

**CONTRACTOR'S LIABILITY
UNDER UNFORESEEN GROUND CONDITIONS**

ASSAD IDEA PERMANA

UNIVERSITI TEKNOLOGI MALAYSIA

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ASSAD IDEA PERMANA

A thesis submitted in fulfilment of the requirements for the award of the degree of
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DEDICATION

To my wife (*Ken Wemiarti Dewi*)
& my sons (*Ideas Zulfikar Pratama & Liam Muntaha Wicaksana*)

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ABSTRACT

Ground condition is one of the factors that determine the project successfulness. The unforeseen ground condition defined as an un-anticipated physical condition other than weather, climate, or another act of God discovered on site during the works commencement. The worse ground condition makes the greater the risk. These risk surely has a cost, which sometimes can be catastrophic. In most ground conditions, the certainty of ground condition is quite a challenge, even for a geotechnical expert. Under established common law principles, the discovery of any small or large degree of differences (unforeseen ground condition) will not entitle the contractor for any extra cost neither the right to abandon the works. The contractor should ensure and satisfy themselves by a proper site investigation to all the risks, before entering into any construction projects. The scope is the cases from common law jurisdictions using traditional lump sum contract that are reported in previous 5 years. Thus, the objectives of this study is to examine the extent of contractor's liability under unforeseen ground conditions and methods to make the unforeseen become foreseeable (predictable). Due to logistical issues, this study uses a combination of literature review and case law analysis methods. The cases are extracted from Lexis Malaysia online database. The findings of the study are: for the first objective, it is discovered that the contractor is totally liable, unless there is a breach of warranty by the employer, or there is a misstatement or misrepresentation by the employer or engineer; for the second objective, it is found that there are some methods that the contractor may adopt in order to determine and analyse the risks of unforeseen ground conditions: they are, geophysical seismic, borehole, *in-situ* test, and trial pit. In summary, it may be concluded that, in certain limited exceptions, a contractor in a lump sum contract is totally liable for differing site condition; and there are methods that a contractor may use to evaluate and reduce this risk.

ABSTRAK

Keadaan tanah adalah salah satu faktor yang menentukan kejayaan projek. Keadaan tanah yang tidak diduga ditakrifkan sebagai keadaan fizikal selain cuaca, iklim, atau yang lain bencana alam yang ditemui di laman semasa permulaan kerja-kerja itu. Keadaan tanah lebih teruk menjadikan risiko lebih besar. Risiko ini mempunyai kos yang kadang-kadang boleh menjadi bencana. Dalam kebanyakan keadaan tanah, kepastian keadaan tanah adalah agak satu cabaran, walaupun untuk seorang pakar geoteknikal. Di bawah prinsip-prinsip undang-undang biasa yang ditubuhkan, penemuan apa-apa perbezaan kecil atau besar (keadaan tanah yang tidak diduga) tidak memberi hak kepada kontraktor bagi apa-apa kos tambahan dan tidak mempunyai hak untuk meninggalkan kerja-kerja. Kontraktor itu hendaklah memastikan dan memuaskan dirinya sendiri dengan penyiasatan tapak yang sepatutnya untuk semua risiko, sebelum membuat apa-apa projek pembinaan. Skop adalah kes-kes undang-undang biasa daripada menggunakan jurisdictions tradisional yang sekaligus kontrak yang dilaporkan dalam 5 tahun sebelumnya. Oleh itu, objektif kajian ini adalah untuk mengkaji takat tanggungjawab kontraktor di bawah keadaan tanah yang tidak dijangka dan kaedah untuk membuat yang tidak diduga menjadi dijangka (boleh diramal). Oleh kerana isu-isu logistik, kajian ini menggunakan gabungan kajian literatur dan kes kaedah analisis undang-undang. Kes tersebut diambil daripada Lexis Malaysia pangkalan data dalam talian. Hasil kajian ini adalah: untuk objektif pertama, didapati bahawa kontraktor bertanggungjawab sama sekali, kecuali jika terdapat pelanggaran jaminan oleh majikan, atau terdapat salah nyata atau salah nyataan oleh majikan atau jurutera; bagi objektif kedua, didapati bahawa terdapat beberapa kaedah yang kontraktor boleh menerima pakai untuk menentukan dan menganalisis risiko keadaan tanah yang tidak dijangka: mereka, geofizik seismik, lubang gerudi, ujian *in-situ* dan percubaan pit. Ringkasnya, ia boleh disimpulkan bahawa, pengecualian tertentu yang terhad, kontraktor dalam sesuatu kontrak sekaligus benar-benar bertanggungjawab terhadap keadaan tapak yang berbeza; dan terdapat kaedah bahawa seseorang kontraktor boleh gunakan untuk menilai dan mengurangkan risiko ini.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENTS	iv
	ABSTRACT	v
	ABSTRAK	vi
	TABLE OF CONTENTS	vii
	LIST OF TABLES	x
	LIST OF FIGURES	xi
	LIST OF ABBREVIATIONS	xii
	LIST OF CASES	xiii
1.	INTRODUCTION	
	1.1. Background of Study	1
	1.2. Problem Statement	3
	1.3. The Study's Question	7
	1.4. Objective of Study	7
	1.5. Scope of Study	8
	1.6. Significant of Study	8
	1.7. Methodology and Methods of Approach	
	1.7.1. First Stage : Initial Study	8
	1.7.2. Second Stage : Data Collection	9
	1.7.3. Third Stage : Data Analysis	9
	1.7.4. Fourth Stage : Completion	9

