatta, NSW.
Ph (02) 9872 0814 (direct); Fax (02) 9873 1614; Email: mike.steer@ridbc.org.au

Thank you for considering this invitation.

Yours Sincerely,

Dr Mike Steer 
Chief Investigator and 
Senior Lecturer, the Renwick Centre 
University of Newcastle.

Frances Gentle 
Student Researcher
Complaints about this research

This project has been approved by the University’s Human Research Ethics Committee, Approval No. H-472-05-07.

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone (02) 49216333, email Human-Ethics@newcastle.edu.au.
PARTICIPANT CONSENT FORM

For the Research Project: Papua New Guinea and Timor-Leste education research in the field of disability (working title)

Project Supervisor and Chief Investigator:
Dr Mike Steer, The RIDBC Renwick Centre
Faculty of Education and Arts, University of Newcastle, Australia

CONSENT STATEMENT:

I agree to participate in the above research project and give my consent freely.

I understand that the project will be conducted as described in the Information Statement, a copy of which I have retained.

I understand I can withdraw from the project at any time and do not have to give any reason for withdrawing.

I consent to participate in an individual interview with the researcher of approximately one hour duration.

I understand that my personal information will remain confidential to the researchers.

I have had the opportunity to have questions answered to my satisfaction.

Print Name: ________________________________

Signature: ________________________________

Date: ________________________________

Contact details (phone, facsimile, and/or email):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
PARTICIPANT AGENCY CONSENT FORM

For the Research Project: Papua New Guinea and Timor-Leste education research in the field of disability (working title)

Project Supervisor and Chief Investigator:
Dr Mike Steer, The RIDBC Renwick Centre
Faculty of Education and Arts, University of Newcastle, Australia

Project Supervisor and Chief Investigator:
Dr Mike Steer, The Renwick Center,
Faculty of Education and Arts, University of Newcastle, Australia

CONSENT STATEMENT:

I agree to the participation of ____________________________ (please insert name of agency) in the above named study.

I understand that while the agency will be identified by name in the final report, the researchers will make every effort to safeguard issues of organisational confidentiality.

Print Name: ____________________________________________

Signature: _____________________________________________

Date: ________________________________________________

Contact details (phone, facsimile, and/or email):
_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________
INTERVIEW SCHEDULE FOR LEADERS AND MANAGERS

1. What do you see as your organisation’s mission/vision?

2. What is the vision and mission of your organisation in relation to the following:
   (a) early childhood education and intervention,
   (b) the education of children with disabilities
   (c) education and therapy services for children living in rural and remote communities?

3. Do you have any policies and/or programs relating to education and therapy of the following groups of children and adolescents?
   a. School age children with disabilities
   b. Children aged 0-6 years
   c. Children and adolescents with disabilities living in rural and remote areas of PNG
   (If so, is it possible to obtain copies of any documents?)

4. Are you aware of any government policies and/or programs for children and adolescents in the categories listed in question 3?

5. Without identifying clients by name or location, please provide an overview of the range of services and programs provided by your organisation (including services for adults, children, families, communities, & other agencies); and

6. Without identifying staff by name and location, please provide an overview of the staff categories involved in each service area (e.g. educators, community-based workers, therapists counsellors, etc.).

7. Without identifying staff by name and location, what are their backgrounds and qualifications?

8. Please provide an overview of the clients you serve.
   (For example, children, families, agencies, people from particular cultural or linguistic backgrounds, etc.)

9. How are the clients grouped for program delivery?
   (For example, by age, socio-economic status, location, etc.)

10. What do you see as the major needs of your clients?

11. Do you have any concerns about current education and therapy services for children with disabilities, including children with additional disabilities, provided (a) by your organisation and (b) provided by the government?
12. Do you have any data on the services you provide to children with disabilities, including children living in rural and remote communities? (If so, is it possible to obtain copies of any documents?)

13. What education and therapy services do you consider should be provided in the future for children with disabilities by (a) your organisation, and (b) by the government? What are the priorities?

14. Please provide an overview of the organisations and agencies that support the work of your organisation, including those who provide financial, human, physical, and training resources.

15. Do you have any suggestions for how to improve education services for young children with disabilities living in rural and remote communities in Papua New Guinea?

Many thanks for participating in the interview.
Frances Gentle.
INTERVIEW SCHEDULE FOR EDUCATION AND CBR COORDINATORS,
AND OFFICERS

1. Without identifying clients by name or location, please provide an overview of the range of services and programs provided by your organisation (including services for adults, children, families, communities, & other agencies); and

2. Without identifying staff by staff by name and location, please provide an overview of the staff categories involved in each service area (e.g. educators, community-based workers, therapists counsellors, etc.).

3. Without identifying staff by staff by name and location, what are their backgrounds and qualifications?

4. Please provide an overview of the clients you serve. (For example, children, families, agencies, people from particular cultural or linguistic backgrounds, etc.)

5. How are the clients grouped for program delivery? (For example, by age, socio-economic status, location, etc.)

6. What do you see as the major needs of your clients?

7. Do you have any concerns about current education and therapy services for children with disabilities, including children with additional disabilities, provided (a) by your organisation and (b) provided by the government?

8. Do you have any data on the services you provide to children with disabilities, including children living in rural and remote communities? (If so, is it possible to obtain copies of any documents?)

9. What education and therapy services do you consider should be provided in the future for children with disabilities by (a) your organisation, and (b) by the government? What are the priorities?

10. Please provide an overview of the organisations and agencies that support the work of your organisation, including those who provide financial, human, physical, and training resources.

11. Do you have any suggestions for how to improve childhood education services for children with disabilities living in rural and remote communities in Papua New Guinea?

Many thanks for participating in the interview. Frances Gentle.
APPENDIX C

Correspondence with Timor-Leste reference group
INFORMATION STATEMENT FOR RESEARCH REFERENCE GROUP

Date ....
To ....

Dear ....

Research Project: Papua New Guinea and Timor-Leste education research in the field of disability (working title)

You are invited to participate in the research project identified above which is being conducted by Dr Mike Steer, Senior Lecturer, and Dr Rod Beattie, Head of Graduate Studies, from the Renwick Centre, Faculty of Education and Arts at the University of Newcastle.

The research is part of Ms Frances Gentle’s studies at the University of Newcastle, supervised by Dr Mike Steer and Dr Rod Beattie from the Renwick Centre.

Why is the research being done?

The purpose of the research is to develop an effective philosophical and practical strategic management framework (SMT) for inclusive education of children with disabilities, including those with vision impairments in Timor-Leste. The importance of the study lies in its contribution to the work of such international organisations as UNESCO, UNICEF, World Blind Union (WBU), and the International Council for Education of People with Visual Impairment (ICEVI) in developing policies and programs that address the campaign goal of education for all children by the year 2015. As an important secondary outcome, the study is intended to provide government and non-government inclusive education service providers in Timor-Leste with a valuable framework for planning new services and evaluating the capability of current service delivery.
Who can participate in the research?
Heads of Education Services, Chief Executive Officers (CEOs), Managers and
specialist educators/coordinators of Government of Non-Government organisations
providing education for children with disabilities and their families in Australia, Papua
New Guinea and Timor-Leste are being invited to participate in the research. You are
invited to join the Research Reference Group of international leaders in the fields of
education and disability-related services in developing countries.

We seek your assistance as follows:
(a) Consent for your personal participation in this study as a member of the
Research Reference Group (Consent Form enclosed); and
(b) Completion of the Research Reference Group “Research Reference Group
Questionnaire”.

What choice do you have?
Participation in this research is entirely your choice. Only those people who give their
informed consent will be included in the project. Whether or not you decide to
participate, your decision will not disadvantage you.

If you decide to participate, you may withdraw from the project at any time without
giving a reason and have the option of withdrawing any data that identifies you.

What would you be asked to do?
If you agree to participate, Frances Gentle will contact you regarding the completion
of a “Research Reference Group Questionnaire”. The questionnaire contains four
questions regarding the strengths and weaknesses of the Strategic management
framework for inclusive education in Timor-Leste, and its usefulness to other
developing countries. A copy of the proposed Questionnaire is enclosed with this letter
for your consideration. Your responses to the questionnaire will be integrated into the
study’s final thesis document.

How much time will it take?
Completion of the Research Reference Group Questionnaire will take no more than
one hour.

What are the risks and benefits of participating?
We are unable to promise you any tangible benefits from participating in this research.
Your participation as a member of the Research Reference Group will be
acknowledged in the final thesis document, if your approval is given in the Consent
Form. If you do not wish to be acknowledged as a member of the Reference Group,
any risk of personal identification through this research will be minimised.
How will your privacy be protected?

You can be assured that data confidentiality and the privacy as research participants will be maintained at all times. Data will be entered into a secure database with each participant identified by an assigned "confidentiality number". These coded numbers rather than names will be used in all communication following your agreement to participate in the study, including consent and data collection forms. Any information collected by the researcher which might identify you will be stored securely and only accessed by the researcher. At the conclusion of this research, interview data will be locked in an archival storage area at the Renwick Centre.

In accordance with University of Newcastle policy, research data (including Consent Forms) will be retained for a minimum of five (5) years from completion of the research. In addition, as the research is being undertaken by a higher degree student, original data (ie, interview recordings and other documentation) will be retained until the student’s thesis is accepted, as it might be required for reference or substantiation.

How will the information collected be used?

The research data may be reported or presented in papers in educational journals, in a thesis to be submitted for Ms Gentle’s doctoral degree; and possibly in presentations at educational conferences.

Individual participants of the Research Reference Group will be acknowledged (if appropriate) in the final thesis report, if approval is given by you on the Consent Form.

At the study’s conclusion, you will be provided with a summary of the results written in “plain English”.

What do you need to do to participate?

Please read this Information Statement and be sure you understand its contents before you consent to participate. If there is anything you do not understand, or you have questions, please contact the project supervisor.

If you consent to participate, please complete and return the attached Consent Forms in the reply paid envelope provided. Your response will be taken as your informed consent to participate. Frances Gentle will then contact you to arrange a time that is convenient to you to complete the Research Reference Group Questionnaire.
Further information
If you would like further information please contact Dr Mike Steer, the Chief Investigator, at
The Renwick Centre, Private Bag 29, Parramatta, NSW,
Ph (02) 9872 0814 (direct); Fax (02) 9873 1614; Email: mike.steer@ridbc.org.au

Thank you for considering this invitation.

Yours Sincerely,

Dr Mike Steer
Chief Investigator and
Senior Lecturer, The Renwick Centre
University of Newcastle.

Frances Gentle
Student Researcher

Complaints about this research
This project has been approved by the University’s Human Research Ethics Committee, Approval No. H-472-05-07.

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle,
University Drive, Callaghan NSW 2308, Australia, telephone (02) 49216333, email Human-Ethics@newcastle.edu.au.
RESEARCH REFERENCE GROUP CONSENT FORM

For the Research Project: Papua New Guinea and Timor-Leste education research in the field of disability (working title)

Project Supervisor and Chief Investigator:
Dr Mike Steer, the RIDBC Renwick Centre,
Faculty of Education and Arts, University of Newcastle, Australia

CONSENT STATEMENT:

☐ I agree to participate in the above named research project and give my consent freely.

☐ I understand I can withdraw from the project at any time and do not have to give any reason for withdrawing.

☐ I consent to participate in the Research Reference Group and to complete the Study Review Questionnaire.

☐ I am willing to have my name listed as part of the Research Reference Group in the final thesis document.

☐ I have had the opportunity to have questions answered to my satisfaction.

Print Name: ________________________________

Signature: __________________________________

Date: ________________

Contact details (phone, facsimile, and/or email):

________________________________________________________________________

Please return this form to Ms Frances Gentle, RIDBC Renwick Centre,
Fax No. +612 9873 1614
Or post it to Frances Gentle at the address that appears at the top of this form.
RESEARCH REFERENCE GROUP
QUESTIONNAIRE

For the Research Project:
A national model for education of children with
disabilities in Timor-Leste

Name: ________________________________
Title: ________________________________
Agency: ______________________________
Date: ________________________________

Please provide your comments for the following four questions and return this
questionnaire in the reply paid envelope or by fax to Frances Gentle by 30th
September 2009.

Contact address:
Frances Gentle
RIDBC Renwick Centre
361-365 North Rocks Road
North Rocks, NSW 2151 Australia
Fax +61 2 9873 1614
Email: frances.gentle@ridbc.org.au

If you have more comments, please write them on a separate piece of paper and attach.

Many thanks for participating in the review, Frances Gentle
RESEARCH REFERENCE GROUP
QUESTIONNAIRE

1. Are there any particular areas of strength that you can identify in the national model?
   (Please identify strengths relating to the following components of the model)

<table>
<thead>
<tr>
<th>Phase 1: Envisioning &amp; Strategising:</th>
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<tbody>
<tr>
<td>Vision; Goals; Objectives &amp; Targets</td>
</tr>
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<tr>
<th>Phases 2 &amp; 3 Strategic Plan</th>
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<tr>
<td>Operations &amp; Performance components</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Timeline &amp; priority schedule</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Costs &amp; resource projections</th>
</tr>
</thead>
</table>
2. Can you please indicate any areas of the model that you think are missing or might be better developed?

<table>
<thead>
<tr>
<th>Phase 1: Envisioning &amp; Strategising:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision, Goals, Objectives &amp; Targets</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phases 2 &amp; 3 Strategic Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations &amp; Performance components</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Timeline &amp; priority schedule</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Costs &amp; resource projections</th>
</tr>
</thead>
</table>
3. Can you please identify areas within the document that you think need clarification?

<table>
<thead>
<tr>
<th>Phase 1: Envisioning &amp; Strategising:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision; Goals; Objectives &amp; Targets</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phases 2 &amp; 3 Strategic Plan:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations &amp; Performance components</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Timeline &amp; priority schedule</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Costs &amp; resource projections</th>
</tr>
</thead>
</table>
4. Please provide your general comments on the national education model for children with disabilities, including comments on the potential effectiveness and sustainability of the model.
APPENDIX D

Research Methodology: Supporting information

List of supporting tables

Table D1. Relationship between the research questions, interview questions, and interview groups
Table D2. Typology of documents included in this study
Table D1. *Relationship between the research questions, interview questions, and interview groups*

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Interview Schedule</th>
<th>Interview group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. What is the national goal/vision for the education system for children with disability, and who are the key beneficiaries and stakeholders with a vested interest in achievement of the goal?</td>
<td>What do you see as your organisation’s vision/mission?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>What is the vision/mission of your organisation in relation to the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Early childhood education and intervention,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Education of children with disability, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Education and rehabilitation/therapy services for children</td>
<td></td>
</tr>
<tr>
<td></td>
<td>living in rural and remote communities?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Please provide an overview of the clients you serve. (For example, children, families, agencies, people from particular cultural or linguistic backgrounds)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Please provide an overview of the organisations and agencies that support the work of your organisation, including those who provide financial, human, physical, and training resources.</td>
<td>✓</td>
</tr>
<tr>
<td>Q2. What system of governance underpins the education system for children with disability, and the acquittal of fiduciary duties to financial stakeholders?</td>
<td>Do you have any policies and/or programs relating to education and rehabilitation/therapy of the following groups of children and adolescents?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>• School age children with disability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Children aged 0-6 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Children and adolescents with disabilities living in rural and remote areas of PNG</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(If so, is it possible to obtain copies of any documents?)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Are you aware of any government policies and/or programs for children and adolescents in the categories listed in question 3?</td>
<td>✓</td>
</tr>
</tbody>
</table>
Table D1. *Relationship between the research questions, interview questions, and interview groups* (Cont.)

<table>
<thead>
<tr>
<th>Research Questions (cont.)</th>
<th>Interview Schedule</th>
<th>Interview group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3. What teaching and learning infrastructure characterises the education system for children with disability, and how responsive is this infrastructure to child and family educational needs?</td>
<td>What do you see as the major needs of your clients?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Without identifying clients by name or location, please provide an overview of the range of services and programs provided by your organisation (including services for adults, children, families, communities, &amp; other agencies)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Without identifying staff by staff by name and location, please provide an overview of the staff categories involved in each service area (e.g. educators, community-based rehabilitation workers, therapists counsellors).</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Without identifying staff by staff by name and location, what are their backgrounds and qualifications?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>How are the clients grouped for program delivery? (For example, by age, socio-economic status, location)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Do you have any data on the services you provide to children with disabilities, including children living in rural and remote communities? (If so, is it possible to obtain copies of any documents?)</td>
<td>✓</td>
</tr>
<tr>
<td>Q4. What do current leaders and practitioners declare are the national priorities for the education system for children with disability?</td>
<td>Do you have any concerns about current education and rehabilitation/therapy services for children with disabilities, including children with additional disabilities, provided (a) by your organisation and (b) provided by the government?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>What education and therapy services do you consider should be provided in the future for children with disabilities by (a) your organisation, and (b) by the government? What are the priorities?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Do you have any suggestions for how to improve education services for children with disabilities living in rural and remote communities in Papua New Guinea?</td>
<td>✓</td>
</tr>
</tbody>
</table>
Table D2. Typology of documents included in this study

<table>
<thead>
<tr>
<th>Authorship</th>
<th>Level of Access</th>
<th>Open (published)</th>
<th>Restricted</th>
<th>Closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public/State:</td>
<td></td>
<td>Education, health &amp; social welfare laws,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Official records produced by</td>
<td></td>
<td>policies, research, and surveys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>national &amp; local</td>
<td></td>
<td>EFA &amp; MDG progress reports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>governments</td>
<td></td>
<td>PNG: Education plans, annual reports, regulations for the teaching service</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Education system</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>organisational charts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PNG: Disability</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>prevalence data</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PNG: Ministry of</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Education Fast Track</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initiative program &amp; annual work plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>National disability surveys</td>
<td>PNG: Reports,</td>
<td>Papua New</td>
</tr>
<tr>
<td>Private or non-profit organisations</td>
<td></td>
<td>Strategic &amp; management plans of public &amp; private organisations</td>
<td>organisational charts, staffing &amp; other</td>
<td>Guinea: Funding</td>
</tr>
<tr>
<td>&amp; individuals</td>
<td></td>
<td>Reviews of state policies &amp; education services</td>
<td></td>
<td>submission</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reports of organisations of disabled persons</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Education philosophies &amp; teaching methods for children with disabilities</td>
<td></td>
<td>Institutional reports &amp; performance reviews</td>
</tr>
</tbody>
</table>
|                                   |                 | Journal articles & reports written by other            |            | SERC policies, procedures, reports to donor organisations, & client data
|                                   |                 | researchers                                             |            |                                  |
| United Nations agencies           |                 | Publications on global EFA & MDG progress              |            |                                  |
|                                   |                 | Annual publications on “the state of the world’s children” |            |                                  |
|                                   |                 | Human development & human poverty reports              |            |                                  |
|                                   |                 | Global education & health statistics                    |            |                                  |
|                                   |                 | Human rights treaties and global campaigns              |            |                                  |
| Personal                          |                 | Conference papers & articles relating to the researcher’s education projects and research in Papua New Guinea, Timor-Leste, and Pacific Island countries |            |                                  |
|                                   |                 | Researcher’s project reports & consultation papers (2002-2010); Video & audio presentations by Timorese children with disabilities |            |                                  |


APPENDIX E

Papua New Guinea study: Supporting tables and figures
**List of supporting tables**

Table E1. PNG special education resource centres and total SERC clients, 2009

Table E2. Identified qualifications of staff employed in the four SERCs that participated in this study

**List of supporting figures**

*Figure E1.* PNG National Department of Education governance authorities in the area of disability (shaded in grey), 2008

*Figure E2.* Papua New Guinea’s national education system, consisting of public, private, church, and faith-based educational institutions, 2008

*Figure E3.* Organisational structure of Callan National Unit, 2006

*Figure E4.* Organisational structure of the four PNG special education resource centres that participated in the present study

*Figure E5.* Example process map for a one-week Mount Sion Centre “outreach patrol” to rural and remote communities in the Eastern Highlands Province

*Figure E6.* Age distribution and program enrolment pattern of 5697 SERC clients, 2009

*Figure E7.* SERC clients: Disability prevalence and gender variations across the disability groups, 2009

*Figure E8.* Comparison of SERC program enrolments and age and types of disabilities of the 5697 clients, 2009

*Figure E9.* Comparison of SERC program enrolments and age and types of disabilities of the clients of the four participating SERCs, 2009

*Figure E10.* Mount Sion Centre for Disabled Persons: Comparison of program enrolments and age and types disabilities of 263 clients, 2009

*Figure E11.* Wewak special education resource centre: Comparison of program enrolments and age and types disabilities of 557 clients, 2009

*Figure E12.* Mount Hagen special education resource centre: Comparison of program enrolments and age and types disabilities of 315 clients, 2009

*Figure E13.* Mingende special education resource centre: Comparison of program enrolments and age and types disabilities of 424 clients, 2009
### Table E1. PNG special education resource centres and total SERC clients, 2009