2.	ARISING PROBLEMS WHEN UNFORESEEN GROUND CONDITION OCCURS AND THE METHODS FOR MAKES IT FORESEEABLE	
2.1.	Introduction	11
2.2.	Common law principle under unforeseen ground conditions	16
2.3.	Unforeseen ground conditions clauses in PWD Standard Form	25
2.4.	Arising problems when unforeseen ground conditions Occurs	
2.4.1.	Delay / Late Completion	29
2.4.2.	Extra Cost	30
2.4.3.	Works Abandonment	31
2.5.	The Contractor's initial site examination	
2.5.1.	Site Visit Study	33
2.5.2.	Desk Analysis Study	34
2.5.3.	Site Exploration Study	35
2.5.4.	Studies to foreseeable the unforeseen ground condition	39
2.6.	Contractor's estimation for risks allowances	40
2.7.	Conclusion	42
3.	RESEARCH METHODOLOGY	
3.1	Introduction	44
3.2	Cases law study	46
3.3	Literatures review	48
3.4	Analysis of data	49
4.	CASE ANALYSIS AND DISCUSSION	
4.1	Analysis of case laws and discussion	51
4.1.1.	<i>Northumbrian Water Ltd. v. Sir Robert McAlpine Ltd</i>	53
4.1.2.	<i>RWE Npower plc v. Alstom Power Ltd and other companies</i>	55
4.1.3.	<i>North Pacific Roadbuilders Ltd v. Aecom Canada Ltd</i>	58

4.2 Summary	61
5. CONCLUSIONS	
5.1 Introduction	62
5.2 Summary of research findings	62
5.3 Problems encountered during research	63
5.4 Further studies	63
5.5 Conclusions	64
REFERENCES	66

LIST OF TABLES

TABLE NO.	TITLE	PAGE
2.1	Studies to make the ground conditions foreseeable	39
3.1	Case law finding by Lexis Nexis website	48
4.1	Search results in Lexis Nexis according to specific keywords	52

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
1.1	Methodology	10
2.1	The relation between uncertainty – foreseen – unforeseen	12
2.2	Reasons for management of geotechnical risk	15
2.3	Contractor's remedies from employer's inaccuracies data	19