<table>
<thead>
<tr>
<th>Province</th>
<th>Location</th>
<th>SERC</th>
<th>Ownership &amp; governance</th>
<th>Clients 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SERC Sub-centre</td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>North Coast Mainland (Mamose) Region:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Sepik</td>
<td><em>Wewak</em></td>
<td>Maprik</td>
<td>Callan Services &amp; Diocese of Wewak</td>
<td>221</td>
</tr>
<tr>
<td>Morobe</td>
<td>Lae</td>
<td>-</td>
<td>Creative Self Help Centre (CSNU)</td>
<td>24</td>
</tr>
<tr>
<td>Madang</td>
<td>Madang</td>
<td>-</td>
<td>Callan Services &amp; Aitape Diocese</td>
<td>419</td>
</tr>
<tr>
<td>West Sepik</td>
<td>Aitape</td>
<td>Baro</td>
<td>Callan Services &amp; Diocese &amp; Congregation of Brothers of Charity</td>
<td>151</td>
</tr>
<tr>
<td>Highlands Region:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Highlands</td>
<td><em>Goroka</em></td>
<td>-</td>
<td>Callan Services &amp; Goroka Diocese</td>
<td>101</td>
</tr>
<tr>
<td>Enga</td>
<td>Wabag</td>
<td>-</td>
<td>Callan Services &amp; Enga Province Education Division</td>
<td>58</td>
</tr>
<tr>
<td>Chimbu</td>
<td><em>Mingende</em></td>
<td>-</td>
<td>Callan Services &amp; Kundiawa Diocese</td>
<td>149</td>
</tr>
<tr>
<td>Chimbu</td>
<td>Simbu</td>
<td>-</td>
<td>Callan Services &amp; Kundiawa Diocese</td>
<td>205</td>
</tr>
<tr>
<td>Southern Highlands</td>
<td>Mendi</td>
<td>Margarima</td>
<td>Callan Services &amp; Mendi Diocese</td>
<td>64</td>
</tr>
<tr>
<td>Western Highlands</td>
<td><em>Mt. Hagen</em></td>
<td>Banz</td>
<td>Callan Services, Mt. Hagen Archdiocese &amp; Congregation of Brothers of Charity</td>
<td>151</td>
</tr>
<tr>
<td>Southern Region:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milne Bay</td>
<td>Alotau</td>
<td>Wataluma</td>
<td>Callan Services &amp; Alotau Diocese</td>
<td>109</td>
</tr>
<tr>
<td>National Capital District NCD</td>
<td>Port Moresby</td>
<td>-</td>
<td>Cheshire Homes</td>
<td>56</td>
</tr>
<tr>
<td>NCD/Central</td>
<td>Pt. Moresby</td>
<td>-</td>
<td>Red Cross Hohola</td>
<td>97</td>
</tr>
<tr>
<td>NCD/Central</td>
<td>Pt. Moresby</td>
<td>-</td>
<td>St Johns Association</td>
<td>70</td>
</tr>
<tr>
<td>Western</td>
<td>Daru</td>
<td>-</td>
<td>Callan Services</td>
<td>53</td>
</tr>
<tr>
<td>Western</td>
<td>Kiunga</td>
<td>Ningerum</td>
<td>Callan &amp; Daru-Kiunga Diocese</td>
<td>59</td>
</tr>
<tr>
<td>New Guinea Islands Region:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bougainville</td>
<td>Buka</td>
<td>Arawa</td>
<td>Callan Services &amp; Bougainville Diocese</td>
<td>174</td>
</tr>
<tr>
<td>East New Britain</td>
<td>Rabaul</td>
<td>Vunakanau</td>
<td>Callan Services &amp; Rabaul Archdiocese</td>
<td>60</td>
</tr>
<tr>
<td>Manus</td>
<td>Lorengau</td>
<td>-</td>
<td>Callan Services</td>
<td>10</td>
</tr>
<tr>
<td>New Ireland</td>
<td>Kavieng</td>
<td>-</td>
<td>Callan Services</td>
<td>0</td>
</tr>
<tr>
<td>West New Britain</td>
<td>Kimbe</td>
<td>-</td>
<td>Callan Services &amp; Kimbe Diocese</td>
<td>84</td>
</tr>
<tr>
<td><strong>Total clients</strong></td>
<td></td>
<td></td>
<td></td>
<td>2412</td>
</tr>
</tbody>
</table>

Note: This table was constructed by the researcher using unpublished information provided by Callan Services for Disabled Persons (2008) and the Papua New Guinea Department of Education (2010). Asterixis (*) indicate the four SERCs that participated in this study.
Table E2. Identified qualifications of staff employed in the four SERCs that participated in this study

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SERC managers (n=1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusive education coordinators &amp; assistant coordinators (n=5)</td>
<td>√ (2)</td>
<td>√ (2)</td>
<td>√ (2)</td>
<td>√ (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusive education officers/teachers (n=16)</td>
<td>√</td>
<td>√ (5)</td>
<td>√ (4)</td>
<td>√ (7)</td>
<td>√</td>
<td>√ Diploma Art</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary school staff (n=5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√ Elementary training (3)</td>
</tr>
<tr>
<td>Braille resource staff (n=2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>CBR coordinators (n=1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>CBR officers (n=9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community volunteers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>7</td>
<td>12</td>
<td>Not known</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: The information presented in this table was constructed using multicase interview data
Figure E1. PNG National Department of Education governance authorities in the area of disability (shaded in grey), 2008

Note: This figure was compiled using information published by the Papua New Guinea Department of Education (2009).
Figure E2. Papua New Guinea’s national education system, consisting of public, private, church, and faith-based educational institutions, 2008

Note: This figure was compiled using information published by the Papua New Guinea Department of Education (2009)
Figure E3. Organisational structure of Callan National Unit, 2006

Note: This figure was constructed by the researcher through analysis and synthesis of multicase interview and documentary data (Callan Services for Disabled Persons, 2006; Leach, 2002; Redding, 2002).
Figure E4. Organisational structure of the four PNG special education resource centres that participated in the present study.

Mount Sion Centre for Disabled Persons, Goroka, Eastern Highlands Province

Wewak special education resource centre, Wewak, East Sepik Province

Mount Hagen special education resource centre, Mt. Hagen, Western Highlands Province

Mingende special education resource centre, Mingende, Chimbu Province
Figure E5. Example process map for a one-week Mount Sion Centre “outreach patrol” to rural and remote communities in the Eastern Highlands Province

Note: This flow chart was constructed using multicase study interview data
Figure E6. Age distribution and program enrolment pattern of 5697 SERC clients, 2009

Note: This figure was constructed using unpublished data provided by the Papua New Guinea Department of Education (2010)
Figure E7. SERC clients: Disability prevalence and gender variations across the disability groups, 2009

Note: This figure was constructed using unpublished data provided by the Papua New Guinea Department of Education (2010)
Figure E8. Comparison of SERC program enrolments and age and types of disabilities of the 5697 clients, 2009

Children aged 0-5 years (n=494)

Number of enrolments

SERC-based  Unit-based  Integration support  Monitoring  Home-based  CBR

Children aged 6-8 years (n=316)

Number of enrolments

SERC-based  Unit-based  Integration support  Monitoring  Home-based  CBR

Children aged 9-14 years (n=1206)

Number of enrolments

SERC-based  Unit-based  Integration support  Monitoring  Home-based  CBR

Youth aged 15-18 years (n=914)

Number of enrolments

SERC-based  Unit-based  Integration support  Monitoring  Home-based  CBR

Adults aged over 18 years (n=1766)

Number of enrolments

SERC-based  Unit-based  Integration support  Monitoring  Home-based  CBR
Figure E9. Comparison of SERC program enrolments and age and types of disabilities of the clients of the four participating SERCs, 2009

**Mount Sion Centre Goroka (n=263)**

- 0-5 yrs: 10 (CBR), 5 (Home-based), 3 (Monitoring), 2 (Integrated), 1 (Unit-based), 1 (SERC-based)
- 6-8 yrs: 20 (CBR), 10 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 9-14 yrs: 30 (CBR), 15 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 15-18 yrs: 40 (CBR), 20 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 18+ yrs: 50 (CBR), 25 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)

**Wewak SERC (n=557)**

- 0-5 yrs: 50 (CBR), 25 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 6-8 yrs: 100 (CBR), 50 (Home-based), 10 (Monitoring), 5 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 9-14 yrs: 120 (CBR), 60 (Home-based), 10 (Monitoring), 5 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 15-18 yrs: 100 (CBR), 50 (Home-based), 10 (Monitoring), 5 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 18+ yrs: 80 (CBR), 40 (Home-based), 10 (Monitoring), 5 (Integrated), 2 (Unit-based), 1 (SERC-based)

**Mount Hagen SERC (n=315)**

- 0-5 yrs: 30 (CBR), 15 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 6-8 yrs: 40 (CBR), 20 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 9-14 yrs: 50 (CBR), 25 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 15-18 yrs: 40 (CBR), 20 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 18+ yrs: 20 (CBR), 10 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)

**Mingende SERC (n=424)**

- 0-5 yrs: 20 (CBR), 10 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 6-8 yrs: 30 (CBR), 15 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 9-14 yrs: 40 (CBR), 20 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 15-18 yrs: 30 (CBR), 15 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
- 18+ yrs: 20 (CBR), 10 (Home-based), 5 (Monitoring), 3 (Integrated), 2 (Unit-based), 1 (SERC-based)
Figure E10. Mount Sion Centre for Disabled Persons: Comparison of program enrolments and age and types disabilities of 263 clients, 2009

Children aged 0-5 years (n=9)

Children aged 6-8 years (n=32)

Children aged 9-14 years (n=103)

Youth aged 15-18 years (n=65)

Adults aged over 18 years (n=30)
Figure E11. Wewak special education resource centre: Comparison of program enrolments and age and types disabilities of 557 clients, 2009

Children aged 0-5 years (n=27):

- **Physical (mild-severe)**
- **Learning disability**
- **Hearing imp/ deaf**
- **Vision imp/ blind**
- **Multiple**
- **Intellectual (mild-severe)**
- **Emotional**
- **Speech imp**

Number of clients:

<table>
<thead>
<tr>
<th>Types of disability</th>
<th>SERC-based</th>
<th>Unit-based</th>
<th>Integration support</th>
<th>Monitoring</th>
<th>Home-based</th>
<th>CBR</th>
</tr>
</thead>
</table>

Children aged 6-8 years (n=363):

- **Physical (mild-severe)**
- **Learning disability**
- **Hearing imp/ deaf**
- **Vision imp/ blind**
- **Multiple**
- **Intellectual (mild-severe)**
- **Emotional**
- **Speech imp**

Number of clients:

<table>
<thead>
<tr>
<th>Types of disability</th>
<th>SERC-based</th>
<th>Unit-based</th>
<th>Integration support</th>
<th>Monitoring</th>
<th>Home-based</th>
<th>CBR</th>
</tr>
</thead>
</table>

Children aged 9-14 years (n=46):

- **Physical (mild-severe)**
- **Learning disability**
- **Hearing imp/ deaf**
- **Vision imp/ blind**
- **Multiple**
- **Intellectual (mild-severe)**
- **Emotional**
- **Speech imp**

Number of clients:

<table>
<thead>
<tr>
<th>Types of disability</th>
<th>SERC-based</th>
<th>Unit-based</th>
<th>Integration support</th>
<th>Monitoring</th>
<th>Home-based</th>
<th>CBR</th>
</tr>
</thead>
</table>

Youth aged 15-18 years (n=37):

- **Physical (mild-severe)**
- **Learning disability**
- **Hearing imp/ deaf**
- **Vision imp/ blind**
- **Multiple**
- **Intellectual (mild-severe)**
- **Emotional**
- **Speech imp**

Number of clients:

<table>
<thead>
<tr>
<th>Types of disability</th>
<th>SERC-based</th>
<th>Unit-based</th>
<th>Integration support</th>
<th>Monitoring</th>
<th>Home-based</th>
<th>CBR</th>
</tr>
</thead>
</table>

Adults aged over 18 years (n=84):

- **Physical (mild-severe)**
- **Learning disability**
- **Hearing imp/ deaf**
- **Vision imp/ blind**
- **Multiple**
- **Intellectual (mild-severe)**
- **Emotional**
- **Speech imp**

Number of clients:

<table>
<thead>
<tr>
<th>Types of disability</th>
<th>SERC-based</th>
<th>Unit-based</th>
<th>Integration support</th>
<th>Monitoring</th>
<th>Home-based</th>
<th>CBR</th>
</tr>
</thead>
</table>
Figure E12. Mount Hagen special education resource centre: Comparison of program enrolments and age and types disabilities of 315 clients, 2009