LIST OF ABBREVIATIONS

AC	Appeal Cases, House of Lords
ABC LR	Australian Bankruptcy Cases Law Reports
ALJR	Australian Law Journal Reports
All ER	All England Law Reports
App. Cas.	Appeal Cases
BGS	British Geological Survey
BLR	Building Law Reports
BOQ	Bills Of Quantities
CESMM	Civil Engineering Standard Method of Measurement
CIDB	Construction Industry Development Board
DLR	Dominion Law Reports (Canada)
EGLR	Estates Gazette Law Reports
EWCA Civ.	England and Wales Court of Appeal Civil Division
EWHC	England and Wales High Court
ER	English Report
ICE	Institution of Civil Engineer
JCT	Joint Contracts Tribunal
LJQB	Law Journal, Queen's Bench (UK)
LT	Law Times Reports
LR	Law Reports
NSWLR	New South Wales Law Reports
NSWSC	New South Wales Supreme Court
SCR	Supreme Court Reports
SGHC	Singapore High Court
SKQB	Saskatchewan Queen's Bench
SLR	Singapore Law Reports
SMM	Standard Method of Measurement
QB	Queen's Bench Division

LIST OF CASES

	PAGE
<i>Abigroup v. Sydney Catchment</i> (2004) NSWSC 220	21
<i>Bacal Construction (Midlands) Ltd v Northampton Development Corp</i> [1976] 1 EGLR 127.....	1,18,25, 26,38
<i>Baxall Securities Ltd. v Sheard Walshaw Partnership</i> [2002] ABC.L.R. 01/22	13
<i>Bottoms v Lord Mayor, etc of the City of York</i> [1892] 2 HBC (4 th ed) 208	1,2,17 ,27
<i>Boyd v. South Western Railway</i> (1915) AC 526	17
<i>C. Bryant & Son Ltd v. Birmingham Hospital Saturday Fund</i> [1938] 1 All ER 503	19,38
<i>Dillingham Construction Pty Ltd v. Downs</i> [1972] 2 NSWLR	4,16,38
<i>Edgeworth Construction v. N.D. Lea & Associated Ltd</i> [1993] 3 SCR 206; (1993) 107 DLR (4th) 169	23,38
<i>Howard Marine & Dredging Co Ltd v A Ogden & Sons (Excavations) Ltd</i> [1978] 2 All ER 1134	22,38
<i>Nuttall v. Lynton and Barnstaple Rly Co, Re</i> (1899) 82 LT 17, [1895-9] All ER Rep Ext 1295, 2 Hudson's BC (4th Edn) 279, (10th Edn) 271	1,2,25 ,38
<i>Pacific Associates Inc. v. Baxter</i> [1990] 1 QB 993, [1989] 2 All ER 159, [1989] 3 WLR 1150, 16 ConLR 90, 133 Sol Jo 123, [1989] 6 LS Gaz R 44, [1989] NLJR 41, 44 BLR 33	26
<i>Resource Pilling Pte Ltd v Geospecs Pte Ltd</i> [2013] SGHC 231 – [2014] 1 SLR 485	25,38
<i>RWE NPower plc v Alstom Power Ltd and other companies</i> [2010] EWHC 3061 (TCC)	52,53,61 ,64

<i>Thorn v. Mayor and Commonalty of London</i> [1876] 1 App Cas 120, 40 JP 468, 45 LJQB 487, 24 WR 932, 34 LT 545	1,3,16 ,38
<i>Morrison-Knudsen International v. Commonwealth of Australia</i> (1972) 46 ALJR 265	20
<i>North Pacific Roadbuilders Ltd. v. Aecom Canada Ltd</i> [2013] S.J. No. 267, 2013 SKQB 148, 419 Sask.R. 117	52,53,58 ,64
<i>Northumbrian Water Ltd v. Sir Robert McAlpine Ltd</i> [2014] EWCA Civ 685	52,53,64

CHAPTER 1

INTRODUCTION

1.1 Background of Study

The ground is the place where things are most likely to go wrong during a construction project and the worse the ground, the greater the risk.¹ In many construction works, unforeseen ground conditions present a potential issue for both employer and contractor. If the parties could not manage the risks properly, these risks may trigger problems for both of them², such as contractor's late completion³, contractor's extra works⁴, changing particular methods⁵, employer got claimed for additional payment from the contractor⁶, or the worst the works abandoned⁷.

¹ The Institution of Civil Engineers (ICE) (1991)

² Bailey, J., (2007). *What Lies Beneath : Site Conditions and Contract Risk*. Society of Construction Law

³ *Bacal Construction (Midlands) Ltd v Northampton Development Corp* [1976] 1 EGLR 127

⁴ *Bottoms v. York Corporation* 2 HBC (4th ed) 208

⁵ *Thorn v. London Corporation* [1876] 1 App Cas 120

⁶ *Ibid.* Note 3,4,5

⁷ *Nutall v. Lynton and Barnstaple Railway Co* (1899) 82 L.T. 17

However, these potential risks can be managed, minimized, shared, transferred or accepted by the parties, except ignored.⁸

Unforeseen ground condition, also known as differing site condition, is a physical condition other than weather, climate, or another act of God discovered on or affecting a construction site that differs in some material respect from what reasonably was anticipated.⁹ It also defined as physical condition encountered in performing the work that was not visible and not known to exist at the time of bidding and that is materially different from the condition believed to exist at the time of bidding.¹⁰ Furthermore, it can also defined as unforeseen ground condition as latent or hidden physical condition at the project site which differ from those conditions identified to the contractor during the bidding period.¹¹ The different of actual conditions certainly affected the contractor who already entered the contract with the employer.

Contract is a promise, or a set of promises, which one person gives in exchange for the promise.¹² If the contractor has promised to do the works for a lump sum price, that is what the contractor must do and he will be paid. However, mostly, many terms of a typical standard-form contract were not agreed to in any real sense, in that they are made of a set of fixed terms with little provision for variation¹³. The contractor is commonly unable to negotiate for better terms and is placed in a take it or leave it position with the employer. There are no excuses for late performance nor non-performance if the contractor accordingly encounter unanticipated and risky site conditions. The contractor is liable from, the risk of adverse site conditions, whether these risks are known or latent.¹⁴ In the absence of any specific guarantee or definite representation by the employer as to the nature of the soil in which the works are to be executed, the contractor is not entitled to abandon the contract on discovering the

⁸ Latham, M., (1994). *Constructing the Team*, London

⁹ Cushman, R. F & Tortorello, D. R., (1992). *Differing Site Condition Claims*. Wiley Law Publications, John Wiley & Sons, Inc. New York.

¹⁰ Sweeny, N. J., Kelleher Jr, T. J., Beck, P. E., Hafer, R. F., (1997). *Smith Currie & Hancock's Common Sense Construction Law*. John Willey & Sons, Inc. New York

¹¹ Collins, S. A., Zack Jr, J. G., (2014). *Changing trend in risk allocation – differing site conditions*. Navigant Construction Forum

¹² Friedman, G.H.L., (1986). *The Law of Contract in Canada* (2nd edition)

¹³ Atiyah, P.S, (1995). *An Introduction to the Law of Contract*

¹⁴ *Ibid.* Note 4.

nature of the soil.¹⁵ In *Nutall v. Lynton*, the judge confirmed that although the difference was quite small degree quantity, the contractor was not allowed to abandon the contract. The contract still an absolute and no compensation.¹⁶

Many standard forms of construction contract in common law countries, distribute the unforeseen ground risk totally to the contractor.¹⁷ This principle is briefly stated in Halsbury's Laws of England¹⁸ as follows : -

“It is no excuse for non-performance of a contract to build a house or to construct works on a particular site that the soil thereof has either a latent or patent defect, rendering the building or construction impossible. It is the duty of the contractor before tendering to ascertain that it is practicable to execute the work on the site...”

In practice, before submitted their bids, the contractors commonly come to check the site together with their collected data / information to ascertain whether their price or their method will be applicable and appropriate for the project. To summarize, the contractors are liable for these risks even when the employer supplies the design.¹⁹ The employer does not warrant it buildable or without encountering physical obstruction so for contractor must decide whether to bid for these types of arrangement.

1.2 Problem Statement

Commonly, many of this unforeseen ground conditions exist because of limited time for contractor to investigate soil conditions during tender, not exactly

¹⁵ *Ibid.* Note 4.

¹⁶ *Ibid.* Note 7.

¹⁷ PWD Form 203 (Rev. 1/2010) Clause 11 and PWD Form 203A (Rev. 1/2010) Clause 11.