Children aged 0-5 years (n=66)

Children aged 6-8 years (n=94)

Children aged 9-14 years (n=53)

Youth aged 15-18 years (n=50)

Adults aged over 18 years (n=52)
Figure E13. Mingende special education resource centre: Comparison of program enrolments and age and types disabilities of 424 clients, 2009

Children aged 0-5 years (n=57)

Children aged 6-8 years (n=57)

Children aged 9-14 years (n=115)

Youth aged 15-18 years (n=80)

Adults aged over 18 years (n=115)
APPENDIX F

Timor-Leste study: Supporting tables and figures

List of supporting figures

Figure F1. Organisational chart depicting the national and regional education authorities of the Timor-Leste Ministry of Education, as constructed from informal data sources during 2008

Figure F2. Comparison of the types of disability, age, and % overage by grade level for the 972 primary school students with disability surveyed by Plan Timor-Lese and ASSERT (2008)

Figure F3. Taibessi Special Primary School enrolments of 32 students, as expressed by grade level, disability prevalence, 2010
Figure F1. Organisational chart depicting the national and regional education authorities of the Timor-Leste Ministry of Education, as constructed from informal data sources during 2008.
Figure F2. Comparison of the types of disability, age, and % overage by grade level for the 972 primary school students with disability surveyed by Plan Timor-Lese and ASSERT (2008)

**Types of disability of primary school students surveyed**

<table>
<thead>
<tr>
<th>Types of disabilities</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>Hearing</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Speaking</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Physical</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Complex</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

% of total 972 students with disabilities

**Gender of students with disability surveyed**

- Male: 64%
- Female: 36%

**Primary school students with disability who were over-age for their grade of enrolment**

<table>
<thead>
<tr>
<th>Grade</th>
<th>% of total students over-age by grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1</td>
<td>0</td>
</tr>
<tr>
<td>Grade 2</td>
<td>29</td>
</tr>
<tr>
<td>Grade 3</td>
<td>39</td>
</tr>
<tr>
<td>Grade 4</td>
<td>37</td>
</tr>
<tr>
<td>Grade 5</td>
<td>43</td>
</tr>
<tr>
<td>Grade 6</td>
<td>47</td>
</tr>
</tbody>
</table>

% of total students over-age by grade

**% of overage students with disability: Public & private schools**

- Private schools 41%
- Public schools 59%
Figure F3. Taibessi Special Primary School enrolments of 32 students, as expressed by grade level, disability prevalence, 2010
APPENDIX G


Note:

This document was produced during 2008 by the researcher to stimulate discussion and feedback from the Timor-Leste reference group. The first version of the document was produced in early 2008 and modifications were made following the Timor-Leste Ministry of Education’s focus group meetings held in April and August 2008.
INCLUSIVE EDUCATION OF CHILDREN WITH SPECIAL NEEDS IN TIMOR-LESTE

A strategic Model For Phase 1

Frances Gentle
2008
FORWARD

This document is all about children with disabilities and their right to education. It presents a model for inclusive education that is based upon the belief that early childhood and school education has critical benefits for all children’s development, health and well-being. Educating children with disabilities is a “public good”, with positive effects on employment levels, gender equity, human capital development, and economic growth. Most important of all, the gift of education will provide children with disabilities with knowledge and skills to contribute to the well-being of their families and the capacity of their communities.

In late 2007, Mrs Kirsty Sword Gusmao, Timor-Leste’s Goodwill Ambassador for Education approached the author to produce a detailed framework the first phase of the Gentle and Leach (2004) Forward Strategy for special education. This request has resulted in the development of the Strategic model for inclusive education of children with special needs in Timor-Leste, Phase 1, which is presented in this document.

The Model is based on a vision for inclusive education for children with special needs in Timor-Leste. Its mission is to create a rights-based, barrier-free national inclusive education service – a service that welcomes all children and families, regardless of their gender, abilities, economic situation, race of religious beliefs.

The contributions of Brother Graeme Leach co-author of the forward strategy for inclusive education in 2004 are gratefully acknowledged. The underlying principles and directions of the model presented have been guided by his wisdom and experience in developing inclusive education services in Papua New Guinea over a 20 year period.

I thank Mrs Sword Gusmao for giving me this opportunity to make a contribution to the future of effective and sustainable inclusive education policies in Timor-Leste.

Frances Gentle
April 2008.

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361-365 North Rocks Road
North Rocks, NSW 2151 Australia
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Phone: +612 9872 0808
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EXECUTIVE SUMMARY

PURPOSE

1.1 The purpose of this document is to offer recommendations for the education system for children with special needs in Timor-Leste. The model is based upon partnership between the Timor-Leste Ministry of Education (MoE), the Church of Timor-Leste, and key civil society stakeholders with a vested interest in education of children with special needs. This partnership is supported by collaborative links with international development partners.

1.2 The Model is solutions-orientated, and seeks to establish innovative responses to educating the large percentage of pre-school and school-age children, including those with disabilities who are currently out-of-school. UNICEF (2006) noted that bold new approaches to education service provision are needed, including the building of partnerships to develop an inclusive education system and human resource capacity.

GOALS

Goal 1: To establish the governance and management infrastructure upon which inclusive education services and programs can be developed.

Goal 2: To establish and implement an effective and sustainable national inclusive education service for children with special needs through growth of current Ministry of Education structures and the establishment of new education infrastructure, employment of staff, and delivery of programs and services to children with disabilities, their families and communities.

OBJECTIVES AND ENABLING STRATEGIES

The strategic model has six key objectives. Each objective is supported by strategies for implementation over a three year period. Detailed information on the implementation actions associated with each objective is presented later in this document.

<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>ENABLING STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>O1 Partnerships:</td>
<td>S1.1 Establish an effective, sustainable and equitable national inclusive education framework through partnerships with key stakeholders.</td>
</tr>
<tr>
<td>Establish and maintain partnerships that enrich and develop human resource and infrastructure capacity in inclusive education.</td>
<td>S1.2 Promote partnerships with international development agencies to develop the human capital, infrastructure and resources in inclusive education.</td>
</tr>
<tr>
<td></td>
<td>S1.3 Establish partnerships with parents and carers in the development and delivery of inclusive education services in schools and communities.</td>
</tr>
</tbody>
</table>
O2 Governance and management:
Establish and maintain strong governance and management capacity, within a framework of transparency and accountability that result in financial sustainability and high quality staff performance across all levels of service provision.

S2.1 Establish organisational structures in accordance with the organic structure of the Ministry of Education (MoE) and Regional Boards of Education.
S2.2 Establish efficient, responsive and streamlined administrative and financial management processes that meet the needs of government, Church and Inclusive Education (IE) staff at all levels.
S2.3 Implement regular monitoring and review processes to ensure that high standards of services and accountability are integrated into the structure of services across all levels of delivery.

O3 Human capital:

O3.1 Inclusive Education staff: Develop and retain skilful and motivated staff members who are committed to a rights-based inclusive philosophy and who deliver a range of high quality services.

S3.1 Attract and retain high quality, ethical staff who are capable of providing best-practice inclusive education services.
S3.2 Develop a culture that recognises and celebrates achievement and success.
S3.3 Provide a range of opportunities for professional development that enable IE staff to achieve professional goals.
S3.4 Enhance training opportunities through national and international collaboration.

O3.2 School staff: Develop an inclusive school culture and learning environment through the professional development of school leaders and staff in inclusive teaching and programming methods.

O4 Programs and services:
Establish and maintain effective and sustainable formal and non-formal inclusive education services and programs that result in equitable access and participation of children with disabilities and their families in school and communities.

S4.1 Incorporate the national Inclusive Education Policy and implementation guidelines into the development of educational programs and services.
S4.2 Foster flexible and responsive school-based and community-based program solutions to meet the educational needs of children with disabilities and their families/carers.
S4.3 Wherever possible, integrate inclusive education programs and services for children with special needs into existing mainstream education programs and services.
O5 Research, innovation and knowledge management: Establish mechanisms for implementing research and the collection and dissemination of inclusive education data that support the delivery of high quality services at national, regional and school levels.

S5.1 Investigate global solutions to inclusive education service delivery in countries facing the challenges of limited human capacity, infrastructure and resources in education.

S5.2 Establish a national information system for the collection and dissemination of Inclusive Education information and data.

S5.3 Establish national priorities for inclusive education research.

O6 Public awareness and engagement: Increase access and engagement in education of children with disabilities and their families, by increasing awareness, understanding and support among parents and stakeholders of the potential of education for all children.

S6.1 Implement public awareness strategies to promote the new inclusive education service, and to stimulate demand for education.

S6.2 Empower parents and families, through information sharing to become active partners in governance and management of inclusive education services.

S6.3 Promote parent and community participation in the development and delivery of formal and non-formal school and community programs and services.

4 NEW INFRASTRUCTURE AND BUDGETARY CONSIDERATIONS

The strategic model for inclusive education of children with special needs contains the following seven new organisational/structural components (see p.37):

1. MoE Office of Inclusive Education (OIE)
2. Disability Services Office (DSO)
3. Research and Advisory Board (RAB)
4. Board of Governors (BoG) - Inclusive Education Services
5. Inclusive Education Resource Centre (IERC)
6. Inclusive Education Unit (IEU)
7. Deafness Education Unit (DEU)

A three-year implementation timeline is presented, together with an overview of budgetary considerations. Guidelines for the development of a budget and key performance indicators are presented for consideration by the Ministry of Education.

It is recommended that Inclusive Education services and programs be developed gradually, commencing with the establishment of the first Inclusive Education Unit during the first year, and open for business at the start of the second year. This would be followed by the establishment of the first Inclusive Education Resource Centre (IERC) (see the proposed implementation timeline).
THE PURPOSE STATEMENT

It is estimated that approximately 50,000 of Timor-Leste’s 500,000 children under the age of 15 have disabilities (World Health Organisation, 2008). Due to a range of social, cultural and physical barriers, a large percentage of these children live on the margins of society, with limited access and participation in education, productive “work”, and independence.

The government of Timor-Leste is a signatory to the United Nations Millennium Development Goals (MDGs), and the Education for All goal of universal primary education. However, the Ministry of Education (MoE) faces many challenges in achieving the EFA goal by 2015.

The attainment of Universal Primary Completion by 2015 presents a serious challenge to the MoE and to the people of Timor-Leste. Constraints to be overcome include: inadequate physical infrastructure, poor and inadequate teaching and learning materials, ill-prepared teachers, and limited management capacity (Timor-Leste Ministry of Education and Culture, 2005, p.1).

The purpose of the Inclusive Education Strategic Model is to present a national model of inclusive education service development for children with collaborative partnerships disabilities and their families. This model is built upon a partnership of the Ministry of Education (MoE), the Church of Timor-Leste, and civil society and international stakeholders with a vested interest in education for children with special needs.