¹⁸ Second Edition Volume 3.

¹⁹ *Thorn v. The Mayor and Commonalty of London* [1876] LR 1 HL 120 and *Thiess Services Pty Ltd v. Mirvac Queensland Pty Ltd* [2006] QCA 50

position soil investigation by engineer, and another lack of investigation (too shallow & too few). This soil investigation is crucially needed for every type of constructions, especially in bridges, tunnels, highways, railways, and any other long span constructions.

But, although the time for investigation was sufficient and it may be ideal for the contractor to conduct the site investigations, it will not always be economical or even possible for the contractor to do so. Their option may be left in the position of relying upon site conditions information that provided by the employer.²⁰ For the best chance in relying, the contractor can consider to reduce risk by knowing the knowledge of the employer/ engineer. A detailed knowledge site conditions employer/ engineer, maybe excellent to inform the tendering contractors.²¹

Abrahamson (1965) said that, the words ‘*which... could not reasonably have been foreseen by an experienced contractor*’ in I.C.E Contract, are ambiguous. For an experienced contractor, with some mere fact that meet foreseeable risk conditions, it can be enough for him to know anything that can be happen, particularly in work underground.²² In case *C. J. Pearce & Co. Ltd. v. Hereford Co.*²³, it is suggested that a claim is barred only if an experienced contractor could have foreseen a substantial risk. This argument also supported by judges in developing the liability for contractor’s negligence which there is liability for a negligent act if contractor could reasonably have been foreseen that the act would cause damage.²⁴ Also, Keating opined :

*“...the assessment of what could or could not have been foreseen must take into account all available sources of information, including the actual knowledge of the real Contractor, even if this goes beyond what an experienced contractor would know...”*²⁵

²⁰ *Ibid*, note 2

²¹ *Dillingham Construction Pty Ltd v. Downs* [1972] 2 NSWLR

²² Abrahamson, M. W., (1965). *Engineering Law and the I.C.E. Contracts*

²³ (1968) 66 L.G.R 647

²⁴ *Bolton v. Stone* (1951) 1 All E.R. 1078, H.L

²⁵ Keating, (2001). *Building Contract*, 7th Edition

Although the conditions above, the contractors are still like to challenge themselves into a high risk high gain condition. In general condition of contract, the real disadvantage to the employer of forcing the risk of the unforeseeable conditions on the contractor, is that contractors who are gamblers and claims artists will predominate among the winners of contract awards.²⁶ He explained during the tendering stage, the contractors mostly have 2 options, which are : (1) a high bid with including the risk of unforeseeable or (2) gambling by lower bid with excluding the unforeseeable risk. For prevent this gambling condition, Grove's suggest the risks should be in the party who gain long-time benefit of this works, which is the Employer.²⁷

If there is a situation when the ground conditions found worse and the innocent contractor claim that they need extra cost for complete it, it will arise the question about how far the extent of contractor's reasonableness to complete the works. In order to ensure the contractor's claim for the court's acceptability, the innocent contractor must show 4 (four) conditions in total cost method, which are : (1) the contractor's impracticability of proving the extra cost; (2) the reasonableness of the contract price; (3) the reasonableness of the actual costs; and (4) the lack of contractor's responsibility for the added cost.²⁸

In performing their duties in construction, all the construction professionals such as Architect, Engineer, and Contractor are engaged to act with reasonable care and skill.²⁹ One of Architect and Engineer duties is to estimate the project cost within the employer's demand and budget. A failure to estimate the reasonable cost thus makes the actual cost exceed will make these professionals be liable for negligence. In case *Money Penny v. Hartland* (1826),³⁰ the judge confirmed that they should not delivered an estimate which he could not contract for it and if he does it, it could be assumed that he deceived his employer. Meanwhile, Contractor's main duty is to finish their contract works by such a workmanship. However, during the commencement of works, the adverse physical conditions encountered are hardly

²⁶ Grove, J. B, (1998). *Grove Report*

²⁷ *Ibid*, note 26

²⁸ Silverberg, K., (2003). *Construction Contract Damages: A Critical Analysis of the "Total Cost" Method of Valuing Damages for "Extra Work"*.