The Model is solutions-based, and seeks to establish innovative solutions to educating the large percentage of pre-school and school-age children, including those with disabilities who are currently out-of-school. UNICEF (2006) noted that bold new approaches to education service provision are needed, including the building of partnerships to develop an inclusive education system and human resource capacity.
CURRENT EDUCATION POLICY IN TIMOR-LESTE

In May 2002, the independence of Timor-Leste as a new nation was enacted through the establishment of the Constitution of the Democratic Republic of Timor-Leste, and the National Development Plan of Timor-Leste (2002). The Constitution refers in several of its rules to education, and states that "Children shall enjoy all rights that are universally recognized, as well as all those that are enshrined in international conventions commonly ratified or approved by the State" (Section 18, paragraph 2).

In March 2008, the newly elected government of Timor-Leste approved the National Education Policy 2007-2012 (Ministry of Education, Office of the Minister, 2008). The Policy sets out the challenges to be addressed by the Ministry of Education, the core objectives and principles, and the program of educational reforms to be undertaken to improve the quality of the education system to "ensure equal access to all Timorese to the various levels of education" (p. 11).

The National Education Policy (2008) presents the Ministry of Education’s Vision for education reform as follows:

Vision: In 2020 Timor-Leste will be a democratic country with a vibrant traditional culture and a suitable environment. The population will be educated, knowledgeable and qualified. It will be healthy and able to live a long and productive life. It will participate in the economical, social and political development, promoting social equity and national unity (p.10).
CURRENT EDUCATION SERVICES FOR CHILDREN WITH DISABILITIES

At the present time, there is one special day school that caters for small numbers of children with disabilities. Taibessi School for Disabled Children in Dili caters for approximately 30 children with physical, intellectual or sensory disabilities, aged between seven and eighteen years. There is currently limited national information on the number of children with disabilities enrolled in mainstream schools. Plan International’s Timor-Leste Office is finalising a research project on the inclusion of children with disabilities in primary schools, and the results will be presented in the near future to the Ministry of Education.

In 2005, the Ministry of Education published its Strategic Plan for primary education for the ten-year period 2006-2015, together with a three-year program for 2006/7 to 2008/9. The MoE Strategic Plan, titled “Strategic Plan for Universal Primary Completion by 2015” (SP-UPC) was developed to address the United Nations Education For All by 2015 (EFA) goals and to support Timor-Leste’s participation in the World Bank Education for All Fast Track Initiative (EFA FTI).

The National Education Policy 2007-2012 prioritises the achievement of the Millennium Development Goal (MDG) of universal primary education by 2020 (Ministry of Education, 2008, p.9). The Policy presents six Guiding Principles for reform of the current education system. The first two Principles, listed below, are of relevance to the establishment of an inclusive education system that includes children with disabilities.

- **Principle of quality**, focusing on learning process and outcomes.
- **Principle of equity**, implying great institutional sensitivity regarding local and social differences in the access to education, providing special attention to underprivileged regions and social groups (Ministry of Education, 2008, p.11).

These two principles are addressed in this strategic model for inclusive education of children with special needs.
MISSION

- To create a rights-based, barrier-free, national inclusive education service that welcomes all children and families, regardless of their gender, abilities, economic situation, race or religious beliefs.

VISION

The opening of the first inclusive education unit in Timor-Leste on the first day of the 2010 school year, with other units and centres to follow.

Children with disabilities ready to start school alongside their peers and siblings, in the government, private, and Church schools.

GOALS

1. To establish the governance and management infrastructure upon which inclusive education services can be developed.

2. To establish and implement an effective and sustainable national inclusive education service through the expansion of current Ministry of Education structures; and the establishment of new education infrastructure, employment of staff, and delivery of programs and services to children with disabilities, their families and communities.
## OBJECTIVES

The Strategic Model has six Key Objectives

Each of these objectives is of equal importance.

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>Partnerships</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Establish and maintain partnerships that enrich and develop human resource and infrastructure capacity in inclusive education.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>Governance and management</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Establish and maintain strong governance and management capacity, within a framework of transparency and accountability that result in financial sustainability and high quality staff performance across all levels of service provision.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>Human capital</th>
</tr>
</thead>
</table>
| 3          | **IE staff**: Develop and retain skilful and motivated staff members who are committed to a rights-based inclusive philosophy and who deliver a range of high quality services.  
**School staff**: Develop an inclusive school culture and learning environment through the professional development of school leaders and staff in inclusive teaching and programming methods. |

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>Programs and services</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Establish and maintain effective and sustainable formal and non-formal inclusive education services and programs that result in equitable access and participation of children with disabilities and their families in school and communities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>Research, innovation and knowledge management</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Establish mechanisms for implementing research and the collection and dissemination of inclusive education data that support the delivery of high quality services at national, regional and school levels.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>Public awareness and engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Increase access and engagement in education of children with disabilities and their families, by increasing awareness, understanding and support among parents and stakeholders of the potential of education for all children.</td>
</tr>
</tbody>
</table>
GUIDING PRINCIPLES

The Strategic Model is underpinned by the following eight Guiding Principles

P1 Rights Based and Inclusive
The foundation of the Strategic Model is a human rights approach to disability, in which stakeholders are committed to the development of a barrier-free, inclusive education service that welcomes children and families regardless of their gender, abilities, economic situation, race or religious beliefs.

P2 Education for All
In order for the government to achieve the United Nations Millennium Development Goals (MDG) and Education for All Children by 2015 (EFA) goals, innovative formal and non-formal programs are required that address the learning needs of the estimated 50,000 children with disabilities.

P3 Partnerships
A partnership between the government and Church to jointly develop, lead and govern the emerging national inclusive education service will strengthen the development, management and delivery of high quality, sustainable inclusive education services.

P4 Participatory Governance
The active participation of government, Church, parents, children, people with disabilities, and other stakeholders will support the development of transparent forms of governance and management processes, realistic and achievable inclusive education priorities, and equitable resource provision.

P5 Strategic Direction
Start small and build upon success: Implement school and community services in stages, establishing pilot inclusive education units and resource centres first, then expanding to additional inclusive education services over time.

P6 Capacity Building
The successful implementation of the Strategic Model requires the commitment, professionalism and inspiration of staff and key stakeholders.

The development of human resource capacity and infrastructure requires the development and delivery of targeted professional development and support programs.

P7 Research and Innovation
The establishment of a national information system and research advisory board will enable effective research, planning and monitoring of inclusive education service provision, incorporating international trends and innovation.

P8 Accountability
The success of the inclusive education is underpinned by the establishment of strong management capacity, transparent resource allocation, and streamlined accounting practices that are replicable at all levels of services.
THE MODEL

The following section sets out the Rationale, Implementation Strategies, Actions and Outcomes for each of the six Objectives.
OBJECTIVE 1: PARTNERSHIPS

OBJECTIVE

Establish and maintain partnerships that enrich and develop human resource and infrastructure capacity in inclusive education.

RATIONALE

The basis of this Strategic Model is the establishment of a long-term partnership between the government, Church, non-government organisations (NGOs) and civil society in order to establish and implement the emerging national inclusive education service. Partnerships will strengthen the sustainability and effectiveness of service provision, and support the priority areas of Timor-Leste’s National Education Policy 2007-2012 (Ministry of Education, 2007).

Partnerships and underlying assumptions in this Model are as follows:
(i) The government has responsibility for national inclusive education services
(ii) Inclusive Education services in schools and communities will be established through partnerships between the Timor-Leste Ministry of Education, Church, civil society stakeholders with a vested interest in education of children with special needs
(iii) National-level partnerships will focus upon the development of infrastructure and human resource capacity at all levels of inclusive service provision (including high-level management and governance).
(iv) The Ministry of Education, in collaboration with other government ministries as required, will establish annual financial management and reporting mechanisms in the area of inclusive education
(v) The MoE Office of Inclusive Education (once established), will establish partnerships with all key stakeholders, including government and church district education agencies, organisations of persons with disabilities, and “grass-roots” parent, church and community groups.

STRATEGIES

S1.1 Establish an effective, sustainable and equitable national inclusive education framework through partnerships with key stakeholders.
S1.2 Promote partnerships with national and international development agencies to develop human capital, infrastructure and resources in inclusive education.
S1.3 Establish partnerships with parents and carers in the development and delivery of inclusive education services in schools and communities.
**ACTIONS**

**A1.1 Partnership between Ministry of Education (MoE), Church, and civil society stakeholders**
Establish formal partnerships between the Ministry of Education (MoE), the Church of Timor-Leste, and other education agencies to work together in implementing national inclusive education services.

**A1.2 Partnership between MoE and international development organisations:**
Establish partnerships between the Ministry of Education (MoE) and international agencies to support the development of human resources, infrastructure, and resources and equipment. Partnerships may include professional training, professional scholarships for further study, educational scholarships for children, school infrastructure and resources, and recruitment of international consultants/advisors in inclusive education.

**A1.3 MoE and other government ministries:**
Establish on-going collaborative partnerships between the Ministry of Education and other relevant government ministries to establish effective governance and financial management, and reporting systems.

**A1.4 MoE Office of Inclusive Education and other organic structures of the MoE**
Establish on-going partnerships between the Office of Inclusive Education (OIE) and other organic structures within the MoE. This includes collaboration with (i) the National Education Commission, (ii) the Directorate of Policy, Planning and Development, (iii) the Directorate of Administration and Finance, (iv) the Directorate of Training, (v) the Directorate of School Accreditation and Operations, (vi) the Regional Inspector and (viii) organic structures of the Regional Board of Education.

**A1.5 MoE and parent and civil society organisations and community groups:**
Establish “participatory governance” through partnerships with civil society organisations and groups, including parent groups, organisations of people with disabilities, and church and community groups. Participatory governance includes the following collaborative partnerships:

- national planning, implementation, and review of inclusive education services
- disability awareness-raising and inclusive education campaigns in schools and communities
- selection of sites for placement of inclusive education services (IEUs, DEUs, and IERCs)
- identification of children and families who are eligible for IE services
- mentoring and advocacy programs
- construction of accessible school and community environments
- school-parent partnerships in student learning (education teams, inclusive education plans, program delivery, school volunteers)
- equitable and accountable resource provision.

**OUTCOME**

Strengthen the government’s robustness to expand current education services and infrastructure to include children with disabilities and their families.
OBJECTIVE 2: GOVERNANCE AND MANAGEMENT

OBJECTIVE

Establish and maintain strong governance and management capacity, within a framework of transparency and accountability that results in financial sustainability and high quality staff performance across all levels of service provision.

RATIONALE

Effective governance and management of the national Inclusive Education service of Timor-Leste includes the establishment of clear strategic goals and priorities for the long-term development of inclusive education services and programs.

It is crucial that Timor-Leste invests in the development of inclusive education leaders, managers and specialists in order to create a cohesive team who are confident to implement new programs and services so as to include children and families currently living on the margins of society.

STRATEGIES

S2.1 Establish organisational structures in accordance with the organic structure of the MoE and Regional Boards of Education.

S2.2 Establish efficient, responsive and streamlined administrative and financial management processes that meet the needs of government, Church and IE staff at all levels.

S2.3 Implement regular monitoring and review processes to ensure that high standards and accountability are integrated into the structure of services across all levels of delivery.
ACTIONS

Regulatory framework and policies:
A2.1 Establish a regulatory/statutory framework, terms of reference, policies and operational guidelines for inclusive education, and budgetary outlays.

A2.2 Establish a national Inclusive Education Policy and Implementation Guidelines.

A2.3 Establish a Strategic Model and annual report for the Minister of Education and other key stakeholders.