²⁹ The Supply of Goods and Service Act 1982. Section 13.

³⁰ 2 C&P 378

known, even by experienced contractor with their sufficient experience and expertise to foresee it. Under ICE Conditions of Contract Clause 12, the claimant contractor must show that the unforeseen actual ground conditions encountered could not have been reasonably known by an experienced contractor.³¹

It should be also a test to examine how far the extent of the contractor's liability, such as by reasonableness test. Reasonableness terms are subject for : (1) negligence, (2) contractual liability, (3) indemnity clauses, (3) sale of goods, and (4) misrepresentation. The tests are seen under Unfair Contract Terms Act 1977 Section 11³² which stated as follows :-

11.1. "In relation to a contract term, the requirement of reasonableness for the purposes of this Part of this Act, section 3 of the Misrepresentation Act 1967 and section 3 of the Misrepresentation Act (Northern Ireland) 1967 is that the term shall have been a fair and reasonable one to be included having regard to the circumstances which were, or ought reasonably to have been, known to or in the contemplation of the parties when the contract was made."

11.4. "Where by reference to a contract term or notice a person seeks to restrict liability to a specified sum of money, and the question arises (under this or any other Act) whether the term or notice satisfies the requirement of reasonableness, regard shall be had in particular (but without prejudice to subsection (2) above in the case of contract terms) to -

- a. the resources which he could expect to be available to him for the purpose of meeting the liability should it arise; and*
- b. how far it was open to him to cover himself by insurance."*

The Act above applied in most construction contract to balance the contract terms between employer and contractor.

³¹ Fong, C.K. (2004). *Law and Practice of Construction Contracts*. Third Edition. Sweet & Maxwell Asia. Singapore.

³² Unfair Contract Terms Act 1977. Chapter 50. Part I. Amendment of Law For England And Wales and Northern Ireland. Section 11.

1.3 The Study's Question

Unforeseen ground conditions risk is under Contractor's liability, however the preceding discussions gave rise to several questions :

1. What is the limitation criteria of unforeseen ground risk and the exception.
2. What is the extent for the contractor for unforeseen ground condition.
3. What are the existing tools or methods for the contractor to reduce the unforeseen ground condition liability.

Therefore, this study will analyse the circumstances that contractor can successfully claim for unforeseen ground condition. So that with this study, the employer and contractor will be able to have better understanding on the unforeseen ground risks.

1.4 Objective of Study

The objectives of the study are :

1. to determine the extent of the contractor's liability for unforeseen ground conditions.
2. to determine the existing tools / methods / techniques used by the contractor in order to facilitate and manage risks from unforeseen ground conditions.

1.5 Scope of Study

This scope of this study is limited to common law jurisdiction cases reported in the previous five years using lump sum contract under traditional procurement.

1.6 Significant of Study

This study is expected to reduce similar dispute in future projects. It also helps both parties to be aware and clear about each others rights and liabilities in a contract.

1.7 Methodology and Methods of Approach

The schematic of process of conducting this research basically comprised into four major stages, such as : (1) Initial study, (2) Data collection, (3) Data analysis, and (4) Completion and which is summarize in Figure 1.1 below.

1.7.1 First Stage : Initial Study

The study will be carried out involving extensive reading and understanding of the concepts involved. To identify the issue, by discussing with supervisor, lecturers, colleagues, and gather informaton by reading on variety sources of published materials.

1.7.2 Second Stage : Data Collection

Data collection stage is the stage which the various types of data and information that are gathered. The primary data were collected from Lexis Nexis website using keywords of “ground condition and claim and dispute and problem and liability and responsible” in previous 5 years and the secondary data were referenced from books, articles, seminar papers, and related websites.

1.7.3 Third Stage : Data Analysis

In order to meet the goals and objectives, all the collected data, information, ideas, and comments that gathered from second stage are arranged, analysed and also interpreted. The relevant case laws collected from Lexis Nexis website will be carefully reviewed, with special attention on the facts of the cases, issues and judgments presented by each case law analysed. In this stage also will be made conclusions, suggestions, and recommendations based on the findings of analysis.