Infrastructure and capacity building (cont.):
A2.7 Establish IE Boards of Governors to oversee the implementation and monitoring of IE services in government and Church schools and communities.

A2.8 Establish national leadership training programs to strengthen leadership capacity across all levels of IE services.

A2.9 Establish a training program in financial procedures and bookkeeping for managers and finance officers across all levels of IE services.

Infrastructure and capacity building:
A2.4 Establish a MoE Office for Inclusive Education (OIE), with responsibility for IE services in the government education sector.

A2.5 Establish a Secretariat function within the MoE Office of Inclusive Education. The Secretariat will be responsible for management of information, records and policies, and secretarial duties.

A2.6 The OIE to establish partnerships with Church and non-government education and rehabilitation agencies supporting children with special needs.

Financial management:
A2.10 Implement a financial management system that is replicable across all levels of IE service provision (national, regional, and local).

A2.11 Appoint annually, an independent Financial Manager to audit the financial records and reports of the OIE Secretariat, and to monitor contracting arrangements.

OUTCOME

Implementation of a governance and leadership structure that leads to high-quality innovative education services for children with disabilities, their families and communities.
OBJECTIVE 3: HUMAN CAPITAL

OBJECTIVE

Develop and retain skilful and motivated staff members who are committed to a rights-based inclusive philosophy and who deliver a range of high quality services.

RATIONALE

Achievement of an effective and sustainable inclusive education system is strengthened by the commitment and professionalism of staff employed in inclusive education (IE) services and in schools.

A strategic approach to developing the expertise of school leaders, teachers, and specialist support staff will greatly enhance the effectiveness and sustainability of inclusive education. Consideration of the professional skills required at the various levels of the education system will enable the delivery of training programs that are tailored to staff needs. This includes professional training of staff employed in financial management and administration positions in schools and IE services, as well as mainstream teachers, volunteers and specialist IE staff.

STRATEGIES

S3.1 Attract and retain high quality, ethical staff who are capable of providing best-practice inclusive education services.

S3.2 Develop a culture that recognises and celebrates achievement and success.

S3.3 Provide a range of opportunities for professional development that enable IE staff to achieve professional goals.

S3.4 Enhance training opportunities through national and international collaboration.
**ACTIONS**

**Staff recruitment:**

A3.1 Recruit IE service managers and staff who are committed to the philosophy and goals of inclusive education. This includes the active recruitment of persons with disabilities, where possible, across all levels of IE services.

A3.2 Establish clearly defined roles and responsibilities of all IE staff and volunteers.

A3.3 Identify key competencies, skills and techniques required by school and IE staff to successfully implement inclusive education practices in schools and communities.

**Incentive structures:**

A3.4 Establish incentive structures to reward high staff performance and sustained improvements in service provision and management in schools and IE services.

A3.5 Provide fair and equitable salary and entitlements to IE staff at all levels of service provision.

**Incentive structures (cont.):**

A3.6 Establish staff/student ratios that are in line with international “best practice” standards for inclusive education. This includes (i) classroom teacher/student ratios and (ii) ratios of IE specialist staff to children receiving services in schools and communities.

A3.7 Implement professional training programs for school and IE staff, in accordance with targeted professional needs.

A3.8 Implement public recognition processes for quality IE programs of schools and individual school staff.

**Volunteers:**

A3.9 Establish a system of volunteers to support service provision at all levels.

This includes a national recruitment program of volunteer technical consultants, with expertise in (i) inclusive/special education, (ii) therapy services, and (iii) financial management and bookkeeping.

**OUTCOME**

Through a national recruitment and professional development program, establish and retain skilful and motivated school and specialist IE workforce who possess the knowledge and skills to deliver effective, high quality inclusive education services at national, regional, and local levels.
OBJECTIVE 4: PROGRAMS AND SERVICES

OBJECTIVE

Establish effective and sustainable long-term formal and non-formal inclusive education services and programs that result in equitable access and participation of children with disabilities, their families, and community members.

RATIONALE

The success of the national inclusive education service rests upon the quality and relevance of its programs and services to children with disabilities and their families and communities.

Two types of programs and services are required: (i) school-based (formal) and (ii) community-based (non-formal).

- In school settings, teachers and school administrators require practical, culturally relevant knowledge and skills of inclusive classroom-based teaching practices which are low-cost, resource-efficient, suited to large classes, and cater for the diversity of learning needs of children.
- In community settings, family-centered programs are required that empower parents and carers to support their children with disabilities from birth to adulthood, and to promote family awareness of the value of education for children with special needs.

STRATEGIES

S4.1 Incorporate the philosophy of inclusive education into all education programs and services.
S4.2 Foster flexible and responsive school-based and community-based program solutions to meet the educational needs of children with disabilities and their families/carers.
S4.3 Wherever possible, integrate inclusive education programs and services into existing mainstream education programs and services.
ACTIONS

A4.1 New services:
Gradually establish the following inclusive education services:

- School-based Inclusive Education Units (IEUs)
- Inclusive Education Resource Centres (IERCs)
- School-based Deafness Education Units (DEUs)

A4.2 Community-based inclusive education programs for children and families:
Establish innovative family-centred, non-formal IE outreach programs to foster inclusion of children with special needs. Examples:

- Elimination or reduction of school fees for children with special needs
- Education scholarships for children with special needs
- Home-school transition programs and IE staff support with school enrolment procedures
- Family incentives to send children to school, including school health and feeding programs, and food packages for participating families.
- Provision of school transport solutions, including during periods of social and political conflict.

A4.3 Assessment and referral system:
Establish national assessment and referral programs to identify children with special needs as young as possible. This includes referrals to appropriate health, education and disability services and programs.

A4.4 ECCE services:
Implement early childhood care and education (ECCE) services for children with special needs in community and health centres.

A4.5 School-based inclusive education programs:
Establish a range of school-based IE programs that support and compliment existing school programs and services, and promote social and academic inclusion of children with special needs and their families. Examples:

- Educational team approach to program delivery; development of Individual Education Plans (IEPs)
- Curricular and extra-curricular programs, and curriculum modifications to address IEP goals
- Targeted professional development and disability-awareness programs for school administrators, teachers and volunteers
- Parent/carer participation in planning and implementation of programs
- Regular formal and informal reporting on child progress.

A4.6 Fostering school enrolment and retention:

A4.6.1
Promote education of girls with special needs. Examples:

- Ensure gender balance of IE staff
- Support the establishment of school bullying policies
- Staff training in gender and disability issues
- Gender-sensitive home-school travel options
- School hygiene and sanitation for girls

A4.6.2
Provide literacy and education programs for women and mothers as a means of fostering demand for education of children with special needs.

OUTCOME

Effective and sustainable formal and non-formal services and programs that result in equitable access and participation for children with special needs in local schools and communities.
OBJECTIVE 5: RESEARCH, INNOVATION AND KNOWLEDGE MANAGEMENT

OBJECTIVE

Establish mechanisms for implementing research and the collection and dissemination of inclusive education data that support the delivery of high quality services for children with special needs at national, regional and school levels.

RATIONALE

Creative and innovative measures are required to integrate education services for children with special needs into the currently constrained education environment in Timor-Leste. Research into education solutions in other developing countries will enable the government to capitalise on best-practice global approaches and innovation in inclusive education service provision for children with special needs.

Improvements in the MoE information system for collection and dissemination of data are required to monitor and report on progress in developing inclusive education services for children with special needs. This includes monitoring enrollments of children with disabilities in schools, their achievement and retention rates, and literacy and numeracy levels.

STRATEGIES

S5.1 Investigate solutions to inclusive education service delivery in other countries facing the challenges of limited human capacity, infrastructure and resources in education.

S5.2 Establish a national information system for the collection and dissemination of information and data relating to education of children with special needs.

S5.3 Establish national priorities for inclusive education research.
ACTIONS

Research and Innovation:

A5.1 Establish a Research and Advisory Board (RAB), consisting of international and national researchers and technical advisers, and reporting to the Ministry of Education, the National Education Commission, and other key stakeholders.

The functions of the RAB would include the following:

- Support the Office of Inclusive Education in the area of research and innovation in inclusive education services and programs.
- Undertake research as directed by the MoE and key stakeholders. This may include research into IE policy and practice; human capacity building; and newly-emerging formal and non-formal approaches to education of children and youth with disabilities.
- Explore disability-related technologies in education globally and assess their potential application to Timor-Leste.
- Monitor IE service provision in Timor-Leste, in relation to international developments, including strengths and weaknesses of service provision.
- Pursue opportunities to collaborate with other research bodies undertaking related research.

Knowledge Management

A5.2 Expand the existing MoE information management system (EMIS) to collect and disseminate data on school enrolments, retention, and achievement levels of children with disabilities.

A5.3 Create and disseminate an annual National Directory of Inclusive Education services, for use by education and health professionals, school administrators, IE staff, families, and parent and community groups.

OUTCOME

Timor-Leste’s IE services and information management systems are enhanced by the establishment of a Research and Advisory Board of international and national experts and the expansion of the MoE information management system.
OBJECTIVE 6: PUBLIC AWARENESS AND ENGAGEMENT

OBJECTIVE

Increase access and engagement in education of children with special needs and their families, by increasing awareness, understanding and support among parents and stakeholders of the potential of education for all children.

RATIONALE

The concept of “inclusive education” is relatively new in Timor-Leste. There has been no active enrolment of children with special needs into mainstream schools in the past, and parents, carers and communities are generally unaware of the benefits of educating children with special needs. In addition, families often lack the knowledge and skills to advocate on behalf of their children with special needs for the implementation of formal and non-formal inclusive education services in local schools and communities.

In general, school administrators and teachers have limited awareness of the United Nations Conventions on the Rights of People with Disabilities (United Nations, 2006), and the responsibilities of public, church, private education agencies to include children with special needs in mainstream schools, classes and programs.

The development of public disability awareness and education campaigns will (a) stimulate demand for inclusive education services through parent and community engagement with formal and non-formal IE services, and (b) promote partnerships between the government, parents, community groups and the Church in ensuring the implementation of high quality, equitable, and relevant inclusive education services.

STRATEGIES

S6.1 Implement public awareness strategies to promote the new inclusive education service, and to stimulate demand for education.

S6.2 Empower parents and families, through information sharing to become active partners in governance and management of inclusive education services.

S6.3 Promote parent and community participation in the development and delivery of formal and non-formal school and community programs and services.
ACTIONS

A6.1 Public awareness and education campaigns:
Establish public awareness and education campaigns in schools and communities, in particular during the early stage of establishing new IE services.

The purpose of public awareness campaigns includes the following:

- To identify children and families who are eligible for IE services,
- To increase pre-school and school enrolments, retention, and achievement levels of children with special needs,
- To enhance the participation of parents/carers and community members in inclusive education service development and provision, and
- To promote awareness of the UN conventions that promote the rights of all children including those with special needs, to equal access and participation in education.

A6.2 Media campaigns:
Develop a national media campaign to publicise and promote inclusive education. The campaign may include the following:

- Feature newspaper articles, for example when new IE services are opened
- Local interest stories in school and community newsletters
- Inclusive education page on the MoE and other government websites.

A6.3 Parent and community participation:
A6.3.1 Engage parents, carers and community members in the development of campaigns and media activities.