1.7.4 Fourth Stage : Completion

The completion stage mainly consisted of writing up and re-checking the whole writing. In this stage, also will be reviewed whether the objective of research had been achieved.

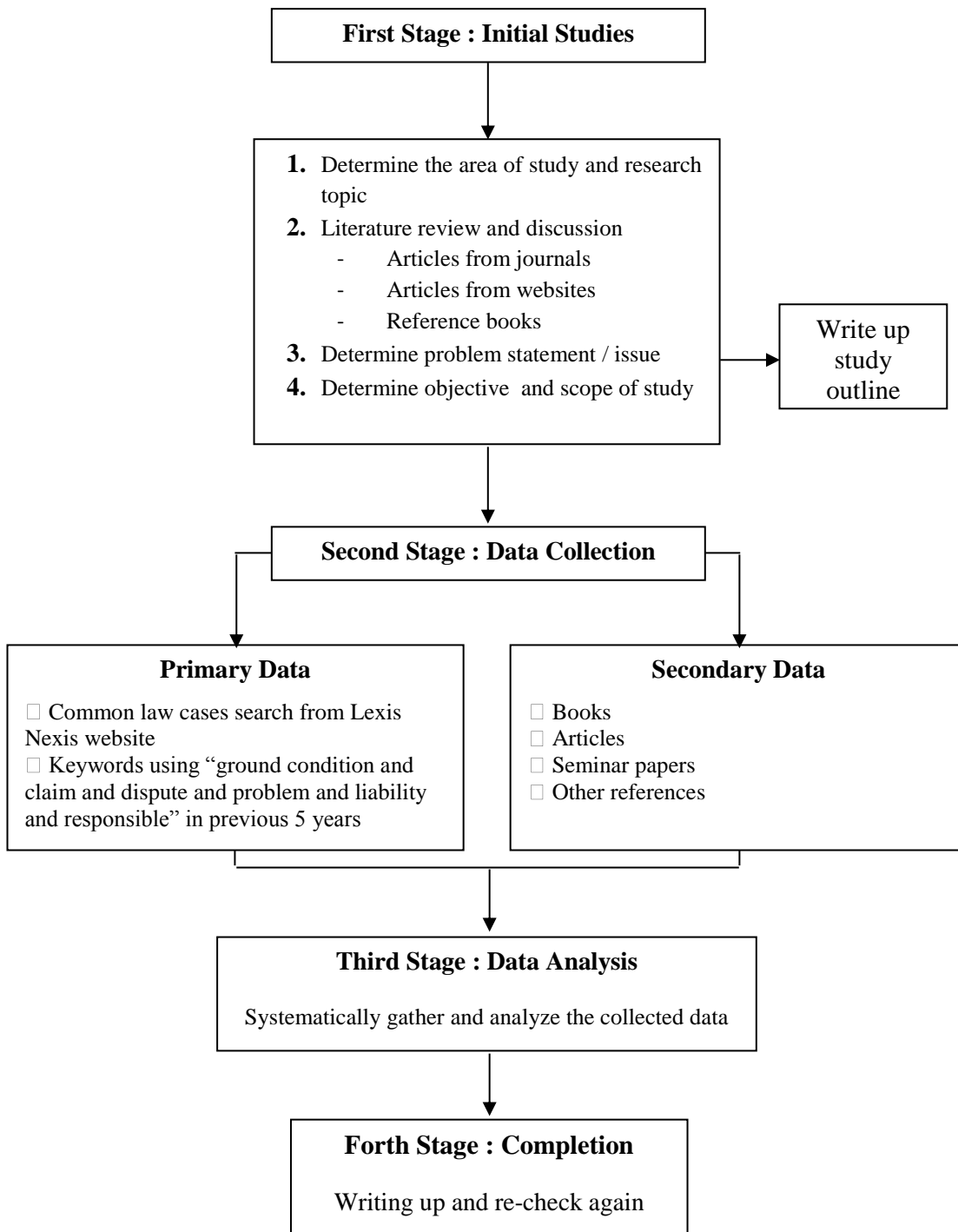


Figure 1.1. Methodology

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