A6.3.2 Wherever possible, to engage local communities in the development of IE infrastructure. For example, employ local builders and artisans to create education resources, equipment, accessible ramps and railings; and recruit parents and carers as teacher aides and school volunteers.

OUTCOME

Increased demand for education of children with special needs; increased public support and awareness of the benefits of education for all children; increased participation of key stakeholders in the governance and delivery of inclusive education services.
PERFORMANCE FRAMEWORK

It is recommended that performance against the Strategic Plan's priorities, goals and targets is regularly monitored and reviewed by the Ministry of Education and the Church, with regular reports disseminated to key stakeholders and development partners.

An annual cycle of planning and review is recommended as a means of creating awareness of the government's organisational performance in inclusive education. This will enable strategies and goals to be reviewed and refined according to annual data collected on school enrolments, retention, and achievement levels of children with special needs, and with reference to the gradual emergence of inclusive education programs and services in local schools and communities.

The following section presents general Key Performance Indicators (KPIs) for the six key objectives of the Model. It is recommended that priority be given to establishing specific KPIs during the early stages of development of the Strategic Plan.
**OBJECTIVES**

**1 PARTNERSHIPS**
Establish and maintain partnerships that enrich and develop human resource and infrastructure capacity in inclusive education.

**2 GOVERNANCE AND MANAGEMENT**
Establish and maintain strong governance and management capacity, within a framework of transparency and accountability that result in financial sustainability and high quality staff performance across all levels of service provision.

**3 HUMAN CAPITAL**
IE staff: Develop and retain skilful and motivated staff who are committed to providing a rights-based and inclusive education to children with special needs.

School staff: Develop an inclusive school culture and learning environment through the professional development of school leaders and staff.

**GENERAL KEY PERFORMANCE INDICATORS**

High level of collaboration between government, Church and key stakeholders.

Establishment of partnerships with development organisations in capacity building in inclusive education.

Ministerial and stakeholder satisfaction with the performance of inclusive education services, as measured in terms of accountability and governance.

Satisfaction of financial donors with the standard of administering of grants and reporting procedures.

Feedback from regular and specialist school staff on the implementation and performance of inclusive education services and programs.

Review of implementation of inclusive education policies and procedures across all levels of the national education system.

Engagement in inclusive education governance of civil society stakeholders with a vested interest in education of children with special needs.

Recruitment of qualified and dedicated inclusive education staff at all levels of the national education system.

Staff satisfaction with awarded salary and entitlements.

Achievement of appropriate teacher/student ratios in schools, and in IE service delivery to schools and communities.

Delivery of targeted professional training programs to raise the skills and competencies of specialist and regular school staff in the areas of inclusive education and special education teaching methods.
<table>
<thead>
<tr>
<th>Objectives</th>
<th>General Key Performance Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4 Programs and Services</strong></td>
<td>Development of innovative, quality programs for pre-school and school-age children with special needs and their families.</td>
</tr>
<tr>
<td>Establish and maintain effective and sustainable formal and non-formal inclusive education services and programs that promote equitable access and participation of children with special needs and their families.</td>
<td>Number of screening and referral programs for children with special needs implemented in districts and local communities.</td>
</tr>
<tr>
<td>Number of screening and referral programs for children with special needs implemented in districts and local communities.</td>
<td>Stakeholder satisfaction with inclusive education programs and services delivered in schools and communities.</td>
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<td>Levels of access and participation of children with special needs in the school curriculum and learning environment.</td>
<td>Levels of access and participation of children with special needs in the school curriculum and learning environment.</td>
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<tr>
<td><strong>5 Research, Innovation and Knowledge Management</strong></td>
<td>Establishment of an inclusive education research and advisory body to undertake research projects in identified priority areas.</td>
</tr>
<tr>
<td>Establish and maintain a research and advisory body to implement research, data collection and monitoring mechanisms that support the delivery of high quality services at national, regional and school levels.</td>
<td>Collection and dissemination of annual national data on enrolments of children with special needs in school and community-based education.</td>
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<tr>
<td>Collection and dissemination of annual national data on enrolments of children with special needs in school and community-based education.</td>
<td>Production and dissemination of the National Directory of inclusive education services and key stakeholders.</td>
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<tr>
<td>Production and dissemination of the National Directory of inclusive education services and key stakeholders.</td>
<td>Impact of research activities on inclusive education service provision.</td>
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<tr>
<td><strong>6 Public Awareness and Engagement</strong></td>
<td>Roll-out of media, public awareness and education campaigns in accordance with pre-established criteria. Example, the number of feature articles on IE services, the number of public awareness campaigns in communities.</td>
</tr>
<tr>
<td>Increase access and engagement in education of children with special needs and their families, by raising family and community awareness of the importance of education for children with special needs.</td>
<td>Increase in net school enrolments, retention, and achievement rates of children with special needs.</td>
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<tr>
<td>Increase in net school enrolments, retention, and achievement rates of children with special needs.</td>
<td>Participation of parents and community members in the design and delivery of inclusive education services in local schools and communities.</td>
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<tr>
<td>Participation of parents and community members in the design and delivery of inclusive education services in local schools and communities.</td>
<td>Engagement of local craftsmen and community groups in the construction of local infrastructure, including the construction of IE units and IERCs, and the building of ramps and railings to address school accessibility requirements.</td>
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</tbody>
</table>
## Timeline

<table>
<thead>
<tr>
<th>Goals</th>
<th>Activities</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To establish the governance and management infrastructure upon which inclusive education services can be developed.</td>
<td><strong>Partnerships:</strong> Establish Ministry of Education partnerships with church and civil society stakeholders</td>
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<td>2. To establish and implement an effective and sustainable national inclusive education service through the expansion of current Ministry of Education structures.</td>
<td><strong>Governance and management:</strong> Establish an inclusive education regulatory framework, policy, implementation guidelines</td>
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<td></td>
<td><strong>Training programs:</strong> Establish IE Managers and administration staff (finance training)</td>
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<td></td>
<td>School administration and staff (inclusive education training)</td>
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<td>IE staff (specialist skill training)</td>
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<td></td>
<td><strong>Implement public awareness programs and education campaigns:</strong> Implement national campaigns to raise public awareness and engagement with inclusive education services.</td>
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<td></td>
<td><strong>MoE Office of Inclusive Education</strong> Establish MoE Office of Inclusive Education</td>
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<td></td>
<td><strong>Inclusive education governance</strong> Establish inclusive education governing bodies at national and regional levels of the education system</td>
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<td></td>
<td><strong>Research and advisory body</strong> Establish an inclusive education research and advisory body through stakeholder partnerships</td>
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</table>

Appendix G Timor-Leste strategic model for inclusive education, 2008
<table>
<thead>
<tr>
<th>ACTIVITIES (cont.)</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tbody>
<tr>
<td><strong>Progressively establish school-based Inclusive Education Units (IEUs) across the five education regions</strong></td>
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<td>Region 1</td>
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<td>Region 4</td>
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<td>Region 5</td>
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<tr>
<td><strong>Establish Inclusive Education Resource Centres (IERC)</strong></td>
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<td>First IERC in Dili</td>
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<td>Second IERC in another region</td>
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<tr>
<td><strong>Progressively establish school-based Deafness Education Units (DEU) for children with deafness and severe hearing impairments</strong></td>
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<td>Region 1</td>
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<td>Region 5</td>
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</tbody>
</table>
BUDGETARY CONSIDERATIONS – UNCOSTED

The following section provides an uncosted overview of the infrastructure, human capital and resources requires to establish and implement the Strategic Model for inclusive education of children with special needs.

This overview is provided as a framework for the development of detailed operating costings by the government of Timor-Leste, in consultation with Church and civil society stakeholders.
<table>
<thead>
<tr>
<th>Inclusive Education Focal Areas</th>
<th>Expenditure Areas</th>
<th>YR 1</th>
<th>YR 2</th>
<th>YR 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Training Programs</strong></td>
<td></td>
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<tr>
<td>• IE Managers and administrative staff (financial management training)</td>
<td>Consultancy fees of trainers</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>• School administrators and staff (inclusive education training)</td>
<td>Trainer/participant expenses, including travel, meals, accommodation</td>
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<tr>
<td>• IE staff (specialist skills training)</td>
<td>Training materials, technology</td>
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<tr>
<td>• IE staff (specialist skills training)</td>
<td>Venue hire</td>
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<tr>
<td><strong>Public Awareness Programs and Education Campaigns</strong></td>
<td>Per region:</td>
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<tr>
<td>• Public awareness campaigns in communities, delivered by IERC staff</td>
<td>Vehicle;</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>• Media campaigns by MoE Office of Inclusive Education</td>
<td>Campaign materials, resources;</td>
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<td></td>
<td>Travel expenses to communities, including food and accommodation</td>
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<td>Publications, costs of advertising</td>
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<tr>
<td><strong>Ministry of Education Office of Inclusive Education</strong></td>
<td>Staff recruitment (example):</td>
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<tr>
<td></td>
<td>National Coordinator;</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td></td>
<td>Secretariat;</td>
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<td></td>
<td>Curriculum and Inspections Officer;</td>
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<td></td>
<td>Technical Advisor (volunteer)</td>
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<td>Office and furnishings, including furniture, Telecommunications (telephone, fax, email/internet)</td>
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<td>Vehicle and running costs</td>
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<tr>
<td><strong>Research and advisory body</strong> - Members employed by other organisations and agencies</td>
<td>Telecommunication system for participation of national RAB members</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Inclusive education governance boards</strong></td>
<td>Office space for meetings;</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Secretarial costs;</td>
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### IE Focal Areas

#### School-based Inclusive Education Units (IEUs) in the five education regions

- Construction or refurbishment of room or small building within host mainstream school;
- Office furniture, computer, printer;
- Accessibility modifications to mainstream schools – ramps, railings, accessible toilets and playgrounds;
- Student-related learning materials;
- Vehicle for IE staff attached to each unit.

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<th>Expenditure Areas</th>
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#### Inclusive Education Resource Centres (IERC) in two regions

- Staff recruitment
- Construction or refurbishment of site;
- Office furniture, phone, fax, computers;
- Accessibility of IERC – ramps, railings, accessible toilets;
- Vehicles for staff;
- Braille production centre – separate room, braille technology and resources;
- Professional library: Books, journals, photocopier, computer and printer;
- Student learning materials;
- Student assistive devices;
- Staff living expenses for outreach and screening programs.

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#### School-based Deafness Education Units (DEUs) in the five education regions

- Staff: Specialist in hearing impairment, teacher aides, volunteers
- Construction or refurbishment of room or building large enough for intensive language classes of approximately 10 students.
- Desks and chairs for DEU staff
- 10 Desks and chairs for students
- Specialist learning materials

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APPENDIX (A): DEFINITIONS

**Persons with disabilities**
The United Nations Convention on the Rights of Persons with Disabilities (2006), defines persons with disabilities as follows:

*Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments, which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others* (Article 1, cited in UNICEF, 2007, p.2)

**Inclusion**
Inclusion refers to the creation of a rights-based, barrier free society that is inclusive of all citizens (Department of Community Development, Government of Papua New Guinea, 2005).

**Mainstream**
Mainstream schools or mainstream education refers to students participating in regular classes and community-based services (Foreman, 2008, p.13).

**Inclusive education**
Inclusive education refers to the “creation of barrier-free and child-focused learning environments, including for the early years” (UNICEF, 2007, p.1). Inclusive education, as defined by UNESCO Office for the Pacific States (McCullough, 2007) refers to an education system that “welcomes and educates all children regardless of their gender, their abilities or disabilities, their economic situation, their race or religious beliefs” (McCullough, 2007, p.3). Inclusive education includes the belief that schools should provide for the needs of all children in their communities, regardless of the level of their ability or disability (Foreman, 2005, p.528). Successful inclusion requires the provision of *appropriate supports* and *partnerships* between school and local communities, working alongside government and Church education services providers to look at creative ways to teach all children (McCullough, UNESCO, 2007).
APPENDIX (B): SUGGESTED MINISTRY OF EDUCATION ORGANISATIONAL CHART
FOR ADDITION OF AN OFFICE OF INCLUSIVE EDUCATION

Set out below is the structure of the Ministry of Education (National), showing the proposed Office of Inclusive Education (shaded in grey).
APPENDIX (C): INCLUSIVE EDUCATION INFRASTRUCTURE

The Strategic Model for National Inclusive Education Services contains seven new organisational/structural components. These components are interrelated and function at national, diocesan, district and/or local levels within the government and Church education services.

The new inclusive education structural components consist of the following:

- MoE Office of Inclusive Education (OIE)
- Disability Services Office (DSO)
- Research and Advisory Board (RAB)
- Board of Governors - Inclusive Education Services (BoG)
- Inclusive Education Resource Centre (IERC)
- Inclusive Education Unit (IEU)
- Deafness Education Unit (DEU)

Below is a flow chart showing the relationships between existing and proposed new structural components in the Ministry of Education. New structures are represented in grey, and dotted lines show collaboration/consultative components. Continuous lines indicate lines or authority and reporting. Each of these new components is described in the following pages.

Figure 1: Model of Inclusive Education Service components
1. MOE OFFICE OF INCLUSIVE EDUCATION

The Office of Inclusive Education (OIE) may be described as an office with a limited number of staff providing a national coordinating role in the development and implementation of national inclusive services. The Office may be established within an existing Directorate of the Ministry of Education, with lines of reporting through the MoE Director General.

Location

The Office should be situated in a strategic location, preferably within existing MoE offices in Dili, in order to establish links with other government ministries, MoE directorates, and key stakeholders.

Staff

- National Coordinator
- Secretariat
- Curriculum and Inspections Officer
- Technical Advisor

Staff roles and responsibilities

National Coordinator:
- Responsible to the MoE Minister and Director General for operational management and accountability of IE services
- Consultation with the Minister and the Director General on IE strategy, program priorities, staffing and emerging issues

Secretariat:
- Management of information, records and policies, and secretarial duties
- Management of contracts and annual plans
- Collection and dissemination of national data on children with disabilities receiving IE services, including school enrolments, retention and achievement levels.
- Annual appointment of an independent Financial Manager to audit the financial records, reports and contractual arrangements.

Curriculum and Inspections Officer:
- Advisor to the Directorate of School Curriculum, Materials and Assessment on the development of “inclusive” curriculum documents
- Regular visits to IE units and centres, to review the implementation of IE services in schools and communities.

Technical Advisor: International consultant with expertise in IE management and governance

Infrastructure

- Office space and furniture for three staff members and volunteer advisor
- Vehicle for Curriculum and Inspections officer
2. CHURCH DISABILITY SERVICES OFFICE (DSO)

The Disability Services Office may be described as an office with a limited number of staff providing support to Church Education Agencies in their implementation of an inclusive approach to education of children with special needs. The Office would be established under the joint responsibility of the Bishops of the Diocese of Dili and Baucau.

Location

Situated in a strategic location, in order to communicate with the key stakeholders in the Dili Archdiocese and Baucau Diocese

Staff

- National Coordinator
- Administration Officer
- Technical Advisor

Staff roles and responsibilities

**National Coordinator:**
- Responsible to the Bishops of Dili and Baucau for the management and governance of the Office.
- Serve as the "anchor person" for the long-term establishment of disability services
- Establishment of national and international partnerships to support human resource development and capacity building in inclusive education.

**Administration Officer:** Management of information, records, and secretarial duties

**Technical Advisor:** International consultant with expertise in business management

Infrastructure requirements

Office space and furniture for two staff members and a volunteer consultant.
3. RESEARCH AND ADVISORY BOARD (RAB)

| Description | The Research and Advisory Board may be described as an advisory body to the Ministry of Education and other key stakeholders. Members of the Board would assist with national research priorities, including research into global approaches and solutions in other developing countries to the development of effective, sustainable and innovative approaches to education of children with special needs. |
| Location | The Research and Advisory Board would be a ‘functional’ rather than ‘physical’ structure, that is, its members would be located in research institutions and organisations. |
| Staff | Members of the Research and Advisory Board would be in the employ of other organisations and agencies. |
| Staff roles and responsibilities | Research into best practice approaches to education of children with special need, as requested by the Ministry of Education and key stakeholders. |
| Infrastructure requirements | Administrative, telephone and email support may be required for meetings. |

The diagram illustrates the relationships and connections between the Research and Advisory Board (RAB) and various institutions and organisations, including:

- National Education Commission & other government ministries
- Ministry of Education
- Boards of Governors (e.g., University of Timor Leste)
- Consortium of Disability NGOs
- Church of Timor Leste
- Office of Inclusive Education & Secretariat
- Disability Services Office
A “Board of Governors” (BoG) consists of government and civil society leaders in education of children with special needs who provide strategic direction in the implementation of the inclusive education policy at all levels of the national education system, and who ethically acquit fiduciary duties to financial stakeholders.

The Board of Governors would meet two or three times each year at a location within the diocese that is accessible to all Board members.

BoG membership would include representatives of government, non-government, and civil society stakeholders. Membership would consist of the following people:

- Chairperson
- Treasurer/Accountant
- Bishop and representative from Church diocesan education agency
- National Coordinator of the MoE Office of Inclusive Education
- National Coordinator of the Disability Services Office
- Manager of the Inclusive Education Resource Centre
- Representative from Inclusive Education Units and Deafness Education Units
- Representatives from the government, private, and church education agencies, for example, the District Education Director
- Representatives from the ministries of Health and Social Solidarity
- Representatives of the organisations for people with disabilities and parents

BoG members would be employed by other organisations and agencies. Meetings would require some administrative support and the use of a meeting room.
5. SCHOOL-BASED INCLUSIVE EDUCATION UNIT (IEU)

| **Description** | A school-based Inclusive Education Unit (IEU) consists of a small number of inclusive/special education staff based in a mainstream school, who provide school-based and community-based IE services to a cluster of schools and their communities. IEUs would operate in accordance with the government’s Inclusive Education Policy. |
| **Location** | Each IEU would be situated within the grounds of a mainstream government or Church school, and would serve a small cluster of schools and communities in its local vicinity. |
| **Staff** | • Minimum of one inclusive/special education teacher cluster in the school cluster enrolling children with special needs  
  • Teacher assistants are employed in each school enrolling children with special needs  
  • Parent and community volunteers (as required) |
| **Roles and responsibilities** | The IEU staff would work in partnership with school staff, parents and communities in the delivery of learning support programs for children with special needs, and professional support programs for classroom teachers. |
| **Clients** | It is recommended that approximately 10 children with disabilities be enrolled in each of the four mainstream schools to be serviced by the IEU. In addition, the IEU would provide community-based IE services to children with disabilities and their families in communities. |
| **Infrastructure requirements** | • Office or room within a mainstream school, to accommodate teachers and aides.  
  • Vehicle  
  • Accessibility modifications to schools: Ramps, railings, and accessible toilets. |
6. INCLUSIVE EDUCATION RESOURCE CENTRE (IERC)

An Inclusive Education Resource Centre (IERC) is a centre that coordinates the provision of inclusive education services to schools, and communities across within each diocese. Each IERC would operate in accordance with the government's Inclusive Education Policy and Implementation Plan. IERC staff would include the staff of the IEUs and DEUs, and all staff would be employed directly by the MoE.

Location
Consideration should be given to strategically placing the IERC within or near the grounds of a teacher’s college that may provide professional training programs.

Staff
- Manager
- Inclusive education teachers and consultants
- Early childhood care and education (ECCE) teachers/consultants
- Therapist: occupational therapist, physiotherapists, speech therapists
- Special educators in vision impairment and hearing impairment
- Braille transcriber
- Orientation and mobility instructor
- Technical consultants from international partner organisations
- Volunteers

Roles and responsibilities
The IERC staff would work in partnership with school staff, parents and communities in the delivery of services. Services and programs would include the following:
- Professional support to IE staff at all levels, including IEU and DEU staff
- Training programs for school staff and disability awareness programs in communities
- Community-based education and therapy programs
- Assessment and screening programs
- Braille and large print text production
- Provision of assistive devices and equipment
- Professional library for staff of schools and IE services at all levels.

Clients
Staff across all levels of IE services, school staff, parents/carers, and community members.

Infrastructure requirements
- Building or room/s large enough to accommodate IERC staff, professional library, Braille production unit, therapy equipment and resources.
- Vehicles for travel within the diocese by IERC staff.
### 7. SCHOOL-BASED DEAFNESS EDUCATION UNIT (DEU)

A school-based Deafness Education Unit (DEU) is a unit that provides school-based and community-based language support programs for pre-school and school-age children with deafness and severe hearing impairments, their parents, teachers, and communities. The DEU would provide sign language training programs to students enrolled in the host school, together with sign language training for staff and students in two additional cluster schools. The DEUs would be established and operated in accordance with the MoE Inclusive Education Policy.

#### Description

A school-based Deafness Education Unit (DEU) is a unit that provides school-based and community-based language support programs for pre-school and school-age children with deafness and severe hearing impairments, their parents, teachers, and communities. The DEU would provide sign language training programs to students enrolled in the host school, together with sign language training for staff and students in two additional cluster schools. The DEUs would be established and operated in accordance with the MoE Inclusive Education Policy.

#### Location

Each DEU would be situated within the grounds of a mainstream school and would serve schools and communities in its local vicinity.

#### Staff

- Specialist in hearing impairment, with training in sign language and alternative communication systems
- Teacher assistants with training in sign language and alternative communication to provide direct support for students
- Each school would seek parent and community volunteers to support the successful inclusion of children with hearing impairments.

#### Roles and responsibilities

The DEU staff would work in partnership with school staff, parents and communities in the delivery of support programs for students with deafness and severe hearing impairment. Programs would include the following:

- School and community-based sign language programs for children
- Sign language training for staff of schools enrolling children with hearing impairments
- Early childhood language programs in communities and health centres.

#### Clients

It is recommended that a maximum of 10 children with deafness and severe hearing impairments be enrolled in the school where the DEU is located, with additional children enrolled in cluster schools. In addition, the DEU would provide community-based language programs for children with hearing impairments and their families and community members.

#### Infrastructure requirements

- Stand alone centre or room within a mainstream school, large enough to accommodate 10 student desks, teacher’s desk, and resources
- Vehicle
INFORMATION SOURCES USED IN THE MODEL’S DEVELOPMENT


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